

**HUM 207 — Basic Movie Making Techniques (5 cr)**

Formerly HUMAN 207. This course is designed to acquaint the student with the three basic phases of movie making and emphasizes the directorial and storytelling functions of the media. Prerequisite: HUM 141 (formerly HUMAN 141) or permission of instructor. (SCC)

**HUM 221 — Great Directors (5 cr)**

Formerly HUMAN 221. This course is designed for students interested in exploring the films, styles and themes of great film directors--American and international. Students study four American directors, four international directors and one independent director. The directors and films studied vary each quarter. In addition, each student researches and studies films of one director of his/her choice. (SCC, SFCC)

**HUM 222 — American Film Classics (5 cr)**

Formerly HUMAN 222. American classic films, through the 1990s, are viewed and discussed in order to appreciate the evolution of the technical art of the cinema and to analyze how film content is a social barometer of the period of time in which it was produced. Full-length feature classics such as "Birth of a Nation" and "Citizen Kane" are studied. (SFCC)

**HUM 223 — Classic International Cinema (5 cr)**

Formerly HUMAN 223. An overview of the history of international cinema as art rather than as a commercial product. Major national film stylistic developments and movements are studied by viewing representative feature length films including classics such as Einstein's Potemkin, De Soca's The Bicycle Thief and Kurosawa's Ran. Prerequisite: SFCC only: recommended minimum reading placement score: COMPASS 80, ASSET 40. (SFCC)

**HUM 224 — Contemporary Global Cinema (5 cr)**

Formerly HUMAN 224. This course is a study of people of different national, ethnic and racial backgrounds via a review of current international cinema. Emphasis is placed on exploring economic, social and political issues. Feature length films will be viewed in class, including Zhang Yomou's Story of Qiu Ju, Nihita Mikhailov's Burnt by the Sun and Gregory Nava's Mi Familia. Prerequisite: SFCC only: recommended minimum reading placement score: COMPASS 80, ASSET 40. (SFCC)

**HUM 225 — Independent Film (5 cr)**

Formerly HUMAN 225. This course is for students interested in exploring films made outside of the studio system, usually on low budgets and often exploring themes, values and subject matter which are highly personal and intense in nature including themes which mainstream cinema finds uninteresting, offensive or not likely to produce a profitable product. (SCC, SFCC)

**HUM 236 — The Documentary Film (5 cr)**

Formerly HUMAN 236. A course designed to explore, analyze and interpret the documentary as an aesthetic form; a device to document human experience; and a vehicle of social change. Students explore the historical perspective of the documentary as well as examine the tradition of film techniques that affect the reality and "truth" depicted through the genre. Prerequisite: SFCC only: recommended minimum reading placement score: COMPASS 80, ASSET 40. (SFCC)

**HUM 241 — The Impact of the Nazi Past (5 cr)**

Formerly HUMAN 241. This course is designed for students interested in the history of Germany's Nazi past. Students examine the depiction of nationalism and racism in important German language films by significant European film directors from the 1950s to the present. Class discussion encourages a comparative perspective that draws connections to the issues of nationalism and racism in Germany and the U.S. today. The course is taught in English, and all films have English subtitles. (SFCC)

**HUM 266 — Cooperative Education Seminar (1-2 cr)**

Formerly HUMAN 266. For course description, see Cooperative Education. (SCC)

**HUM 267 — Cooperative Education Work Experience (1-18 cr)**

Formerly HUMAN 267. For course description, see Cooperative Education. (SCC)

**HUM 295 — Special Topics in Humanities (1-5 cr)**

Formerly HUMAN 295. A team-taught interdisciplinary class. Specific content and focus vary from quarter to quarter according to designation and credits filed in advanced of each scheduling. Students participate in a variety of learning experiences such as lectures, seminars, panel discussions, etc., all of which explore selected issues from the following areas: philosophy, music, art history, film, drama, literature or the history of ideas. (SCC, SFCC)

**HUM 296 — Special Topics in Humanities (1-5 cr)**

Formerly HUMAN 296. A team-taught interdisciplinary class. Specific content and focus vary from quarter to quarter according to designation and credits filed in advanced of each scheduling. Students participate in a variety of learning experiences such as lectures, seminars, panel discussions, etc., all of which explore selected issues from the following areas: philosophy, music,

art history, film, drama, literature or the history of ideas. (SCC, SFCC)

**HUM 297 — Special Topics in Humanities (1-5 cr)**

Formerly HUMAN 297. A team-taught interdisciplinary class. Specific content and focus vary from quarter to quarter according to designation and credits filed in advanced of each scheduling. Students participate in a variety of learning experiences such as lectures, seminars, panel discussions, etc., all of which explore selected issues from the following areas: philosophy, music, art history, film, drama, literature or the history of ideas. (SCC, SFCC)

**HYDRAULIC AND PNEUMATIC AUTOMATION TECHNICIAN****FLPT 111 — Hydraulic Calculations (5 cr)**

This course is a review of basic algebra skills and procedures required for setting up and solving fluid power problems. Mathematical formulas required to calculate oil pressure, actuator forces and speed, oil flow and velocities required for fluid line sizing are emphasized. The use of force and speed requirements of a machine to set up the hydraulic system calculations required for determining oil flow, oil pressure and the input horsepower is stressed. Prerequisite: Concurrent enrollment in FLPT 112, 113, 114. (SCC)

**FLPT 112 — Hydraulic Basics and Theory (5 cr)**

This course introduces basic laws related to oil hydraulics and their practical applications to hydraulic component operation by changing either oil flow or pressure. Students relate the hydraulic component to the corresponding ANSI fluid power symbol and study hydraulic schematics for automated machinery identifying each component and its application and effect on the total system. Industrial plants and machine manufacturers who build machinery using industrial hydraulic components are studied in the classroom. Prerequisite: Concurrent enrollment in FLPT 111, 113, 114. (SCC)

**FLPT 113 — Blueprint Reading (4 cr)**

Students are introduced to the basic construction of automated machinery including the various types of materials, fasteners, and welding and machining operations used to fabricate machine parts from mechanical drawings. Machining tolerance, finishes, parts dimensioning, welding symbols, and the types of details, sections and views used on typical mechanical drawings are presented. Prerequisite: Concurrent enrollment in FLPT 111, 112, 114. (SCC)

**FLPT 114 — Basic Hydraulics Lab (2 cr)**

This course offers practical applications in the study of oil flow and pressure and their relationship to component operation. Students learn to read hydraulic schematics for automated machinery. Prerequisite: Concurrent enrollment in FLPT 111, 112, 113. (SCC)

**FLPT 121 — Pneumatic Theory (6 cr)**

This course introduces basic laws related to compressed air and their application in air compressors, plant air, piping, and sizing pneumatic components. Mathematical formulas and setup procedures for calculations required in pneumatic systems and the production of schematic drawings for pneumatic power and control circuits are included. Prerequisite: Concurrent enrollment in FLPT 122, 123. (SCC)

**FLPT 122 — Drawing Fundamentals (3 cr)**

This course introduces basic sketching and lettering emphasizing orthographic and isometric drawing styles. The layout and dimensioning of shop mechanical drawings are presented. Prerequisite: Concurrent enrollment in FLPT 121, 123. (SCC)

**FLPT 123 — Machine Controls (7 cr)**

Students study the interfacing of mechanical, hydraulics, pneumatics with electrical, electronic or pneumatic controls for predetermined sequence of operation for automated machines. Reading and drawing the electrical schematics used to control solenoid valves for hydraulic or pneumatic actuators; terminology and symbols used in programming schematics for an Allen Bradley Mini PLC 2 programmable controller; interpreting symbols required for reading air logic pneumatic schematics used for machine controls; and writing machine sequence of operations to match schematic operations are emphasized. Prerequisite: Concurrent enrollment in FLPT 121, 122. (SCC)

**FLPT 131 — Hydraulic Systems (6 cr)**

This course is a detailed study of five basic hydraulic systems and their applications to powering production machinery. Basic systems, hydraulic components and their working relationship which is controlled by their location, and piping arrangement in the overall system are emphasized. Prerequisite: FLPT 111, 112, 121 and concurrent enrollment in FLPT 132, 133, 134, 135. (SCC)

**FLPT 132 — Fluid Line Fabrication (2 cr)**

This course offers practical applications in fluid conductor fabrication emphasizing the safe and accurate operating procedures required in the setup and use of specialized tools. Fabricating procedures include cutting and

threading pipe; cutting, bending and flaring tubing; cutting hydraulic hoses; and assembling permanent and reusable hose ends. Prerequisite: FLPT 112, 121 and concurrent enrollment in FLPT 131, 133, 134, 135. (SCC)

**FLPT 133 — Fluid Line Connectors (5 cr)**

Students study the three basic types of fluid lines and the fittings required to install them in a hydraulic system. Fluid line construction, materials used, manufacturing tolerances, quality control, specifications for purchasing, pressure limitations and oil flow characteristics based on I.D. are covered. Fitting identification, description and manufacturer part numbers are used to acquaint students with high pressure, low pressure and vacuum applications. Prerequisite: FLPT 112, 121 and concurrent enrollment in FLPT 131, 132, 134, 135. (SCC)

**FLPT 134 — Shop Drawing (2 cr)**

Students are introduced to drawing and lettering skills required to produce drawings of parallel bars, directional valve templates, and pump and motor mounting brackets. Prerequisite: FLPT 112, 121 and concurrent enrollment in FLPT 131, 132, 133, 135. (SCC)

**FLPT 135 — Fluid Line Sizing Calculations (2 cr)**

This course deals with specific calculations required in the study of fluid lines to size fluid lines in hydraulic systems. Prerequisite: FLPT 112, 121 and concurrent enrollment in FLPT 131, 132, 133, 134. (SCC)

**FLPT 136 — Applied Hydraulics/Pneumatics (2-5 cr)**

This course introduces to the basics of fluid power and its application to various programs. Hydraulic and pneumatic systems operation and their relationship to electrical, electronic or pneumatic control systems are emphasized. The course is offered for variable credits to meet the needs of various programs. (SCC)

**FLPT 201 — Fluid Power/Pneumatic Math (3 cr)**

This course introduces the use of pneumatics to enrich and extend the teaching of applied math and science concepts in junior and senior high schools. (SCC)

**FLPT 241 — Fluid Power Shop Theory (5 cr)**

Students learn to setup and use basic shop tools required to machine hydraulic manifolds, fabricate power units and overhaul hydraulic components. Shop terminology, tool identification, and the proper use and care of precision layout and measuring tools are included. Prerequisite: FLPT 131 and concurrent enrollment in FLPT 242, 243, 244. (SCC)

**FLPT 242 — Machine Tool Operation (7 cr)**

Students learn shop layout procedures and skills by using shop drawings completed in the third quarter. They develop practical skills required to sharpen drill bits, lathe tools, milling cutters and removing broken taps, safely operate cut-off and band saws, drill presses, lathes, milling machines, and surface grinders while completing required shop projects. Prerequisite: FLPT 131 and concurrent enrollment in FLPT 241, 243, 244. (SCC)

**FLPT 243 — Advanced Machine Controls (3 cr)**

This course is a study the advantages of programmable logic controllers (PLC) over relay logic machine control. Students learn the advantages of machine control available when using data manipulation features in PLC programming. Converting relay logic electrical schematic drawings to PLC schematics, developing a PLC program from a specific machine sequence of operation, programming the PLC and verifying the program on a machine simulator board wired to the PLC are emphasized. Prerequisite: FLPT 131 and concurrent enrollment in FLPT 241, 242, 244. (SCC)

**FLPT 244 — Machine Feed and Speed Calculations (1 cr)**

This course deals with specific calculations required for the proper operation of drills, lathes and milling machines used in the hydraulics and pneumatic industry. Prerequisite: FLPT 131 and concurrent enrollment in FLPT 241, 242, 243. (SCC)

**FLPT 251 — Hydraulic Circuits (4 cr)**

Students learn the principles of circuits, components and fluid line sizing. Estimating costs for materials is introduced. Prerequisite: FLPT 131 and concurrent enrollment in FLPT 252, 253, 254. (SCC)

**FLPT 252 — Hydraulic Component Repair (6 cr)**

Students learn shop procedures for hydraulic and pneumatic component disassembly, inspection, repair and testing using prepared lab sheets and manufacturers' parts sheets. Safe use of hand tools and the importance of cleanliness in the work area are emphasized. Prerequisite: FLPT 131 and concurrent enrollment in FLPT 251, 253, 254. (SCC)

**FLPT 253 — Fluid Line Layout and Assembly (2 cr)**

This course introduces basic procedures required for the layout and assembly of pipe and pipe fittings to fit a specific component arrangement. The fabrication of fluid lines to fit existing tube fittings that meet or exceed the manufacturers' pressure test specifications is emphasized. Prerequisite: FLPT 131 and concurrent enrollment in FLPT 251, 252, 254. (SCC)

**FLPT 254 — Advanced Hydraulics Lab (3 cr)**

This course offers practical applications in the creation of hydraulic circuits emphasizing calculations, selection of components and sizing fluid lines. Costing out materials is presented. Prerequisite: FLPT 131 and concurrent enrollment in FLPT 251, 252, 253. (SCC)

**FLPT 261 — Hydraulic Component Testing (6 cr)**

Students learn safe operating procedures required to set up and test rebuilt hydraulic components. Comparison of flow data at various pressures on open and closed hydraulic pump circuits is emphasized. Prerequisite: FLPT 251 and concurrent enrollment in FLPT 262, 263. (SCC)

**FLPT 262 — Machining Hydraulic Manifolds (5 cr)**

This course offers theory and practical applications to the layout and machining procedures required to make hydraulic manifolds. Specialized procedures including the use of cartridge valve tooling, subplate valve layout templates and straight threat "O" ring port tooling are emphasized. Prerequisite: FLPT 251 and concurrent enrollment in FLPT 261, 263. (SCC)

**FLPT 263 — Power Unit Fabrication (3 cr)**

Students study various power unit designs using pictures, slides, drawings and bill of materials. Shop work may include the setup and demonstration of the five basic power units. Depending upon the availability of equipment and materials, the rebuilding or fabrication of new power units may be introduced. Prerequisite: FLPT 251 and concurrent enrollment in FLPT 261, 262. (SCC)

**FLPT 264 — Fluid Power Computer Applications (4 cr)**

Students are introduced to various computer applications used in the fluid power industry. Students learn basic AutoCad commands and procedures used to create schematics using specialized symbol menus. They become proficient in the use of Automation Studio, a fluid power simulation program, to design and troubleshoot circuits. In addition, students learn to develop a hydraulic engineering calculations worksheet using Excel and to use manufacturers' CDs for design and engineering specifications. Prerequisite: Successful completion of first year or permission of instructor. (SCC)

**FLPT 265 — Hydraulic Circuit Design (3 cr)**

This course offers practical shop experience in the construction of a hydraulic circuit design from an automated machine specification. Prerequisite: FLPT 251 and concurrent enrollment in FLPT 268, 269. (SCC)

**FLPT 266 — Cooperative Education Seminar (1-2 cr)**

For course description, see Cooperative Education. (SCC)

**FLPT 267 — Cooperative Education Work Experience (1-18 cr)**

For course description, see Cooperative Education. (SCC)

**FLPT 268 — Fluid Power Application and Sales (5 cr)**

This course introduces controlled selling techniques required for successful fluid power sales. Computerized inventory control methods are included. Prerequisite: FLPT 251 and concurrent enrollment in FLPT 265, 269. (SCC)

**FLPT 269 — Hydraulic Manifold Design (3 cr)**

This course offers theory and practical lab experience in the identification of important controlling factors necessary to specify a custom made hydraulic manifold. Students learn to generate a series of manifold drawings using component layout techniques and AutoCad. Prerequisite: FLPT 251 and concurrent enrollment in FLPT 265, 268. (SCC)

**FLPT 271 — Pneumatic Theory (2-5 cr)**

This course introduces basic pneumatic (compressed air) theory, identification of components in a pneumatic system, and basic circuit design and troubleshooting. (SCC)

**FLPT 272 — Pneumatic Math and Symbols (2-4 cr)**

This course introduces basic pneumatic theory and the interpretation of pneumatic symbols and diagrams. Related mathematics for calculating flow, pressure and volume is presented. (SCC)

**FLPT 273 — Hydraulic Theory (2-5 cr)**

This course introduces basic hydraulic theory. Students learn to identify and apply components in a hydraulic system. (SCC)

**FLPT 274 — Applied Hydraulics (2-4 cr)**

This course offers practical application and interpretation of hydraulic circuits emphasizing the drawing and interpretation of circuits using proper schematic symbols. (SCC)

**FLPT 275 — AC/DC Electronic Control (8 cr)**

This course introduces fluid power students to basic electronics. A broad range of topics including safety, tools and test equipment, soldering techniques, wave forms, Ohm's and Kirchhoff's laws are emphasized. Passive devices, such as resistors, capacitors, inductors and transformers are included. (SCC)

*See program/course abbreviation key on page 143.*

**FLPT 277 — Digital Electronic Control (6 cr)**

Students study principles and techniques of modern digital control systems. A block diagram approach is used to teach the basic logic operations before introducing the electrical characteristics of logic ICs. This knowledge of a logic block's input and output characteristics allows students to "fit" it properly into a complete system. (SCC)

**FLPT 279 — Proportional Valves (4 cr)**

Students are introduced to the use of proportional valves to accurately position, accelerate and decelerate actuators. Precise mechanical positioning of the valve spool and the interfacing of an electronic sensor to indicate spool position is emphasized. The effect of infinite spool positioning on oil pressure and the elimination of hydraulic system shock is covered. Prerequisite: FLPT 112 or 136 or 273 and 274 or permission of instructor and concurrent enrollment in FLPT 275 or permission of instructor. (SCC)

**FLPT 281 — Solid State Electronic Control (8 cr)**

Students learn to identify components, related schematic symbols and descriptive terminology i.e., diodes, transistors and operational amplifiers. Course work covers the DC power supply as it applies to proportional valve circuit cards. Special emphasis is placed on the operation and calibration of the electronic circuits used to position and control a proportional valve. Hydraulic lab trainers are used to demonstrate the control of hydraulic cylinders and motors. Prerequisite: FLPT 275 or permission of instructor. (SCC)

**FLPT 283 — Microprocessor Control (6 cr)**

Students are provided with a comprehensive up-to-date study of the principles and techniques of modern microprocessor control systems. Applications are presented to show how logic devices are used in a typical microcomputer controlled system. The acquired knowledge is then applied by wiring a system using a microprocessor control card. Prerequisite: FLPT 275, 277 or permission of instructor and concurrent enrollment in FLPT 281 or permission of instructor. (SCC)

**FLPT 285 — Servo Valves (4 cr)**

Students are introduced to the operation and application of servo valves in a hydraulic system. The importance of accurate control and positioning in machine operations is emphasized. Oil cleanliness and filtration, torque motor identification and operation, first- and second-state valve operation are stressed. Circuit design of electronic feedback loops is covered. Prerequisite: FLPT 112 or 136 or 273 and 274 or permission of instructor. (SCC)

**FLPT 287 — Hydraulic System Electronic Control (6 cr)**

This course provides an overview of the basic electronic components studied in previous class and how they are designed into dedicated electronic control hardware. Emphasis is placed on how they control, sequence and monitor the operation of an automated hydraulically controlled machine. Lab exercises involve the design, installation and startup of typical electronically controlled circuits. Plant tours and field trips are used to enhance the lab experience. Prerequisite: FLPT 279, 281, 283, 285 or permission of instructor. (SCC)

**FLPT 288 — Cooperative Education Work Experience (No Seminar) (1-18 cr)**

For course description, see Cooperative Education. (SCC)

**FLPT 289 — Logic Element Circuitry (3 cr)**

Students are introduced to the construction, special features and applications of logic elements of hydraulic systems. Remote control of logic elements using standard electrically controlled directional valves and electronically controlled proportional valves is emphasized. Other topics covered include the multifunction capabilities of logic elements (directional control, flow control and pressure control of hydraulic oil). Prerequisite: FLPT 131 or permission of instructor. (SCC)

**FLPT 290 — PLC Applications (5 cr)**

Students are introduced to the advanced control options available in programmable controllers. Interfacing of the PLCs with electronically controlled proportional and servo valves is emphasized. Lab exercises that involve writing of programs that accurately position hydraulic cylinders are included. An overview of PLC graphic capabilities and uses is presented. Prerequisite: FLPT 243. (SCC)

**INDUSTRIAL FIRST AID****ISFTY 105 — CPR - Basic Life Support (1 cr)**

Basic life support skills in cardiopulmonary resuscitation according to AHA guidelines. Practical experience is given in one-person, two-person and infant CPR. (SCC)

**ISFTY 111 — Industrial First Aid (2 cr)**

This is a basic first aid course encompassing the following: bleeding control and bandaging; practical methods of artificial respiration including mouth-to-mouth and mouth-to-nose resuscitation; cardiopulmonary resuscitation; poisons, shock, unconsciousness and stroke; burns and scalds, sunstroke, heat exhaustion, frostbite and freezing; strains, sprains and hernias; fractures and dislocations; proper transportation of injured; bites and stings; and subjects covering specific health hazards likely to be encountered by coworkers of first aid students enrolled in the course. (SFCC - telecourse) (SCC)

**INTEGRATED BUSINESS AND ENTREPRENEURSHIP****IBE 201 — Integrated Business and Entrepreneurship Principles I (10 cr)**

The IBE Principles I course offers a hands-on approach to training future business leaders and entrepreneurs. College instructors and local business and community leaders guide student teams through the process of identifying a business product or service, conducting market research, and developing a business plan outline. This program is limited to individuals who have received permission of Program Director and have completed IBE application. (SCC)

**IBE 202 — Integrated Business and Entrepreneurship Principles II (10 cr)**

The IBE Principles II course offers a hands-on approach to training future business leaders and entrepreneurs. College instructors and local business and community leaders guide student teams through development and management of business operations, including accounting systems, understanding legal and regulatory issues, and identifying and securing material resources. Prerequisite: IBE 201 or instructor permission. (SCC)

**IBE 203 — Integrated Business and Entrepreneurship Principles III (10 cr)**

The IBE Principles III course offers a hands-on approach to training future business leaders and entrepreneurs. College instructors and local business and community leaders guide student teams through the creation and execution of a marketing plan and management of human resources. This course concludes with a capstone team presentation of the business plans developed throughout the IBE program. Prerequisite: IBE 202 or instructor permission. (SCC)

**INTERIOR DESIGN****INTDS 105 — Design Drawing (4 cr)**

Design drawing is a beginning drawing class that offers design students a strong introduction to drawing skills needed in their profession. The class emphasizes the development of close observation skills and composition as students experience the fundamentals of drawing line, shape, light and reflection, shade and shadow, and perspective as related to interior subjects and formats. Prerequisite: Required minimum reading placement score: COMPASS 80, ASSET 40. Required minimum writing placement score: COMPASS 76, ASSET 40. (SFCC)

**INTDS 106 — Sketching Techniques (4 cr)**

Students learn to effectively communicate ideas through quick sketching visual formats. Instruction includes a wide variety of approaches to sketching techniques, working from simple to complex subject matter including still life's, interiors and the human form. (SFCC)

**INTDS 107 — Rendering Techniques (4 cr)**

Rendering Techniques exposes students to different media and teaches them to accurately represent various subject matter in complex illustrations. The class places heavy emphasis on developing close observation skills, translating observations into a loose rendering style and a bold, creative approach to mixed media rendering styles. Prerequisite: GRDSN 105, INTDS 106 or permission of instructor. (SFCC)

**INTDS 170 — Elements of Interior Design (5 cr)**

Examination of basic design principles and elements used in interior space design. Study of the use of contemporary spaces, furnishings and accessories based on integration of color, light, line, balance, texture and form. Prerequisite: Required minimum reading placement score: COMPASS 80, ASSET 40. Required minimum writing placement score: COMPASS 76, ASSET 40. (SFCC)

**INTDS 171 — Interior Design Studio I (6 cr)**

Students in this course study how to apply design principles to space planning in addition to functional and aesthetic analysis of interior components. Students learn to complete a series of practical residential design problems, including social and private spaces. Activities include how to measure and draw actual spaces, and selection and incorporation of architectural materials and furniture as integral design components. Students begin to

build a selection of interior projects for their portfolio using professional presentation techniques. Prerequisite: INTDS 184, 187 or permission of instructor. (SFCC)

#### **INTDS 172 – Interior Design Studio II (6 cr)**

This course builds on knowledge gained in INTDS 171 by offering more advanced and specific, practical applications of residential environment design. It emphasizes selection of residential interior finishes, design concept development, space planning, problem solving, and functional and aesthetic factors as design components. Freehand drawing and sketching are integral to most projects. Students refine skills in working and design drawings, research methods, and the design process. Projects might include kitchen design, product research, and specification and alternative housing. Prerequisite: INTDS 171 or permission of instructor. (SFCC)

#### **INTDS 173 – Architectural Graphics 1 (4 cr)**

Fundamentals of mechanical drawing pertaining to interior design; architectural floor plans, symbols, elevations and lettering. Prerequisite: Required minimum reading placement score: COMPASS 80, ASSET 40. Required minimum writing placement score: COMPASS 76, ASSET 40. (SFCC)

#### **INTDS 174 – Design Presentation (4 cr)**

Design Presentation introduces students to various media techniques and styles in visual presentation of both 2-D and 3-D projects. Students learn to effectively communicate design ideas in the form of written design concepts using design language and appropriate vocabulary. Through a combination of public speaking techniques and creative presentation styles, students learn to effectively present their ideas in front of an audience. Prerequisite: INTDS 107, 184, 187. (SFCC)

#### **INTDS 175 – Materials of Interior Design (5 cr)**

Definition and application of materials appropriate for use in interiors to include glass, wood, plastics, floor and wall coverings, metals, and building materials. Prerequisite: INTDS 170. (SFCC)

#### **INTDS 176 – Special Environments (6 cr)**

This course is designed to help students develop knowledge of universal design, barrier-free space requirements and specifications, skill in designing for persons with varying abilities, and an awareness of human needs throughout the life cycle. Learning experiences will include guest speakers, field trips, simulation techniques and teamwork. Students continue to develop and refine skills in sketching, design drawings, research methods, problem solving and design concepts. Students have opportunities to experience and master course information when they are challenged to apply the information to specific projects. Prerequisite: INTDS 172 or permission of instructor. (SFCC)

#### **INTDS 179 – History of Interiors I (3 cr)**

A survey of types of furniture and interior architectural forms common to various historical periods including antiquity, medieval, Renaissance and eastern styles. Includes researching a project, creating traditional period backgrounds and atmospheres. (SFCC)

#### **INTDS 180 – History of Interiors II (3 cr)**

A survey of types of furniture and interior architectural forms common to various historical periods, including Baroque, Rococo, Neoclassic and Victorian. Includes researching a project, creating a traditional period background and atmosphere. Prerequisite: INTDS 179 or permission of instructor. (SFCC)

#### **INTDS 181 – History of Interiors III (3 cr)**

A survey of types of furniture and interior architectural forms common to the Industrial Revolution in England and America, European and American Art Nouveau, Art Deco, the Mission Style, the Bauhaus and International Styles, and the modern movement to the present. Prerequisite: INTDS 180 or permission of instructor. (SFCC)

#### **INTDS 184 – Architectural Graphics II (4 cr)**

Architectural drafting development includes light frame construction principles and working drawings for a private residence. Additional study includes introduction to computer-aided drafting. Prerequisite: INTDS 173. (SFCC)

#### **INTDS 185 – Architectural Space Systems (4 cr)**

Introduction of specific systems within a building that indirectly affect the interior environment to include structure, heating/air conditioning, electrical, water supply/sanitary drainage and sound/acoustic systems. Additional emphasis is placed on 2- and 3-D design solutions for interior and exterior spaces. Introduction of model building as a presentation determinate. Prerequisite: INTDS 184 or permission of instructor. (SFCC)

#### **INTDS 186 – Lighting Design (3 cr)**

This course covers the study of lighting design and application in both residential and commercial interiors. Includes practical problem solving and reflected ceiling plans. Prerequisite: INTDS 171. (SFCC)

#### **INTDS 187 – Perspective Sketch (4 cr)**

Instruction is provided in the fundamentals of perspective drawing for the interior design student. Mechanical methods in one- and two-point perspective are included. Emphasis placed on Freehand, Quick Sketch techniques. Prerequisite: INTDS 184. (SFCC)

#### **INTDS 189 – Special Topics (1-3 cr)**

This course focuses on a topic currently relevant to the field of interior design as a supplement to existing program courses. Course content varies depending on topic and number of credits offered. Areas students explore may include historic preservation, community service and educational/cultural tours. Course may be repeated for credit with different topics. (SFCC)

#### **INTDS 266 – Cooperative Education Seminar (1-2 cr)**

For course description, see Cooperative Education. (SFCC)

#### **INTDS 267 – Cooperative Education Work Experience (1-18 cr)**

For course description, see Cooperative Education. (SFCC)

#### **INTDS 268 – Design Portfolio (3 cr)**

This course examines how design communication relates to client presentation. It focuses on portfolio and interviewing skills for professional presentation. Students develop creative portfolios that capture their capabilities as well as their personal and design philosophy, in a medium of their choice. Prerequisite: INTDS 282; INTDS 286 or instructor permission and concurrent enrollment in INTDS 266; INTDS 267 or instructor permission. (SFCC)

#### **INTDS 275 – Professional Practices (3 cr)**

Students learn personal goal setting, how to establish a business plan, types of business formations, resources of advice and counsel, and how to establish an interior design practice. (SFCC)

#### **INTDS 280 – Textiles for Interiors (5 cr)**

The selection, use and care of textile fabrics for interiors based on the study of fibers, fabric construction, specific finishes and properties; emphasis on designer selection and specification of fabrics for window treatments, upholstering furniture, floor coverings and accessories. Prerequisite: ART 105 and INTDS 170 or permission of instructor. (SFCC)

#### **INTDS 281 – Commercial Design Studio I (6 cr)**

Students learn the practical problem-solving techniques used in the design of commercial and public spaces. Commercial design materials and specifications are surveyed and applied to a series of interior projects requiring research, teamwork and professional presentation. Projects may include reception areas, hospitality, small office, healthcare and retail establishments. Actual projects are used as they become available. Prerequisite: INTDS 176, GPA 2.0 and faculty evaluation. (SFCC)

#### **INTDS 282 – Commercial Design Studio II (6 cr)**

Students are involved with advanced work in contract and institutional design problems including research projects. Lectures are used to discuss project programming and to synthesize information gained in INTDS 281. Projects may include various international commercial spaces, hospitality and healthcare environments. Actual design projects are used when practical. Prerequisite: INTDS 281 or permission of instructor. (SFCC)

#### **INTDS 285 – Computer Aided Design I (4 cr)**

Students in this class use the computer with AUTOCAD to design and present floor plans, elevations and furniture layouts. Emphasis on 2-D design. Prerequisite: INTDS 176, 184. (SFCC)

#### **INTDS 286 – Computer Aided Design II (4 cr)**

This course builds on the skills learned in INTDS 285 and introduces more advanced design and drafting operations including 3-D design drawing using AUTOCAD. Prerequisite: INTDS 285. (SFCC)

#### **INTDS 287 – Digital Interior Design Technology (4 cr)**

This course provides a working knowledge of some of the digital design computer technology used today in the interior design industry. Through practice exercises and applications, students learn the basics of digital design programs including 3D, AutoCAD and Photoshop. Course work culminates in a final project that integrates photographs, AutoCAD drawings and other images and elements using features from each of the learned digital programs. Prerequisite: Minimum of one quarter of AutoCAD within the previous one to two years. Familiarity with the Windows environment and understanding of mouse functionality (basic AutoCAD drawing and edit commands). Basic understanding of how to specify furniture. Ability to efficiently read a floor plan. Basic understanding and familiarity with Photoshop. (SFCC)

#### **INTDS 295 – International Design (5 cr)**

Students gain first-hand experience with and exposure to the art, history, interior design and culture of a foreign country. Students participate in guided visits to museums, monuments and specially organized discipline-specific sites. This class involves a 10-15 day tour of the designated foreign country and offers a multi-faceted exposure to its culture. (SFCC)

## INTERPRETER TRAINING PROGRAM/ DEAFNESS

### HSEAR 106 – Introduction to Deaf Culture (5 cr)

Overview of deaf culture, different types of hearing losses and their effects on the functioning and status of the deaf individual (psychological, educational and social). Hearing aids and their function and limitations are introduced along with various modes of communication used by deaf people. Prerequisite: Recommended minimum reading placement scores: Compass 80, Asset 40. (SFCC)

### HSEAR 128 – Signing Exact English I (2 cr)

Skills in the new sign systems of education for the hearing impaired as they are practiced, as well as the principles and theories underlying those practices. Special emphasis is given to the Signing Exact English (SEE II) system of Manually Coded English, along with the practice and rationale for its use in a total communication setting. Prerequisite: May be taken with ASL& 121 (formerly HSEAR 101). (SFCC)

### HSEAR 129 – Signing Exact English II (2 cr)

Skill building, vocabulary development and theory of new sign systems are taught. Prerequisite: HSEAR 128. (SFCC)

### HSEAR 151 – Education of the Hearing Impaired (5 cr)

Current specialized techniques of education for the hearing impaired as they are practiced, as well as the principles and theories underlying those practices. Special emphasis is given to the Signing Exact English (SEE II) system of Manually Coded English, along with the practice and rationale for its use in a total communication setting. Prerequisite: ASL& 123 (formerly HSEAR 103) or demonstrated competency. Recommended minimum reading placement scores: Compass 80, Asset 40. (SFCC)

### HSEAR 154 – Introduction to Interpreting (5 cr)

Major issues that confront counselors and social workers in programs that are providing services to deaf people. The code of ethics for interpreters is introduced and ethical situations are discussed. Prerequisite: Recommended minimum reading placement scores: Compass 80, Asset 40. (SFCC)

### HSEAR 201 – Voicing (5 cr)

Students develop comprehension skills in understanding of various signed messages of deaf persons. As a result of developing comprehension skills, students will be able to apply various tools to the voicing task of any signed messages by a deaf person. Prerequisite: ASL& 123 (formerly HSEAR 103) or demonstrated competency. (SFCC)

### HSEAR 202 – Transliterating I (5 cr)

Students develop skills that will apply to various types of educational situations. Students develop skills in using conceptual signing, and developing knowledge and skill in using educational terminology. Students have the opportunity to practice transliterating in general areas of educational and community topics. Emphasis is placed on developing skill in transliterating from English to signed English. Prerequisite: HSEAR 251 or demonstrated competency. (SFCC)

### HSEAR 203 – Transliterating II (5 cr)

Students refine the various skill components of transliterating that prepare them for transliterating tasks in the educational environment. Emphasis is placed on developing knowledge and skill in the specific subject areas found in educational environments such as science, math, social services and technical fields. Emphasis is placed on appropriate signing of various technical vocabularies presented at a rate of 120 wpm in the classroom. Prerequisite: HSEAR 202 or demonstrated competency. (SFCC)

### HSEAR 251 – ASL Interpreting I (5 cr)

Students learn the various models of interpreting in the field and apply the listening skills necessary to successful ASL interpreting. Areas to be covered in this course are use of space, 4 Ws and 1 H theory of interpreting from English to ASL. Students have the opportunity to practice various topics that will be applied to community and platform type of interpreting. Prerequisite: ASL& 123 (formerly HSEAR 103) or demonstrated competency. (SFCC)

### HSEAR 252 – ASL Interpreting II (5 cr)

Students utilize prior skills and apply these to specific types of situations that may arise in the community. Topics covered are medical interpreting, legal interpreting and social service interpreting. As a result of this course, students are prepared to go into the community to interpret for various types of situations and deaf people they are likely to encounter. Prerequisite: HSEAR 251 or demonstrated competency. (SFCC)

### HSEAR 253 – ASL Interpreting III (5 cr)

Students combine the skills of voicing from ASL and interpreting into ASL as they practice in-depth the areas of one-to-one interpreting that they are likely to encounter in the community. Students are exposed to persons whose skills vary from minimal competency to signed English and are expected to practice and use in a professional manner the ASL interpreting skills needed in one-to-one situations. Areas to be covered include medical interpreting, legal interpreting, social service interpreting, mental health interpreting and other community-type interpreting. Prerequisite: HSEAR

252 or demonstrated competency. (SFCC)

### HSEAR 268 – Seminar on Deafness (3 cr)

Discussion of topics of current interest and importance as reflected in current literature and periodicals. (SFCC)

### HSEAR 281 – Interpreting Practicum I (1-5 cr)

Students are placed in a specific site where the skills and knowledge gained in the classroom are applied. Students are expected to accumulate 26-130 hours of actual practicum experience that prepare them to move into real working situations upon graduation. Students meet once a week for one hour to discuss problems, vocabulary and situations encountered in the practicum experience. Prerequisite: HSEAR 202. (SFCC)

### HSEAR 282 – Interpreting Practicum II (1-5 cr)

Students develop in-depth skills in both interpreting and transliterating by being placed at sites where they develop their specialty. Students further sharpen their skills in articulating knowledge and understanding of interpreting in their chosen areas. For example, students wishing to develop more skill in transliterating at the elementary, junior high and high school level will be placed in those sites to refine their skills in that area. Prerequisite: HSEAR 202, 281. (SFCC)

## INVASIVE CARDIOVASCULAR TECHNOLOGY

### ICT 114 – Cardiovascular I (4 cr)

Students are introduced to the field of cardiovascular technology and the role of the CV technologist. Professionalism as well as ethical and legal issues, including AIDS, are emphasized. Written and oral communication, medical terminology and computer keyboarding skills are presented. Various discussion groups and tours are provided. Upon successful completion of this course, students receive a basic life support card. Prerequisite: Enrollment in ICT or NCT program. (SCC)

### ICT 124 – Cardiovascular II (4 cr)

CPR and basic life support techniques are studied to the level of CPR instructor, as approved by the American Heart Association. Students are introduced to forms of invasive monitoring, and forms of vascular access are studied, including right heart catheterization, arterial line setups and care. The basics of hemodynamic monitoring and interpretation are emphasized. BASIC computer programming associated with hemodynamic monitoring is included as well as an introduction to aseptic techniques and infection control. Labs and tours are integral components of this course. Prerequisite: ICT 114 and NCT 113. (SCC)

### ICT 134 – Invasive Cardiovascular Fundamentals (5 cr)

This course is an overview of cardiovascular invasive diagnosis and interventional therapy which includes an introduction to the cardiac catheterization lab through the study of X-ray theory, safety and positioning, angiographic anatomy of the cardiovascular system, pharmacology principles, and invasive cardiac measurements and calculations. Labs and tours are integral components of this course. Prerequisite: ICT 114, 124, NCT 113, 123. (SCC)

### ICT 138 – Cardiovascular Physiology (3 cr)

This course is an advanced study of normal cardiovascular physiology presented in a series of physician lectures and lab demonstrations with applications in invasive and noninvasive cardiology. Prerequisite: BIOL& 241, 242 (formerly A-P 242, 243). (SCC)

### ICT 144 – Cardiac Catheterization I (11 cr)

The first two days of summer quarter are spent in preparation for two weeks of noninvasive clinical experience. Students review ECG, stress, echo and other noninvasive tests. Students then complete noninvasive clinical rotations: one week in a hospital noninvasive department and one week at a clinic. The third and fourth weeks are spent preparing for the invasive clinical. The cardiac catheterization skills necessary to assist with the left heart catheterization and angiography are taught. Four weeks are then divided between invasive clinical rotations in hospital invasive laboratories. This includes in-town cath lab clinical experience (Sacred Heart or Deaconess Medical Centers) and one week of out-of-town cath lab clinical experience at an approved clinical site. Prerequisite: Completion of the first year courses. (SCC)

### ICT 214 – Cardiac Catheterization II (15 cr)

This course is an intensive study of the role of the cardiovascular technologist in invasive cardiac catheterization procedures such as right and left heart catheterization, Swan-Ganz, vascular special procedures, coronary angioplasty and laser applications. Basic competencies are developed in hemodynamic calculations, such as quantitative LV volumes, valve arc and pressure waveforms. Additional competencies in emergency life support, cardiac pharmacology and pathology also are presented. Prerequisite: ICT 144. (SCC)

**ICT 224 — Cardiac Catheterization III (15 cr)**

This course is an intensive study of the role of the cardiac catheterization technologist in advanced invasive procedures such as electrophysiology, pacemaker and implantable defibrillators. Additional procedures studied include pediatric heart catheterization, blood gases, cardiac output and shunt determination. Advanced surgical techniques as related to the cath lab and open heart surgery are presented. Procedures are covered including coronary artery bypass surgery, heart valve replacement and pediatric surgery. The surgical nature of this unit is expanded by studying the heart lung machine, cardiac assist devices and the intra-aortic balloon pump. Prerequisite: ICT 214. (SCC)

**ICT 234 — Cardiac Catheterization IV (13 cr)**

Students develop clinical skills by active participation in a cardiac catheterization laboratory. This full-time clinical internship is completed in an affiliated out-of-town hospital and prepares students for the full range of duties expected of the cardiac catheterization technologist. These include cardiac cath labs, special radiologic procedures, pacemakers, coronary angioplasty, computer operation and calculations, and various surgical specialties such as blood gas analysis and intra-aortic balloon pulsation. Prerequisite: ICT 224. (SCC)

**JAPANESE****JAPN& 121 — Japanese I (5 cr)**

Formerly JAPAN 101. Elementary Japanese is an introduction to Japanese language; conversation, composition, grammar and written Japanese. Discussion of culture and traditions. (SCC, SFCC)

**JAPN& 122 — Japanese II (5 cr)**

Formerly JAPAN 102. Elementary Japanese is an introduction to Japanese language; conversation, composition, grammar and written Japanese. Discussion of culture and traditions. Prerequisite: JAPN& 121 (formerly JAPAN 101) or permission of instructor. (SCC, SFCC)

**JAPN& 123 — Japanese III (5 cr)**

Formerly JAPAN 103. Elementary Japanese is an introduction to Japanese language; conversation, composition, grammar and written Japanese. Discussion of culture and traditions. Prerequisite: JAPN& 122 (formerly JAPAN 102) or permission of instructor. (SCC, SFCC)

**JAPN& 221 — Japanese IV (5 cr)**

Formerly JAPAN 201. Students increase their fluency and listening comprehension, master 200 kanjis and their "on" and "kun" readings, and learn to read short articles in newspapers and magazines. Prerequisite: JAPN& 123 (formerly JAPAN 103) or permission of instructor. (SCC, SFCC)

**JAPN& 222 — Japanese V (5 cr)**

Formerly JAPAN 202. Students increase their fluency and listening comprehension, master 200 kanjis and their "on" and "kun" readings, and learn to read short articles in newspapers and magazines. Prerequisite: JAPN& 221 (formerly JAPAN 201) or permission of instructor. (SCC, SFCC)

**JAPN& 223 — Japanese VI (5 cr)**

Formerly JAPAN 203. Students increase their fluency and listening comprehension, master 200 kanjis and their "on" and "kun" readings, and learn to read short articles in newspapers and magazines. Prerequisite: JAPN& 222 (formerly JAPAN 202) or permission of instructor. (SCC, SFCC)

**JAPN 267 — Cooperative Education Work Experience (1-18 cr)**

Formerly JAPAN 267. For course description, see Cooperative Education. (SFCC)

**JOURNALISM****JOURN 100 — Introduction to Broadcasting (5 cr)**

A survey of radio, television and cable communications will be addressed in this course. Content includes the history of the media; organization, structure and regulation of the industry; commercial and educational broadcasting; programming; advertising; audience standards of criticism; and new technologies. (SFCC)

**JOURN 101 — College News (1-5 cr)**

Gain practical writing, layout and publishing experience by working on the college newspaper. Students plan, write, edit and lay out the newspaper that informs, educates and entertains the students, faculty and staff of the college. Published every other week, the newspaper is the creation of students who may earn from 1 to 5 credits. (SCC, SFCC)

**JOURN 102 — College News (1-5 cr)**

Gain practical writing, layout and publishing experience by working on the college newspaper. Students plan, write, edit and lay out the newspaper that informs, educates and entertains the students, faculty and staff of the college. Published every other week, the newspaper is the creation of students who may earn from 1 to 5 credits. (SCC, SFCC)

**JOURN 103 — College News (1-5 cr)**

Gain practical writing, layout and publishing experience by working on the college newspaper. Students plan, write, edit and lay out the newspaper that informs, educates and entertains the students, faculty and staff of the college. Published every other week, the newspaper is the creation of students who may earn from 1 to 5 credits. (SCC, SFCC)

**JOURN 105 — Computerized Layout and Design for Journalists (2 cr)**

This course offers instruction in the use of PageMaker for newsletter or newspaper layout, Adobe Photoshop for scanning photographs and artwork, and CorelDraw for graphics. (SCC)

**JOURN 110 — Mass Media (5 cr)**

The study of the mass media. The major goals of the course are to give students an objective, thoughtful view of the mass media so that they better understand the impact the media has on us. It is a survey course that studies newspapers, advertising and television, in addition to a less detailed study of radio, film, and the other forms and issues of mass media. Prerequisite: SFCC only: recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

**JOURN 201 — College News (1-5 cr)**

Gain practical writing, layout and publishing experience by working on the college newspaper. Students plan, write, edit and lay out the newspaper that informs, educates and entertains the students, faculty and staff of the college. Published every other week, the newspaper is the creation of students who may earn from 1 to 5 credits. (SCC, SFCC)

**JOURN 202 — College News (1-5 cr)**

Gain practical writing, layout and publishing experience by working on the college newspaper. Students plan, write, edit and lay out the newspaper that informs, educates and entertains the students, faculty and staff of the college. Published every other week, the newspaper is the creation of students who may earn from 1 to 5 credits. (SCC, SFCC)

**JOURN 203 — College News (1-5 cr)**

Gain practical writing, layout and publishing experience by working on the college newspaper. Students plan, write, edit and lay out the newspaper that informs, educates and entertains the students, faculty and staff of the college. Published every other week, the newspaper is the creation of students who may earn from 1 to 5 credits. (SCC, SFCC)

**JOURN 220 — Media Writing (5 cr)**

The emphasis of this course is on writing clear, concise articles for print or broadcast media. Students learn the basic techniques of organizing news and feature articles. In addition, interviewing skills, note taking and copy reading are stressed. (SCC, SFCC)

**JOURN 224 — Advanced News Reporting (5 cr)**

This course is designed for students who wish to further refine the skills developed in JOURN 220. Students will focus on column/editorial writing, advanced feature writing, computer-assisted reporting and Associated Press writing style. This will be very writing-intensive course, focusing on both long-form and short-form storytelling techniques used in newspapers, magazines and the web. Prerequisite: 2.0 or better in JOURN 220 or permission of instructor. (SFCC)

**JOURN 266 — Cooperative Education Seminar (1-2 cr)**

For course description, see Cooperative Education. (SCC, SFCC)

**JOURN 267 — Cooperative Education Work Experience (1-18 cr)**

For course description, see Cooperative Education. (SCC, SFCC)

**LEGAL ADMINISTRATIVE ASSISTANT****LSEC 216 — Legal Office Procedures (5 cr)**

Students are introduced to the role of lawyers and law office staff in today's legal environment. Students develop and improve skills in maintaining trust accounts, time slips, docket control, law library management, the use of the Uniform System of Citations as a reference tool for legal citations, notary public requirements, trial preparation, law office management, collections and garnishments, courthouse procedures, confidentiality requirements, and positive human relations techniques. Critical thinking skills are addressed. Prerequisite: LSEC 239 or 249 and enrollment in the legal administrative assistant program. (SCC)

**LSEC 233 — Legal Office Practice (5 cr)**

Students study the integration of decision-making with legal office procedures and skills in the areas of contracts, business organizations, real estate, estates and guardianships, and bankruptcy. This course includes five hours of lecture and seven hours of skill development, two of which are arranged. Prerequisite: BT 109 and LSEC 239, and 244 with a 2.0 grade or better, or permission of instructor. (SCC)

**LSEC 236 – Legal Terminology (5 cr)**

Students learn legal terminology and study ethics, the court system, wills, probates and guardianships, partnerships and corporations, real estate and landlord/tenant law. Prerequisite: Enrolled in the legal administrative assistant program or permission of instructor. (SCC)

**LSEC 237 – Legal Terminology (5 cr)**

Students learn legal terminology and study litigation, torts, contracts, criminal law, family law, community property, adoptions, change of name and bankruptcy. Prerequisite: Enrolled in the legal administrative assistant program or permission of instructor. (SCC)

**LSEC 239 – Legal Formatting (5 cr)**

Students develop skills on personal computers, competencies in the production of legal documents used in law-related offices and courts, and critical thinking skills in legal applications. Prerequisite: Keyboarding skills of 40 wpm; BT 102 and 165; and BT 109 or ENGL& 101 (formerly ENG 101) with a grade of 2.0 or higher or permission of instructor. (SCC)

**LSEC 244 – Legal Machine Transcription (5 cr)**

Students develop proficiency in producing rough draft and usable legal copy from voice transcribers. Prerequisite: BT 235 and LSEC 239 or 249 with a 2.0 grade or better, or permission of instructor. (SCC)

**LSEC 249 – Legal Formatting Procedures (5 cr)**

Advanced legal formatting functions are presented and students develop competencies to produce legal documents used in law-related offices and courses. Students improve their critical thinking skills in legal procedures. Prerequisite: Keyboarding skills of 40 wpm; BT 102 and 165 and BT 109 or ENGL& 101 (formerly ENG 101) with a 2.0 higher or permission of instructor. (SCC)

**LSEC 266 – Cooperative Education Seminar (1-2 cr)**

For course description, see Cooperative Education. (SCC)

**LSEC 267 – Cooperative Education Work Experience (1-18 cr)**

For course description, see Cooperative Education. (SCC)

**LSEC 285 – Legal Office Internship (3 cr)**

Students apply their office and human relations skills during this two-week internship at a law office or law-related office or court. Sites meet individual needs of students and complement their program. Grading option: Pass/fail. Prerequisite: Permission of program coordinator. (SCC)

**LIBRARY TECHNICIAN****LMLIB 100 – Introduction to Library Organizations and Careers (3 cr)**

Students are introduced to the historical, functional, and organizational structure of libraries. Current library services; philosophy, and terminology are emphasized. Students demonstrate knowledge about the role of the library technician as a member of library organizations. Students will explore professional organizations, employment outlook and identify a possible career path. (SFCC)

**LMLIB 115 – Introduction to Library Organizational Systems (5 cr)**

Students learn various systems used to organize and recall library materials with an emphasis on classification systems; filing rules; searching library catalog records; and an introduction to database structure. Prerequisite: Can be taken concurrently with LMLIB 100; or taken in sequence or permission of instructor and concurrent enrollment in LMLIB 100. (SFCC)

**LMLIB 116 – Introduction to Circulation Systems and Services (5 cr)**

Students are introduced to library circulation systems and services by engaging in practical experience using software. Students are introduced to policies associated with circulation services. Prerequisite: Can be taken concurrently with LMLIB 100 and LMLIB 115 or taken in sequence or permission of instructor. (SFCC)

**LMLIB 117 – Access Services, Customer Service and Collection Maintenance (5 cr)**

Students are introduced to common policies and procedures covering access services including: Inter Library Loan, library security issues, and collection maintenance (shelving, binding and book repair). Students also are introduced to customer service issues and best practices in all types of libraries. Prerequisite: LMLIB 116; Must be taken in sequence or permission of instructor. (SFCC)

**LMLIB 125 – School Libraries and Media Centers (5 cr)**

This is an introductory course for students interested in school library and media centers management and materials. An overview of the role and function of school libraries and media centers; information literacy standards and media materials management are presented. (SFCC)

**LMLIB 126 – School Library Technology and Services for Curriculum Support (3 cr)**

Students are introduced to the role of the school library in its capacity of providing curricular support in the K-12 setting. Information literacy; emerging technologies in teaching and learning; and outreach and collaboration with school personnel will be explored. (SFCC)

**LMLIB 135 – Children’s Literature and Library Services (5 cr)**

Fairy tales and other works emerging from oral tradition, picture books, poetry, juvenile novels, non-fiction and informational books will be evaluated in terms of what they have to offer to children. Students will read and review children’s literature and view audio-visual media associated with selected children’s stories. Students will create presentations using children’s literature and examine library services designed for children. (SFCC)

**LMLIB 210 – Technical Services I: Acquisitions and Materials Processing (5 cr)**

Students utilize bibliographic tools and searching techniques commonly used by libraries in identifying materials to be requisitioned; ordering methods; acquisitions procedures; serials management; and materials workflow is examined. Prerequisite: Must be taken in sequence; or permission of instructor. (SFCC)

**LMLIB 220 – Technical Services II: Cataloging (5 cr)**

Students will prepare bibliographic descriptions based on Anglo-American Cataloging Rules, 2nd ed., Revised, with emphasis on cataloging from copy. Some original cataloging is covered also, including assignment of main and added entries, assignment of subject headings and classification numbers and assignment of Cutter numbers. Prerequisite: Must be taken in sequence; or permission of instructor. (SFCC)

**LMLIB 222 – Reference Services and Outreach (5 cr)**

Students examine the function of library technician’s role in relation to readers’ services and supporting reference services. Students examine programs and outreach services libraries used to reach library users. Prerequisite: Must be taken in sequence; or permission of instructor. (SFCC)

**LMLIB 224 – Research Topics and Projects in Library Service (1-3 cr)**

The course content is designed to meet specific skill levels for individual students. The course content varies depending on research and/or project and the number of credits chosen and established guidelines allow students to research special areas of interest. Students have the opportunity to refine or expand their library technician skills working on an independent project or topic. All research and/or projects must be agreed upon by the instructor and student. Prerequisite: Permission of instructor. (SFCC)

**LMLIB 266 – Cooperative Education Seminar (1-2 cr)**

For course description, see Cooperative Education. (SFCC)

**LMLIB 267 – Cooperative Education Work Experience (1-18 cr)**

For course description, see Cooperative Education. (SFCC)

**MACHINIST/CNC TECHNOLOGY****MACH 113 – Beginning Blueprint (2 cr)**

Students learn basic blueprint reading with emphasis on the accurate interpretation of blueprints and sketches. Prerequisite: Concurrent enrollment in MACH 114, 115 or permission of instructor. (SCC)

**MACH 114 – Introduction to Machine Shop I (5 cr)**

Students are introduced to the manufacturing processes and the equipment and hardware used to shape and form materials. Practical application includes basic layout techniques, the use of measuring tools and shop safety practices. (SCC)

**MACH 115 – Introduction to Machine Tools (5 cr)**

Students are introduced to the tools, equipment and processes common to a machine shop with emphasis on their proper selection and use. Prerequisite: Concurrent enrollment in MACH 113, 114 or permission of instructor. (SCC)

**MACH 116 – Introduction to Machine Shop II (5 cr)**

This course continues with the applications introduced in MACH 114 emphasizing the manufacturing processes, equipment and hardware used to shape and form materials. Basic layout techniques, the use of measuring tools and shop safety practices are stressed. (SCC)

**MACH 123 – Machine Tool Operations I (6 cr)**

Students are introduced to theory and practical shop experience used in basic machining operations with emphasis on the safe operation of sawing and drilling machines. Prerequisite: MACH 113, 116. (SCC)

**MACH 124 – Blueprint II (2 cr)**

Students learn theory and practical applications in the basics of shop sketching. Basic lines and forms and freehand lettering are emphasized. Prerequisite: MACH 113 and concurrent enrollment in MACH 123, 125 or permission of instructor. (SCC)

**MACH 125 — Machine Shop Math I (1-2 cr)**

Students are introduced to the math principles and applications to machine shop procedures. Emphasis range from the calculation of percentages to practical algebra. Prerequisite: MACH 114 and concurrent enrollment in MACH 123, 124 or permission of instructor. (SCC)

**MACH 126 — Machine Tool Operations II (7 cr)**

This course continues with the concepts introduced in MACH 123. Students acquire practical shop experience in basic machining operations. The safe operation of sawing and drilling machines is emphasized. Prerequisite: MACH 113, 116. (SCC)

**MACH 133 — Machine Tool Operations III (7 cr)**

This course emphasizes the safe operation of lathes and their accessory equipment. Prerequisite: MACH 123, 126. (SCC)

**MACH 134 — Machine Shop Math II (1-2 cr)**

This course continues with the concepts introduced in MACH 125. Geometric construction and basic concepts of trigonometry are emphasized. Prerequisite: MACH 125 and concurrent enrollment in MACH 133, 135 or permission of instructor. (SCC)

**MACH 135 — Blueprint III (2 cr)**

This course continues with the concepts introduced in MACH 113 and 124. Practical experience in the interpretation and generation of special view drawings is emphasized. Prerequisite: MACH 124 and concurrent enrollment in MACH 133, 134 or permission of instructor. (SCC)

**MACH 136 — Machine Tool Operations IV (7 cr)**

This course continues with the concepts introduced in MACH 133. Practical applications in the safe operation of lathes and their accessory equipment are emphasized. Prerequisite: MACH 123, 126. (SCC)

**MACH 201 — Manufacturing Economics (1 cr)**

This course is a study of the principles of manufacturing business economics. Profit, customer satisfaction, labor and industries, costs, value added, unit cost, employee benefits and overhead are emphasized. (SCC)

**MACH 202 — Manufacturing Resource Management (1 cr)**

This course is a study of the principles of manufacturing focusing on production rates, inventory control, budgeting, computer applications and scheduling. (SCC)

**MACH 243 — Machine Tool Operations V (8 cr)**

This course emphasizes practical applications in the safe operation of vertical and horizontal milling machines. Prerequisite: MACH 133, 136. (SCC)

**MACH 244 — Blueprint IV (2 cr)**

This course presents theory and practical applications in the identification of structural steel shapes on blueprints. The generation of dimensioned working sketches of specific parts is emphasized. Prerequisite: MACH 125 and concurrent enrollment in MACH 243 or permission of instructor. (SCC)

**MACH 246 — Machine Tool Operations VI (5 cr)**

This course continues with the concepts introduced in MACH 243. Practical applications in the safe operation of vertical and horizontal milling machines are emphasized. Prerequisite: MACH 133, 136. (SCC)

**MACH 247 — CNC Theory (5 cr)**

Students learn to demonstrate basic competency in CNC programs and the operation of mills and lathes. (SCC)

**MACH 248 — CNC Lab (7 cr)**

This course continues with the concepts introduced in MACH 247 to prepare students to demonstrate basic competency in the manufacturing of CNC programs and the operation of mills and lathes. (SCC)

**MACH 249 — Quality Control (4 cr)**

This course prepares students to demonstrate competency in areas of manufacturing including quality control and part inspection, precision measurements, and the engineers' interpretation of drawings. (SCC)

**MACH 250 — CNC Production Theory (5 cr)**

This course prepares students to demonstrate competency in areas of the manufacturing industry that include basic CNC programming, intermediate CNC milling and turning operations, and CNC production. (SCC)

**MACH 251 — CNC Production Lab (7 cr)**

This course continues with the concepts introduced in MACH 250 preparing students to demonstrate competency in areas of the manufacturing industry that includes basic CNC programming, intermediate CNC milling and turning operations, and CNC production. (SCC)

**MACH 252 — Advanced Quality Control (3 cr)**

This course prepares students to demonstrate competency in areas of manufacturing that include production process control and the engineers' interpretation of drawings. (SCC)

**MACH 253 — Machine Tool Operations VII (6 cr)**

This course offers advanced applications in gears and gear cutting, and the use of rotary tables and indexing devices. The setup and calculation of machines for cutting are introduced. Prerequisite: MACH 243, 246. (SCC)

**MACH 254 — Blueprint V (2 cr)**

This course introduces practical applications in the generation of multiscale, assembly and detail drawings. Prerequisite: MACH 244 and concurrent enrollment in MACH 253 or permission of instructor. (SCC)

**MACH 256 — Machine Tool Operations VIII (6 cr)**

This course continues with the applications presented in MACH 253 emphasizing advanced applications in gears and gear cutting, and the use of rotary tables and indexing devices. Prerequisite: MACH 243, 246. (SCC)

**MACH 257 — Computer Aided Machining (2-5 cr)**

Students are introduced to the theory and practice of machine processes controlled by computers. Milling center and turning center functions, the role of the computer in controlling machine functions, and basic tool processes and machining practices are emphasized. Prerequisite: Machinist experience or permission of instructor. (SCC)

**MACH 258 — Advanced Computer Aided Machining (2-5 cr)**

This course continues with the concepts introduced in MACH 257 with emphasis on the practical application of producing two-dimensional drawings in computer aided design (CAD), creating a computer aided manufacturing post-process of the drawing, transferring the output to a milling center, and finalizing the practices with a completed machine product from stock materials. Prerequisite: MACH 257 or permission of instructor. (SCC)

**MACH 259 — Computer Aided Machining Post Processors (2-5 cr)**

This course is a comprehensive study of a specific machine control and its relationship to the computer generated program code. Customizing and/or building a post processor and testing the output on a selected machine tool are emphasized. (SCC)

**MACH 260 — 3-D Computer Aided Machining (2-5 cr)**

This course introduces the production of three-dimensional drawings utilizing 3-D CAD and 3-D CAM software packages to develop CNC programs for the machining of complex three-dimensional products. This process is accomplished through the use of wire frame geometry and surfacing of three-dimensional models. Surface geometry is processed for the output of CNC machine codes. (SCC)

**MACH 261 — CNC Production Applications (6 cr)**

This course focuses on modern computer-numeric control (CNC) production techniques common to small and large manufacturers. Students participate in actual production applications on CNC milling and turning centers and the use of self-developed computer programs. (SCC)

**MACH 262 — CNC Programming (3-6 cr)**

Students learn to program CNC machining centers using computer languages common to the industry. (SCC)

**MACH 263 — Machine Tool Operations IX (7 cr)**

Students are introduced to the practical applications in grinding and abrasive machining processes. Prerequisite: MACH 253, 256. (SCC)

**MACH 264 — Machine Tool Operations X (6 cr)**

This course continues with the applications introduced in MACH 263 emphasizing advanced applications in grinding and abrasive machining processes. Prerequisite: MACH 253, 256. (SCC)

**MACH 266 — Cooperative Education Seminar (1-2 cr)**

For course description, see Cooperative Education. (SCC)

**MACH 267 — Cooperative Education Work Experience (1-18 cr)**

For course description, see Cooperative Education. (SCC)

**MACH 288 — Cooperative Education Work Experience (No Seminar) (1-18 cr)**

For course description, see Cooperative Education. (SCC)

**MACH 295 — Quality Technician (1-10 cr)**

Students are introduced to the practical applications in grinding and abrasive machining processes. (SCC)

**MANAGEMENT****MMGT 100 — Supervised Volunteer Experience (1-3 cr)**

Approved supervised volunteer community service experience in a nonprofit, government or service organization that teaches students the value of contributing back to the community in which they live and work. Students may receive variable credits for hours of approved supervised experience during a quarter. One credit is given for every 33 hours of volunteer experience documented. Grade option: Pass/fail. (SCC)



**MMGT 101 – Principles of Management (5 cr)**

Fundamental principles of management as applied to business enterprise. Actual business situations are studied by applying basic management principles. Prerequisite: BUS& 101 (formerly GBUS 101) or permission of instructor. (SCC, SFCC)

**MMGT 102 – Personal Selling (3 cr)**

This course introduces students to the techniques needed to be an effective salesperson. Content areas include the personal selling environment, planning the sales call, negotiating, and confirming and closing sales. (SCC)

**MMGT 103 – Goal Development (1 cr)**

A course designed to teach students the basic principles of goal development. Students are able to apply the principles learned in both a business setting and other situations. (SCC)

**MMGT 104 – Time Management Techniques (1 cr)**

A course designed to teach students the basic principles of time management. Students are able to demonstrate good time management techniques in the business world. (SCC)

**MMGT 111 – Mid-Management Seminar (1-2 cr)**

A conference course for students enrolled in the mid-management program. Emphasis is on experiences and activities designed to practice and develop management qualities and the acceptance of responsibilities. (SFCC)

**MMGT 112 – Mid-Management Seminar (1-2 cr)**

A conference course for students enrolled in the mid-management program. Emphasis is on experiences and activities designed to practice and develop management qualities and the acceptance of responsibilities. (SFCC)

**MMGT 113 – Mid-Management Seminar (1-2 cr)**

A conference course for students enrolled in the mid-management program. Emphasis is on experiences and activities designed to practice and develop management qualities and the acceptance of responsibilities. (SFCC)

**MMGT 120 – Change and the Team Player (3 cr)**

Fundamentals of managing change, encouraging innovation and learning the basics about being a team player are discussed. Clarifying team roles and responsibilities and effectively conducting meetings are explored. Role plays and case studies are addressed by the students. (SFCC)

**MMGT 121 – Team Leadership Skills (2 cr)**

Students learn key criteria regarding team leadership qualities and theories. The art of persuasion, maintaining a positive attitude, building solid working relationships and professionalism are explored. Facing conflict and negotiating skills are addressed and practiced. (SFCC)

**MMGT 123 – Managing Strategies and Responsibilities (3 cr)**

Students learn basic critical thinking skills, how to enhance performance expectations, strategies for managing time and handling stress. Also team decision making, coaching skills and techniques for problem-solving situations with facilitated problem-solving sessions are practiced. (SFCC)

**MMGT 181 – Leadership Training-DEC (1-5 cr)**

Students participate in practical applications of management and leadership techniques. These courses are associated with membership in Delta Epsilon Chi, a division of DECA. (SCC, SFCC)

**MMGT 182 – Leadership Training-DEC (1-5 cr)**

Students participate in practical applications of management and leadership techniques. These courses are associated with membership in Delta Epsilon Chi, a division of DECA. (SCC, SFCC)

**MMGT 183 – Leadership Training-DEC (1-5 cr)**

Students participate in practical applications of management and leadership techniques. These courses are associated with membership in Delta Epsilon Chi, a division of DECA. (SCC, SFCC)

**MMGT 191 – Leadership Training-DEC (1-5 cr)**

Students participate in practical applications of management and leadership techniques. These courses are associated with membership in Delta Epsilon Chi, a division of DECA. (SCC, SFCC)

**MMGT 192 – Leadership Training-DEC (1-5 cr)**

Students participate in practical applications of management and leadership techniques. These courses are associated with membership in Delta Epsilon Chi, a division of DECA. (SCC, SFCC)

**MMGT 193 – Leadership Training-DEC (1-5 cr)**

Students participate in practical applications of management and leadership techniques. These courses are associated with membership in Delta Epsilon Chi, a division of DECA. (SCC, SFCC)

**MMGT 205 – Small Business Planning (5 cr)**

The preparation of a small business plan for starting a small business. The plan will include business description, characteristics of the entrepreneur and the business planner, ownership, analysis of the industry, target customers and location, start-up costs, financial projections, and necessary licenses. The design of the course is to have a document to present to a possible lender or investor. (SCC)

**MMGT 211 – Marketing (5 cr)**

Introduction to the field of merchandise marketing; distribution of goods and services from producer to consumer and the place of marketing in our economy. Prerequisite: BUS& 101 (formerly GBUS 101) or permission of instructor. (SCC, SFCC)

**MMGT 212 – Retailing (5 cr)**

Fundamentals of retailing including retail store operation, organization, merchandise management, sales promotion, customer relations and control. Prerequisite: BUS& 101 (formerly GBUS 101) or permission of instructor. (SCC)

**MMGT 218 – Fundamentals of Advertising (5 cr)**

Introduction to the field of advertising; planning, directing and coordinating advertising functions as a tool of marketing. Prerequisite: SCC only: BUS& 101 (formerly GBUS 101) or permission of instructor. (SCC, SFCC)

**MMGT 220 – Professional Sales (3 cr)**

Introduction to the principles and techniques of sales promotion. Develop an understanding of factors and personality necessary for professional sales. (SFCC)

**MMGT 221 – Presentation Skill Building (1 cr)**

Development of basic skills in preparing and presenting short, prepared and impromptu speeches. Emphasis is given to poise and improved confidence in front of the public. Grading option: Pass/fail. (SFCC)

**MMGT 223 – Customer Service (3 cr)**

This course focuses on creating and maintaining positive customer relations. Efficient and effective ways to deliver quality service and products are presented. Projecting a professional image, communicating with customers and handling complaints effectively, maintaining time management, and working with culturally diverse clients are emphasized. (SCC, SFCC)

**MMGT 231 – Human Resource Management (5 cr)**

Techniques and principles of personnel supervision and administration including employee recruitment, job analysis, affirmative action, labor relations, compensation, performance appraisal, interviewing, motivation, training and development, and employee health and safety. (SCC, SFCC)

**MMGT 240 – Management Information Systems (5 cr)**

This course explores the information revolution in business. It focuses on the Internet and global communications, the globalization of markets, and the management of information systems. Prerequisite: CIS 110. (SCC)

**MMGT 242 – Project Management (2.5 cr)**

Examines project management theory and practices from a managerial perspective. Students define a project, create project objectives, determine resource requirements and create a project plan and schedule. Students will implement the concepts, tools and skills developed in this course while they successfully complete a business project. Prerequisite: Concurrent enrollment in CATT 241. (SCC)

**MMGT 245 – Introduction to Consulting (2 cr)**

This course introduces students to the information and procedures required to start a consulting business. Course content includes an in-depth study of business structure, business location, necessary government forms, equipment, supply and insurance needs, budgeting and accounting requirements, pricing considerations, and marketing strategies. (SCC, SFCC)

**MMGT 251 – Transportation Systems (3 cr)**

This course will expose students to the major aspects of business logistics. Students will learn about modes of transportation, documents involved in the transportation of goods, and issues concerning rate negotiations. This course utilizes a "hands-on" approach in order for students to take information and apply it to their current and future work assignments. (SFCC)

**MMGT 252 – Principles of Purchasing (3 cr)**

This course will provide students with an understanding of purchasing, supply contracts, it, and leasing. Students will gain knowledge of the laws governing the regulation of purchasing, contracts, leases, and out-sourcing. (SFCC)

**MMGT 253 – Inventory Management (3 cr)**

This course will introduce the concept of "inventory" and the relationship it has to a business. Students will become familiar with inventory systems, purchasing, and completing documentation. (SFCC)

**MMGT 254 – Logistics and Supply Chain Management (3 cr)**

This course will introduce students to the role of the logistics processes within the business environment. Students will develop and apply analytical and problem solving skills to find solutions to real-world issues. (SFCC)

**MMGT 255 – Warehouse and Distribution Management (3 cr)**

This course will familiarize students with the role of the warehousing function in the economy and its relationship to the logistics process. Students will develop and apply analytical and problem solving skills to find solutions to real-world issues. (SFCC)

**MMGT 266 – Cooperative Education Seminar (1-2 cr)**

For course description, see Cooperative Education. (SCC)

**MMGT 267 – Cooperative Education Work Experience (1-18 cr)**

For course description, see Cooperative Education. (SCC, SFCC)

**MMGT 270 – Conference Preparation Techniques (1-5 cr)**

Preparation and organization of conferences and meetings. Emphasis is placed on DECA competitive event. Preparation in such areas as research and data collection, development of visual and written materials, problem solving exercises, speech presentation, and other competitive event requirements. Prerequisite: Membership in DECA and permission of instructor. (SFCC)

**MMGT 288 – Cooperative Education Work Experience (No Seminar) (1-18 cr)**

For course description, see Cooperative Education. (SCC)

**MMGT 295 – Management Workshop (0.5-3 cr)**

This course focuses on current trends, unique needs or areas not covered in existing management classes. (SFCC)

**MASSAGE THERAPY****MASS 110 – Introduction to Massage Therapy (6 cr)**

This course introduces students to the massage therapy profession in the healthcare, the spa, and the entrepreneurial environment. The basics of massage technique, kinesiology, and hydrotherapy are explored. Laboratory experiences to support these concepts are included in the course. Prerequisite: Admission into the massage therapy program. (SCC)

**MASS 120 – Massage Technique I (4 cr)**

Students are introduced to the basic theory and practice of massage therapy as well as the history of bodywork. Students learn the components and technique of Swedish massage. Students become skilled in taking a client's medical history and master appropriate draping techniques. Professional courtesies toward clients before, during and after professional sessions are addressed, and basic palpation skills and assessment of pain levels are covered. Students learn the application and use of massage therapy equipment and supplies, such as adjustable tables, bolsters, pillows and lotions or oils. Basic indications for and contraindications to massage therapy are introduced. Students show competence in administering a basic full body relaxation massage at the end of this class. Prerequisite: HED 108, MASS 110. (SCC)

**MASS 122 – Body Mechanics I (1 cr)**

Students learn and practice safe and effective physical techniques to be utilized by the massage therapy practitioner. Students experience the proper positioning of the feet, legs, back, shoulders and head for the most effective practice of massage therapy. Breathing techniques for maintaining good equilibrium and energizing the massage practitioner are learned and studied. The technique of "centering" is introduced. Students take basic skills learned in Introduction to Massage Therapy and learn to utilize proper body mechanics and structure to avoid repetitive stress injury to the practitioner. Students learn the importance of, and practice stretching of the forearms, wrists, hands and fingers. Prerequisite: HED 108, MASS 110. (SCC)

**MASS 124 – Kinesiology I (2 cr)**

This course introduces the exploration of the structural and functional components involved in the complex movement of the human body. Anatomical principles related to gross motor movement are studied, as well as muscular imbalance of the large muscles of the body and their impact on postural distortion. Structure and function of major muscles and joints of the body are covered in depth. Basic endangerment sites as contra indicator for massage therapy are identified. Students learn to evaluate standing posture and patterns of movement in clients. The primary identification of areas of muscular compensation during periods of injury is established. Prerequisite: HED 108, MASS 110. (SCC)

**MASS 126 – Hydrotherapy I (1 cr)**

This course is designed to introduce the massage therapy students to the use of heat and cold in body treatments. Types of apparatus approved for use by the massage practitioner are studied and hydrotherapy as a therapeutic aid will be explained. Students learn to identify the physiological principles and mechanisms involved in the effects of hydrotherapy. Students learn to utilize hot or cold packs during massage therapy sessions. Indications

and contraindications, as well as precautions and effects of hydrotherapy are studied. This course also covers hygiene and sanitation as they relate to hot and cold hydrotherapy applications. Prerequisite: HED 108, MASS 110. (SCC)

**MASS 130 – Massage Technique II (3 cr)**

Students begin to learn the initial evaluation and treatment of injuries. The basics of organizing an individual client treatment plan and managing/modifying that plan based on client response are examined. Students begin the instruction of deep tissue massage therapy and learn more advanced palpation skills that enable the practitioner to work deeply without being intrusive and causing consequential pain. Students study pain referral patterns and learn to incorporate basic neuromuscular/trigger point therapy into their bodywork routine. Massage therapy techniques for the geriatric populations are covered. Prerequisite: HED 125, MASS 120, 122, 124, 126. (SCC)

**MASS 132 – Body Mechanics II (1 cr)**

Massage therapy students continue the process of learning how to avoid fatigue, pain and joint dysfunction as they continue integration of massage technique and practitioner posture. Continuing exercises for therapist strength, balance and body control are examined and practiced. Students are encouraged and taught to maintain the technique of practitioner "center" for effective massage. Students are taught proper stance and effort on the part of the practitioner. Flexibility, strength, grounding and centering will be stressed for coordination, balance, control and stamina during multiple massage sessions. Prerequisite: HED 125, MASS 120, 122, 124. (SCC)

**MASS 134 – Kinesiology II (2 cr)**

Kinesiology II offers more advanced study of human movement and begins the in depth study of fine motor skill movement in the human body. Emphasis is on the smaller muscular and joint structure of the body, parallel with review of the joint and large muscle groups. Students learn to further recognize areas of muscular compensation. Students study the impact of pain and injury on posture, and recognize the compensatory patterns in the body. In-depth knowledge of the recognition and palpation of bony landmarks are developed, as well as the intrinsic muscular origins and insertions of the body. An analysis of the relationships between synergist and antagonist muscles are covered in depth. Prerequisite: HED 125, MASS 120, 122, 124, 126. (SCC)

**MASS 136 – Hydrotherapy II (1 cr)**

This course covers further study of hot and cold modalities utilized in the field of massage therapy. Students learn the use of paraffin and the different utilizations of moist and dry heat. Ice massage will be taught as an integral part of injury repair, and alternating heat and cold application will be studied. Thermal, mechanical and chemical changes as a result of hydrotherapy will be examined in depth. Students learn the necessary skills to provide the most commonly requested spa treatments. A specific module in hot stone therapy is included. Students are instructed in salt scrubs, herbal and seaweed wraps and exfoliation. Prerequisite: HED 125, MASS 120, 122, 124, 126. (SCC)

**MASS 138 – Student Clinic I (1 cr)**

Each student is required to fulfill 33 hours working in a professional clinic environment. During the course of the clinic, students fill the various roles required in managing a clinic: Students will schedule appointments, make reminder phone calls to clients, order massage therapy supplies and maintain supplies for the treatment rooms, as well as keep complete SOAP charts for clients. Prerequisite: HED 125, MASS 120, 122, 124, 126. (SCC)

**MASS 140 – Massage Technique III (3 cr)**

Students integrate the skills learned in Massage Technique I and II and add more advanced bodywork study. Students become proficient in building a full hour session with a client. Students learn a whole body approach to utilize stretching and unwinding techniques, as well as more advanced palpation methods. Continued and advanced study of injury assessment, evaluation and treatment, and postural analysis is pursued. Included are modules featuring pregnancy massage and on-site chair bodywork. Students also become acquainted with the study of lymphatic drainage massage technique and learn basic massage therapy work for cancer patients. Prerequisite: HED 109, MASS 130, 132, 134, 136, 138. (SCC)

**MASS 142 – Anatomy/Physiology/Pathology (5 cr)**

This course is a continued overview of human anatomy and physiology, with an emphasis on pathology as it relates specifically to massage therapy work. Students learn to address both health and dysfunction in the various systems of the body and further review various conditions as indications for massage therapy. Prerequisite: HED 109, MASS 130, 132, 134, 136, 138. (SCC)

**MASS 144 – Business Practices for the Massage Therapist (5 cr)**

In this comprehensive course for the massage therapist, students study all facets of managing a successful professional business. Students learn to identify common business structures and formulate a business plan, including short and long term goals. Students learn the basic aspects of

legal agreements and contracts for the professional massage therapy office. Client confidentiality, HCFA forms for billing, and HIPAA regulations are discussed. Client records, financial, tax and legal records are covered, as well as in depth knowledge of federal, state and local regulations for the industry. Students become proficient in effective management of time, including scheduling of clients. Prerequisite: HED 109, MASS 130, 132, 134, 136, 138. (SCC)

#### **MASS 146 – Seminar (1 cr)**

In this class, students in the massage therapy program are introduced to a variety of bodywork techniques. Experts in different fields are brought in four times during the quarter to share their area of expertise. Students meet throughout the quarter in professionally supervised groups, to discuss in detail the specific fields of study chosen for presentations. Outside reading in various areas of bodywork fields is required, and students are expected to do a presentation on a specified chosen area of interest. Prerequisite: HED 109, MASS 130, 132, 134, 136, 138. (SCC)

#### **MASS 148 – Student Clinic II (2 cr)**

Each student is required to fulfill a number of hours working in a professional clinic environment. During the course of the clinic, students fill the various roles required in managing a clinic: Students will schedule appointments, make reminder phone calls to clients, order massage therapy supplies and maintain supplies for the treatment rooms, as well as keep complete SOAP charts for clients. Students also are required to write narrative reports, progress charts, and letters to physicians. In addition, clinic students are expected to provide quality and professional health care to the clients from the community who choose to engage them. Prerequisite: HED 109, MASS 130, 132, 134, 136, 138. (SCC)

## **MATHEMATICS**

#### **MATH 020 – Mathematics Center 1 (1-5 cr)**

This course covers basic fundamentals of arithmetic including whole numbers, fractions, decimals, ratios, proportions and percentages. It is offered as a variable credit individualized program and designed for students who have a limited background in math. (SCC, SFCC)

#### **MATH 021 – Developmental Math (5 cr)**

This course covers basic fundamentals of mathematics for students who need review of numerous topics taught between grades seven and twelve. Whole numbers, fractions, decimals, ratios, proportions, percentages, powers and roots, integers, and algebraic equations are emphasized. (SCC, SFCC)

#### **MATH 030 – Introduction to Texas Instruments Calculators (1 cr)**

This course introduces Texas Instruments graphing calculators to students taking MATH 99 or above. Basic calculator functions, graphing and equation solving, and regression equations are emphasized. Prerequisite: Assessment of placement into MATH 099 (MATH 99) or higher. (SCC, SFCC)

#### **MATH 035 – The Metric System (1 cr)**

Audio-tutorial learning program offered through the math center with emphasis on learning to use metric units naturally: to conceptualize in meters, liters, grams, degrees, Celcius, etc., without tedious conversions from the customary U.S. units. (SFCC)

#### **MATH 070 – Basic Mathematics I (2 cr)**

This course is the first course in a three course sequence which is intended for students who have studied Arithmetic but are not ready for Elementary Algebra. Topics will include whole numbers, integers and statistics. Prerequisite: Appropriate placement score. (SFCC)

#### **MATH 071 – Basic Mathematics II (2 cr)**

This course is the second course in a three course sequence which is intended for students who have studied Arithmetic but are not ready for Elementary Algebra. Topics will include fractions, decimals and percents. Prerequisite: MATH 070 with a 2.0 or better. (SFCC)

#### **MATH 072 – Basic Mathematics III (2 cr)**

This course is the third course in a three course sequence and is intended for students who have studied Arithmetic but are not ready for Elementary Algebra. Topics will include ratios, proportions, geometry and an introduction to algebra. Prerequisite: MATH 071 with a 2.0 or better. (SFCC)

#### **MATH 087 – Math Center 3 (1 cr)**

Offered in SCC's Math Center, this course is designed to provide supplemental math tutorial instruction for students concurrently enrolled in SCC math courses. Instructor permission required. Grade option: Pass/Fail. Prerequisite: Proper placement in concurrent math courses. Permission of instructor and concurrent enrollment in an SCC math course. (SCC)

#### **MATH 089 – Math Prep for the Sciences (1 cr)**

This course provides a mathematical foundation for students who will be taking introductory science courses. Subjects covered include the metric system, dimensional analysis, scientific notation, significant figures using a scientific calculator, and translating word problems from all areas of sci-

ence. (SCC)

#### **MATH 090 – Pre-Algebra (5 cr)**

A course intended for students who have studied arithmetic but who are not ready for elementary algebra. Numerous introductory topics from grades 9 through 12 are covered which may include operations with signed numbers and rational numbers, simple algebraic equations, properties of real numbers, prime numbers and factoring, exponents and roots, geometric concepts, basic graphs, metrics, basic inequalities, or absolute value. Prerequisite: MATH 021 (formerly MATH 21) with 2.0 or better or appropriate placement score. (SCC, SFCC)

#### **MATH 091 – Elementary Algebra I (5 cr)**

This course covers beginning algebra concepts for students without high school algebra or those who need a review. Topics will include real numbers, algebraic expressions, equations and inequalities, polynomials and graphing. Other topics may include factoring. Prerequisite: MATH 021 (formerly MATH 21) or 090 (formerly MATH 90) with a 2.0 or better within the last three years; or appropriate placement score. (SCC, SFCC)

#### **MATH 092 – Elementary Algebra II (5 cr)**

This course is a continuation of MATH 091. Topics include factoring, rational expressions, linear equations in two variables and systems of equations. Other topics may include radicals and quadratic equations. Prerequisite: MATH 091 (formerly MATH 91) with a 2.0 or better within the last three years; or appropriate placement score. (SCC, SFCC)

#### **MATH 095 – Mathematics Center 2 (1-5 cr)**

This course reviews arithmetic and pre-algebra and is offered as a variable credit individualized program in the Math Center for students preparing to take algebra. Prerequisite: Counselor or instructor referral. (SCC, SFCC)

#### **MATH 096 – Introductory Algebra (5 cr)**

This course covers introductory algebra skills. Topics include signed numbers, linear equations, graphing linear equations, linear systems of equations, polynomials and rational expressions. This course is designed for students who need a review of high school algebra. Prerequisite: MATH 021 (formerly MATH 21) or 090 (formerly MATH 90) with a 3.0 or better within the last three years; or appropriate placement score. (SCC, SFCC)

#### **MATH 097 – Intermediate Algebra: A Modeling Approach (5 cr)**

This course covers intermediate algebra skills through a modeling approach. Topics include linear, quadratic and exponential functions, and introductions to geometry, probability, sequences and statistics. Prerequisite: MATH 091 and 092 or MATH 096 with a 2.0 or better within the last three years; or appropriate placement score. (SCC)

#### **MATH 099 – Intermediate Algebra (5 cr)**

This course covers intermediate algebra skills. Topics include a review of beginning algebra concepts, radicals, inequalities, functions and quadratic functions. Other topics may include exponential and logarithmic functions. Prerequisite: MATH 091 (formerly MATH 91) and 092 (formerly MATH 92) or 096 (formerly MATH 96) with a 2.0 or better within the last three years; or appropriate placement score.. (SCC, SFCC)

#### **MATH 100 – Vocational Technical Mathematics (1-6 cr)**

Basic mathematics from whole numbers through elementary algebra and triangle trigonometry to fulfill the needs of professional/technical students at their current mathematical level. Courses are offered and objectives and credits determined by contract between math department and the requesting professional/technical program. Prerequisite: Registration in the requesting vocational area or permission of instructor. (SCC, SFCC)

#### **MATH& 107 – Math in Society (5 cr)**

Formerly MATH 115. This course is an option for students needing to satisfy a post-intermediate algebra requirement in which the field of study does not necessitate a specific course. Traditional coursework is combined with a discussion of what mathematics is and does, in addition to an examination of problem-solving techniques. Specific topics may vary at the discretion of the instructor. Prerequisite: MATH 099 with a 2.0 or better within the last three years or appropriate placement score. (SCC, SFCC)

#### **MATH 108 – College Algebra (3 cr)**

This course bridges the gap between Intermediate Algebra and the next higher level math classes, specifically Pre-calculus. Topics in this course include, but are not limited to, functions, graphing, exponents, radicals, algebraic fractions, equations, inequalities, and various applications including the use of the graphing calculator. Course is not intended for students who have earned at least a 2.8 in MATH 099. Prerequisite: MATH 099 with a 2.0 or better within the last three years or appropriate placement score. (SFCC)

*See program/course abbreviation key on page 143.*

**MATH& 141 – Precalculus I (5 cr)**

Formerly MATH 111. This course covers college algebra skills, which include polynomial, rational, exponential and logarithmic functions, systems of equations and matrix solutions, and graphs of polynomial functions. Other topics may include sequences, series and summations. Prerequisite: MATH 099 with a 2.0 or better within the last three years or MATH 108 (SFCC) with a 2.0 or better or appropriate placement score. College level reading scores recommended. (SCC, SFCC)

**MATH& 142 – Precalculus II (5 cr)**

Formerly MATH 112. This course introduces circular functions and analytic trigonometry needed for further study in mathematics. Other topics include sequences and series, mathematical induction, conic sections, rotation and translation of axes, DeMoivre's theorem and  $n$ th roots of complex numbers, or vectors in the plane. Prerequisite: MATH& 141 (formerly MATH 111) with a 2.0 or better within the last three years; or appropriate placement score. (SCC, SFCC)

**MATH& 148 – Business Calculus (5 cr)**

Formerly MATH 202. A one-quarter introduction to differential and integral calculus. Specifically oriented for students in management, life sciences and social sciences. Prerequisite: MATH& 141 (formerly MATH 111) or MATH 201 with a 2.0 or better within the last three years; or appropriate placement score. (SCC, SFCC)

**MATH& 151 – Calculus I (5 cr)**

Formerly MATH 124. This is the first quarter of a three-quarter course in calculus and analytic geometry. This course includes an introduction to limits, rates of change and continuity. The course also deals with the definition of derivative of a function and rules of differentiation, curve sketching and other application of differentiation, introduction to integrals and the Fundamental Theorem of Calculus. Prerequisite: MATH& 141 (formerly MATH 111) and MATH& 142 (formerly MATH 112) with a 2.0 or better within the last three years; or appropriate placement score. (SCC, SFCC)

**MATH& 152 – Calculus II (5 cr)**

Formerly MATH 125. This is the second quarter of a three-quarter course in calculus and analytic geometry. This course also includes applications of integration, derivatives and integrals of exponential, logarithmic and the trigonometric functions, derivatives and integrals of hyperbolic functions and their inverses, indeterminate forms and L'Hopital's Rule, and techniques of integration. Other topics may include vectors and the geometry of space. Prerequisite: MATH& 151 (formerly MATH 124) with a 2.0 or better. (SCC, SFCC)

**MATH& 153 – Calculus III (5 cr)**

Formerly MATH 126. This is the third quarter of a three-quarter course in calculus and analytic geometry. This course includes an introduction to differential equations; parametric equations; polar, cylindrical and spherical coordinates; infinite sequences and series. Cylindrical and quadric surfaces, vector valued functions and their space curves, and derivatives and integrals of vector functions also are discussed. Prerequisite: MATH& 152 (formerly MATH 125) with a 2.0 or better. (SCC, SFCC)

**MATH 201 – Introduction to Finite Mathematics (5 cr)**

This course covers basics of mathematical models, including linear, quadratic and polynomial functions, systems of linear equations and inequalities, linear programming and matrices. Elementary concepts of probability and simulation are introduced. Particular emphasis is placed on business and social applications. Prerequisite: MATH 099 (formerly MATH 99) with a 2.0 or better within the last three years; or appropriate placement score. College level reading scores recommended. (SCC, SFCC)

**MATH 208 – Mathematics for Elementary Education - A (5 cr)**

This is the first course in a three course sequence designed for prospective teachers at the elementary school level, focusing on the following topics: problem solving, set theory, elementary logic, numeration systems, number theory, and the structure of the system of real numbers. Prerequisite: MATH 099 (formerly MATH 99) with a 2.0 or better; or appropriate placement score. College level reading score recommended. (SCC, SFCC)

**MATH 209 – Mathematics for Elementary Education - B (5 cr)**

This is the second course in a three course sequence designed for prospective teachers at the elementary school level, focusing on the following topics: statistics, probability, and the structure of the system of real numbers including integers, rational and irrational numbers. Prerequisite: MATH 208 with a 2.0 or better. (SCC, SFCC)

**MATH 210 – Mathematics for Elementary Education - C (5 cr)**

This is the last course in a three course sequence designed for prospective teachers at the elementary school level, focusing on the following topics: problem solving, structures of geometry, to include shapes, measurements, triangle congruencies, and the coordinate system. Prerequisite: MATH 208 with a 2.0 or better. (SCC, SFCC)

**MATH 211 – Mathematics for Elementary Education I (5 cr)**

This is the first course in a sequence designed for prospective teachers at the elementary school level, focusing on the following topics: set theory, numeration systems, number theory, the structure of the system of real numbers and problem solving. Prerequisite: MATH 099 (formerly MATH 99) with a 2.0 or better within the last three years; or appropriate placement score. College level reading scores recommended. (SCC, SFCC)

**MATH 212 – Mathematics for Elementary Education II (5 cr)**

This is the second course in a sequence designed for prospective teachers at the elementary school level, focusing on the following topics: statistics, geometry and measurement. Prerequisite: MATH 211 with a 2.0 or better within the last three years; or appropriate placement score. (SCC, SFCC)

**MATH 213 – Geometry (5 cr)**

This course is an introduction to the structure of geometry, the deductive reasoning process, and geometric figures and their properties. Euclidean and non-Euclidean topics are covered. Prerequisite: MATH 099 with a 2.0 or better within the last three years; or appropriate placement score. (SFCC)

**MATH 220 – Elementary Linear Algebra (5 cr)**

Introduction to linear transformations, matrix theory, vector products, finite dimensional spaces, subspaces, spanning sets, bases, eigenvalues and eigenvectors. Prerequisite: MATH 125 with a 2.0 or better. (SFCC)

**MATH 221 – Introduction to Probability and Statistics (5 cr)**

Descriptive statistics, probability, probability distributions, sampling methods, hypothesis testing, statistical inference, correlations, regression and analysis of variance are covered in this course. Prerequisite: MATH 099 (MATH 99) with a 2.0 or better within the last three years; or appropriate placement score. College level reading scores recommended. (SCC, SFCC)

**MATH 225 – Foundations of Mathematics (5 cr)**

This course serves as an introduction to basic concepts of post-calculus mathematics. Topics include logic, methods of proof, set theory, relations and functions. Prerequisite: MATH 125. (SFCC)

**MATH& 254 – Calculus IV (5 cr)**

Formerly MATH 224. A course designed to give students an introduction to the basic concepts of multivariable calculus using the tools of linear algebra as applicable; vector functions, real valued functions, differentiation of scalar functions, multiple integration, vector differentiation and integration, transformation of coordinates, Green's Theorem, Stoke's Theorem, Gauss' Theorem and Lagrange Multipliers. Prerequisite: MATH& 153 (formerly MATH 126), MATH 220 with a 2.0 or better. (SFCC)

**MATH 274 – Elementary Differential Equations (5 cr)**

An introduction to ordinary differential equations. Elementary methods of solutions to first-order equations, linear equations of second and higher order, and systems of first-order linear equations. Power series solutions, numerical methods and Laplace Transforms also are covered. Prerequisite: MATH& 153 (formerly MATH 126), MATH 220 with a 2.0 or better. (SFCC)

**MECHANICAL ENGINEERING TECHNOLOGY****MET 101 – Introduction to Engineering (2 cr)**

This course is an overview of engineering careers, applying concepts and general elements of professionalism, strategies, and computer applications for the engineering office. Basic sketching skills, file management commands, computer terminology, data communication concepts, CAD principles and the practical application of relevant software packages are emphasized. (SCC)

**MET 103 – Introduction to Computers for Technology (2-5 cr)**

Students learn computer concepts and general elements of a computer system. Basic keyboarding skills, file management commands, computer terminology, data communication concepts, introductory CAD principles and/or the practical application of relevant software packages are emphasized. (SCC)

**MET 105 – Basic Blueprint Reading (3 cr)**

This course introduces students to blueprint reading with emphasis on the interpretation of a variety of drafting styles. Students practice freehand sketching. (SCC)

**MET 113 – Computer Fundamentals for Engineering (5 cr)**

This course introduces computer concepts and general elements of a computer system. Basic keyboarding skills, file management commands, computer terminology, data communication concepts, CAD principles and the practical application of relevant software packages are emphasized. (SCC)

**MET 114 – Engineering Graphics 1 (4 cr)**

This course introduces students to fundamental drafting practices with emphasis on drawing methods used in architecture, mechanical engineer-

ing, civil/structural engineering and electronics. Drafting media, drawing reproduction and storage, the format of drawing arrangement, and the drafting tools used in manual drafting also are emphasized. (SCC)

**MET 115 – Technical Mathematics (5 cr)**

This course includes theory and practical application of math concepts with an extensive study of the fundamentals of algebra. (SCC)

**MET 116 – Technical Mathematics Lab (2 cr)**

This course applies the concepts and theories introduced in MET 115. Prerequisite: Concurrent enrollment in MET 115. (SCC)

**MET 122 – Applied Technical Math Lab (2 cr)**

This course applies the concepts and theories introduced in MET 123. Prerequisite: Concurrent enrollment in MET 123. (SCC)

**MET 123 – Applied Technical Mathematics (5 cr)**

This course continues with the concepts introduced in MET 115 to prepare students for advanced-level math. Basic and advanced algebra are reviewed, and an introduction to practical geometry and trigonometry also is presented. Prerequisite: MET 115. (SCC)

**MET 124 – Engineering Graphics 2 (5 cr)**

This course is an extension of MET 114 with emphasis on drawing methods used in engineering. Dimensioning techniques, auxiliary views and sectioning methods also are emphasized. Prerequisite: MET 114 and 125 or 129. (SCC)

**MET 125 – Introduction to Computer Aided Design (3-5 cr)**

Students are introduced to the fundamentals of computer aided design (CAD). AutoCAD software as it applies to drawing in a format using the principles of mechanical, architectural, civil and electrical/electronics is emphasized. Prerequisite: MET 113 or ARCHT 115 or CIS 105; MET 112 or ARCHT 110 and 112; or approved equivalent. (SCC)

**MET 126 – Basic Mathematics II (2 cr)**

This course continues of MET 115 to prepare students for advanced-level math. Basic algebra and an introduction to practical geometry and trigonometry are reviewed. Prerequisite: MET 111 or APLED 112 or ARCHT 114 (with permission of instructor). (SCC)

**MET 127 – Manufacturing Processes (3 cr)**

This course is a comprehensive study of the processing of materials, industry standards and manufacturing techniques used in industry. (SCC)

**MET 129 – Computer Aided Drafting (5 cr)**

Students are introduced to the fundamentals of computer aided design (CAD) drafting. AutoCAD software using the principles of mechanical, architectural, civil and electrical/electronics is emphasized. This course is for students focused specifically in CAD, MET and engineering technology programs. Prerequisite: MET 101, 114 or approved equivalent. (SCC)

**MET 131 – Dimensioning and Tolerancing (3 cr)**

This course introduces the use of geometric calculations and measuring instruments to determine true tolerances on detail drawings. Both linear tolerances and “Geometric Dimensioning and Tolerancing” formats are covered. Prerequisite: MET 124, 129. (SCC)

**MET 132 – Engineering Graphics 3 (5 cr)**

This course introduces the development of production-type working drawings. Drafting and CAD techniques used to create assembly and detail drawings in orthographic and pictorial formats are emphasized. Raw materials and general machine components also are introduced as well as the selection processes used in industry. Prerequisite: MET 124 and 125 or 129. (SCC)

**MET 133 – Introductory Applied Physics (3 cr)**

Students are introduced to the basic concepts of our physical world. This course has minimal computational requirements, therefore little math background is required. (SCC)

**MET 135 – Schematics (3 cr)**

This course introduces the basic electrical theory and the development and preparation of drawings for the manufacturing of electronic products. The combination of electronics, industrial electricity and hydraulic and pneumatic power components for machine control is emphasized. Types of drawings include schematic, logic, system, interconnection and wiring diagrams. An introduction and practice in programmable logic controls also is included. Prerequisite: MET 122. (SCC)

**MET 137 – Applied Technical Mathematics II (5 cr)**

This course continues with the concepts introduced in MET 123. A review of algebra and an in-depth study of practical geometry and trigonometry are presented. Prerequisite: MET 123. (SCC)

**MET 139 – Hydraulics/Pneumatics (3 cr)**

Students are introduced to the application, uses and design of hydraulic and pneumatic components used in industry. Students learn the basics of circuit design. (SCC)

**MET 241 – CAD Solid Modeling (5 cr)**

This course offers advanced computer aided drafting techniques in three-dimensional solid modeling. Individual part files, assembly files, and application files in weldments and sheet metal are emphasized. Solid model prototype printing and CNC applications are also included. Prerequisite: MET 125 or 129. (SCC)

**MET 242 – Mechanical Design Fundamentals (4 cr)**

This course is a comprehensive study of the design and drawing of machinery components including fasteners, springs, gears, belt drives, chain drives, couplings and bearings. (SCC)

**MET 244 – Tolerancing Systems (3 cr)**

This course introduces the use of geometric calculations and measuring instruments to determine true tolerances on detail drawings. Prerequisite: MET 242. (SCC)

**MET 245 – Applied Physics (5 cr)**

This course introduces basic concepts of our physical world. Application of physics laws using algebra, trigonometry and geometry is employed. A minimum math background equal to MATH 100 or MET 123 is required to meet computational requirements. Prerequisite: MATH 100 or MET 123. (SCC)

**MET 247 – Shop Practices (2 cr)**

This course introduces safety practices in the shop. Students learn the basic operation techniques of the lathe, mill, drill press, and various hand and power tools used in a typical shop. Joining techniques such as welding, brazing, soldering and mechanical fasteners are included. (SCC)

**MET 248 – Mechanical CAD Applications (4 cr)**

This course introduces advanced concepts and applies CAD skills in mechanical engineering drafting and design projects. Students research and develop a comprehensive definition of this field as well as use CAD to create drafting projects and demonstrate the ability to present their projects in an engineering format. Prerequisite: MET 132. (SCC)

**MET 250 – Strength of Materials (3 cr)**

Students study the strength of materials and the effects of stress. Types of stress and deformation, stress-strain diagrams, stress analysis and design problems are emphasized. Applied machine design, and structural and beam design projects are included. Prerequisite: MET 245. (SCC)

**MET 252 – Advanced CAD (5 cr)**

This course presents advanced concepts and applications for computer assisted drafting systems in an engineering environment. Advanced drafting techniques are included with emphasis on three-dimensional solid modeling. Software/hardware customization techniques including menus, start-up, CAD programming fundamentals and management skills also are emphasized. Prerequisite: MET 241. (SCC)

**MET 253 – Materials Science (2 cr)**

This course is a comprehensive study of the characteristics of a variety of materials including their standards and specifications, tolerance, weight, and heat treating capabilities. Prerequisite: MET 245. (SCC)

**MET 254 – Statics (5 cr)**

Students study forced systems including vector force principles, forces and reactions at supports, force vector diagrams, coplanar force systems, stresses in truss systems and applied problems. Prerequisite: MET 245. (SCC)

**MET 255 – Technical Applications I (2-5 cr)**

Students practice applied projects related to engineering technology that include interdepartmental projects, CAD design, shop skills and computer applications. This course may substitute cooperative education courses. Prerequisite: MET 247. (SCC)

**MET 258 – Schematic CAD Applications (4 cr)**

This course introduces advanced concepts and applies CAD drafting skills in schematic engineering drafting and design projects. Students research and develop a comprehensive definition of this field as well as use CAD to create drafting projects and demonstrate the ability to present their projects in an engineering format. Prerequisite: MET 132. (SCC)

**MET 259 – Architectural CAD Applications (4 cr)**

This course introduces advanced concepts and applies CAD skills in architectural drafting and design projects. Students research and develop a comprehensive definition of this field as well as use CAD to create drafting projects and demonstrate the ability to present their projects in an engineering format. Prerequisite: MET 132. (SCC)

**MET 260 – Fabrication and Piping CAD Applications (4 cr)**

This course introduces advanced concepts and applies CAD drafting skills in sheet metal/HVAC fabrication drafting and piping drafting projects. Students research and develop a comprehensive definition of this field as well as use CAD to create drafting projects and then demonstrate the ability to present their projects in an engineering format. Prerequisite: MET 132. (SCC)

**MET 261 – Project Design (5 cr)**

This advanced course is structured to correlate all technical disciplines covered in physics, statics, strength of materials and mathematics. Power transmission systems and power requirements, design techniques for specific mechanical advantage, efficiency and friction loss in mechanical systems, linear and angular time-motion concepts, stress determination and analysis, and structural member sizing are emphasized. Results of projects are presented in a formal engineering report format. Prerequisite: MET 250. (SCC)

**MET 262 – Electrical Theory for Engineering (5 cr)**

This course introduces the concepts of basic electrical theory including alternating and direct current. Component identification and manufacturing processes of printed circuit boards, integrated circuits and wiring hardware are emphasized. Students learn to read and create electrical schematic diagrams and flow/logic charts. (SCC)

**MET 263 – Machine Controls (2 cr)**

The course introduces machine control systems. Students identify and design electro-mechanical, electronic and hydraulic, and pneumatic control systems. The function of programmable logic controllers and basic programming techniques are emphasized. (SCC)

**MET 264 – Technical Applications II (2-5 cr)**

This course continues with the applications offered in MET 255 with emphasis on special projects related to manufacturing practices and shop personnel interactions. Prerequisite: MET 255. (SCC)

**MET 266 – Cooperative Education Seminar (1-2 cr)**

For course description, see Cooperative Education. (SCC)

**MET 267 – Cooperative Education Work Experience (1-18 cr)**

For course description, see Cooperative Education. (SCC)

**MET 268 – Structural CAD Applications (4 cr)**

This course introduces advanced concepts and applies CAD skills in structural engineering drafting and design projects. Students research and develop a comprehensive definition of this field as well as use CAD to create drafting projects and demonstrate the ability to present their projects in an engineering format. Prerequisite: MET 132. (SCC)

**MET 269 – Civil CAD Applications (4 cr)**

This course introduces advanced concepts and applies CAD drafting skills in civil engineering drafting and design projects. Students research and develop a comprehensive definition of this field as well as use CAD to create drafting projects and then demonstrate the ability to present their projects in an engineering format. Prerequisite: MET 132. (SCC)

**MET 288 – Cooperative Education Work Experience (No Seminar) (1-18 cr)**

For course description, see Cooperative Education. (SCC)

**MEDICAL ASSISTANT****MA 101 – Administrative Medical Assistant I (5 cr)**

This course introduces students to the medical assistant profession and the office environment. Professional organizations, federal regulations and requirements, and legal concepts for the field are emphasized. Prerequisite: Admission into the medical assistant program and CIS 110. (SCC)

**MA 102 – Clinical Medical Assistant I (3 cr)**

This course introduces students to hands-on patient care. Topics include the role of the medical assistant in patient care, nutrition, vital signs and measurements. Prerequisite: Admission into the medical assistant program and BCS 110. (SCC)

**MA 111 – Administrative Medical Assistant II (3 cr)**

Students work with medical office computer applications. Medical records and patient scheduling are introduced. Other topics include written communications and provider schedule management. Prerequisite: MA 101, 102. (SCC)

**MA 112 – Clinical Medical Assistant II (5 cr)**

This course submerges students in the clinical phase of medical assisting. Topics include patient history, interviews and documentation, asepsis, infection and disease control, basic physical exams, principles of x-ray and EKG equipment, rehabilitative medicine, emergencies, and first aid. Prerequisite: MA 101, 102. (SCC)

**MA 120 – Medical Assistant Coding and Reimbursement (3-5 cr)**

Medical insurance terminology and billing procedures are covered in this course. Students learn to use the CPT and ICD-9-CM for basic ambulatory care setting coding needs. Legal and ethical issues regarding insurance billing also are covered. Prerequisite: Successful completion of MA 101, 102, 111, 112 and concurrent enrollment in MA 122, 125. (SCC)

**MA 121 – Administrative Medical Assisting (5 cr)**

Administrative and management procedures needed to effectively manage the office, monitor finances, maintain supplies, perform quality improvement studies, and risk management profiles are taught. Bookkeeping and accounting principles, communication negotiation and psychological concepts are studied and practiced. Introduction to the student externship is given. Students spend four hours a week for eight weeks practicing skills learned in a medical office. Prerequisite: Successful completion of first and second quarters and concurrent enrollment in MA 120, 121, 122. (SCC)

**MA 122 – Clinical Medical Assistant III (5 cr)**

This course offers advanced clinical skills for the medical assistant. Specialty exams and sterile procedures are emphasized. Students learn about collecting and processing laboratory specimens, and the proper use of microscopes. An overview of microbiology also is offered. Prerequisite: HED 108, 125, MA 111, 112. (SCC)

**MA 125 – Ambulatory Care Setting Pharmacology (5 cr)**

This course covers principles of pharmacology. Medication classifications will be studied according to body system and usage. Students will learn the different routes for medication administration, medication actions, contraindications and side effects. Prerequisite: Successful completion of MA 101, 102, 111, 112 and concurrent enrollment in MA 120, 122. (SCC)

**MA 131 – Practice Finances and Management (3 cr)**

This course offers advanced administrative skills for the medical assistant. Topics include practice finances, accounting practices and the medical assistant in the roll of an office manager. Prerequisite: HED 109, MA 121, 122, 123. (SCC)

**MA 132 – Clinical Medical Assistant IV (5 cr)**

This is the final course in preparation for clinical practice. The content is concentrated on injection and venipuncture techniques. Medication administration and dosage calculations are covered. Prerequisite: HED 109, MA 121, 122, 123. (SCC)

**MA 141 – Medical Assistant Seminar (1 cr)**

Topics covered enhance students' abilities at the clinical site. They review important topics by applying the concepts required in the clinical area. Mock national certificate exams are offered. Prerequisite: HED 109, MA 121, 122, 123, 131, 132 and concurrent enrollment in MA 142. (SCC)

**MA 142 – Medical Assistant Externship (6 cr)**

Students work under the supervision of facility personnel or the instructor in a physician's office. They utilize and apply the administrative and clinical skills learned in an actual ambulatory care setting. Prerequisite: HED 109, MA 121, 122, 123, 131, 132 and concurrent enrollment in MA 141. (SCC)

**MEDICAL OFFICE SPECIALIST****MSEC 101 – Medical Terminology and Anatomy (5 cr)**

Students are introduced to the unique language of medicine emphasizing basic medical word structure and commonly used clinical terms. An overview of normal anatomy and anatomic terms is accomplished prior to a study of common diseases and disorders of the human body with a system-by-system approach. (SCC)

**MSEC 102 – Medical Terminology and Anatomy (5 cr)**

This course continues with the concepts introduced in MSEC 101 emphasizing the unique language of medicine, normal anatomy and function, and disease and disorders of the body with a system-by-system approach. Prerequisite: MSEC 101 or permission of instructor. (SCC)

**MSEC 103 – Disease Processes (5 cr)**

Students study common diseases and conditions including prevention etiology, signs and symptoms, diagnostic and treatment modalities, prognoses, and the use of medical references for research and verification. Prerequisite: MSEC 101 and 102 or permission of instructor. (SCC)

**MSEC 108 – Medical Office Computing (5 cr)**

Students receive hands-on training using financial, scheduling, word processing and clinical database software packages utilizing a microcomputer. Prerequisite: Keyboarding skills. (SCC)

**MSEC 120 – Human Relations/Communications for Medical Office Personnel (5 cr)**

Students learn the principles of therapeutic communications, human growth and development and their application to specific medical circumstances. (SCC)

**MSEC 121 – Medical Office Reception (5 cr)**

This course introduces students to the profession of the administrative medical assistant and how it fits within the health care environment and health care teams. Topics include legal and ethical concepts, telephone and scheduling techniques, medical records management rules and regulations, and how to create a comfortable facility atmosphere. Students enhance their

ability to research using the Internet and library, create written reports and make round-table presentations. Prerequisite: BT 231. (SCC)

**MSEC 123 – Medical Office Coding (5 cr)**

This course introduces the identification of diagnoses and services by code. Transformation of verbal descriptions of diseases, injuries and procedures into numeric designations is presented using the Current Procedural Terminology (CPT) and the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) coding books. Prerequisite: MSEC 102 or concurrent with MSEC 102. (SCC)

**MSEC 124 – Medical Office Insurance Billing (5 cr)**

This course introduces major, nationwide and local medical insurance programs. Students learn to simplify the process of filing claim forms and gain an understanding of medical insurance requirements for billing, confidentiality, coding, referrals and professional fees. Students also develop an "insurance information" notebook for future reference. Prerequisite: MSEC 101 and concurrent enrollment in MSEC 125. (SCC)

**MSEC 125 – Medical Office Bookkeeping (5 cr)**

This course introduces medical office billing procedures using medical management software. An interactive approach allows students to open new accounts, post typical business transactions, and open and close posting cycles. An overview of account aging, billing and collection procedures is included. Prerequisite: ACCT 151, BUS 103 (formerly GBUS 103) and concurrent enrollment in MSEC 124. (SCC)

**MSEC 130 – Chiropractic Philosophy (3 cr)**

Students learn the history of the chiropractic field including discussions about the early pioneers who practiced chiropractic methods, used philosophical principles and developed chiropractic techniques. (SCC)

**MSEC 140 – Portfolio Development (5 cr)**

This course enables students to transfer a portion of significant prior learning into elective credits through the development of a portfolio. (SCC)

**MSEC 146 – Medical Transcription I (10 cr)**

Students develop skills in transcription of medical dictation and word processing software using personal computers to transcribe selected medical correspondence and medical reports. A review of language skills including vocabulary, grammar and punctuation, capitalization, numbers, figures and abbreviations is presented. Transcription of reports (history and physical, operative, and discharge summaries) is emphasized. An academic study of related terminology also is included. Prerequisite: MSEC 190. (SCC)

**MSEC 147 – Medical Transcription II (10 cr)**

Students continue to develop the skills in the transcription of dictation utilizing proofreading and editing skills while meeting progressively demanding accuracy and productivity standards. Transcription of pathology, radiology, diagnostic testing and industrial medical reports is emphasized. An academic study of related terminology is included. Prerequisite: MSEC 146. (SCC)

**MSEC 150 – Medical Transcription Practicum (8 cr)**

Students must complete a minimum of 264 hours of on-the job medical transcription training. Consultations, histories and physicals, operative reports, discharge summaries, and other medical reports are emphasized. Prerequisite: MSEC 147. (SCC)

**MSEC 180 – Basic Medical Assisting (5 cr)**

Students are introduced to the basic skills and knowledge necessary for medical assistants in a typical medical office environment. Prerequisite: MSEC 102, 105. (SCC)

**MSEC 190 – Fundamentals of Medical Word Processing (4 cr)**

This course introduces the fundamentals of medical word processing including transcription of medical office correspondence and reports (medicolegal, history and physical, consultation, and discharge summaries). Students learn various mechanical formats used to prepare these reports. The application of medical terminology to develop familiarity with spoken terms is emphasized. Prerequisite: Typing speed of 50 wpm. (SCC)

**MSEC 205 – Medical Office Management Procedures (5 cr)**

This course focuses on management responsibilities as they apply to a medical office environment. Students learn collection and billing procedures, management of space, equipment, personnel records, finances and reports. Prerequisite: MSEC 124, 125. (SCC)

**MSEC 220 – Chiropractic Back Office Procedures (5 cr)**

Students develop skills to assist the chiropractor with the care of patients. They learn to maintain patient records and differentiate between comprehensive and focused exams. Prerequisite: MSEC 130 and concurrent enrollment in MSEC 230. (SCC)

**MSEC 223 – Medical Office Coding II (5 cr)**

This course continues with the concepts introduced in MSEC 123. A more comprehensive study of the ICD-9-CM and CPT coding systems is presented. Prerequisite: MSEC 123. (SCC)

**MSEC 224 – Chiropractic Anatomy (3 cr)**

Students learn the anatomy and physiology of the central and peripheral nervous systems and how to identify aspects of the musculoskeletal system. Prerequisite: MSEC 102. (SCC)

**MSEC 230 – Chiropractic Office Procedures (3 cr)**

Students learn office procedures specific to a chiropractic office including coding and billing practices. Chiropractic philosophy is presented. Prerequisite: BT 231, MSEC 121. (SCC)

**MSEC 235 – Radiology and Advanced Imaging Procedures (5 cr)**

This course emphasizes safety issues affecting patients and employees with regard to proper X-ray and evaluation techniques. Students learn the steps necessary for developing X-rays and assessing radiographs. Prerequisite: Concurrent enrollment in MSEC 250. (SCC)

**MSEC 236 – Radiology and Advanced Imaging Lab (1 cr)**

Students apply the techniques introduced in MSEC 235 in an office setting. Prerequisite: MSEC 220 and concurrent enrollment in MSEC 235. (SCC)

**MSEC 240 – Medical Office Transcription (5 cr)**

Students learn to process, type and transcribe a variety of office reports and other dictation including chart notes, medical reference letters, medication reports, consultation letters, interoffice correspondence, manuscripts and abstracts. Prerequisite: Typing speed of 40 wpm with 3 or fewer errors by exam. MSEC 102 or concurrent enrollment. (SCC)

**MSEC 241 – Medical Office Transcription (5 cr)**

This course continues with the applications introduced in MSEC 240 with an emphasis on transcription of special medical reports, referral letters and medical office dictation. Accuracy and speed in transcribing tapes are stressed. An academic study of related terminology is presented. Prerequisite: MSEC 240. (SCC)

**MSEC 250 – Chiropractic Exam Procedures (5 cr)**

Students learn the procedures for compiling a patient's history, conducting a physical examination, assessing the "complaint" area and identifying evaluation methods. Prerequisite: MSEC 130, 220 and concurrent enrollment in MSEC 251. (SCC)

**MSEC 251 – Chiropractic Exam Procedures Lab (1 cr)**

Students apply the techniques developed in MSEC 250 to review a patient's history, evaluate and assess the condition of the patient, and chart the information. Prerequisite: Concurrent enrollment in MSEC 250. (SCC)

**MSEC 266 – Cooperative Education Seminar (1-2 cr)**

For course description, see Cooperative Education. (SCC)

**MSEC 267 – Cooperative Education Work Experience (1-18 cr)**

For course description, see Cooperative Education. (SCC)

**MSEC 284 – Medical Internship Seminar (1 cr)**

Students share office experiences, utilize problem-solving skills and participate in career-related activities. Prerequisite: Medical clerical careers students only and MSEC 121 or 147. If earning a medical secretary degree, this must be your final quarter. Concurrent enrollment in MSEC 287. (SCC)

**MSEC 285 – Medical Office Reception Internship (2-3 cr)**

Students are placed in Spokane area medical offices to observe and perform receptionist duties in the medical office environment. Prerequisite: medical office specialist degree or currently enrolled in the final quarter of the medical office receptionist or medical office insurance clerk programs. Students must also have three "recommended-for-internship" SEA forms. (SCC)

**MSEC 286 – Medical Insurance Billing Internship (2 cr)**

Students observe and apply classroom skills in a Spokane area health care provider office environment for a minimum of 66 hours. Prerequisite: Medical office insurance clerk certificate students currently enrolled in their final quarter. Must have three "recommended-for-internship" SEA forms. (SCC)

**MSEC 287 – Medical Specialist Internship (2 cr)**

Students observe and apply classroom skills in a Spokane area health care provider office environment for a minimum of 66 hours. Prerequisite: Medical Office Specialist degree students. Must have three "recommended-for-internship" SEA forms. (SCC)

**MSEC 288 – Cooperative Education Work Experience (No Seminar) (1-18 cr)**

For course description, see Cooperative Education. (SCC)

**MSEC 289 – Chiropractic Internship (3 cr)**

Students observe and apply classroom skills in a "real" health care provider office environment for a minimum of 99 hours. Prerequisite: MSEC 121, 124, 125, 130 and concurrent enrollment in MSEC 284. (SCC)

**MSEC 290 – Current Chiropractic Topics (3 cr)**

Students explore current issues relating to the chiropractic field and the role of professional organizations and their policies. Students research

topics related to the field and make presentations to a panel of chiropractors. (SCC)

### **MSEC 295 – Chiropractic Internship (6 cr)**

Students work under the direction of a chiropractor to refine the skills developed in the classroom. Prerequisite: MSEC 235, 250 and concurrent enrollment in MSEC 284. (SCC)

## **MILITARY SCIENCE**

### **MILSC 101 – Introduction to Leadership I (2 cr)**

This course is a nontechnical introduction to military science. Students increase self-confidence through team study and activities in basic drill, physical fitness, rappelling, leadership reaction course, first aid, making presentations and basic marksmanship. They learn fundamentals of leadership in a profession in both classroom and outdoor laboratory environments intended to develop students and help them cope with life as a student and as a productive member of society. Highly encouraged, but optional, participation in a one weekend exercise and participation in one-hour sessions of physical fitness are offered. (SCC, SFCC)

### **MILSC 102 – Introduction to Leadership II (2 cr)**

Students learn and apply principles of effective leading and team development. This course helps students reinforce self-confidence through participation in physically and mentally challenging exercises with upper-division ROTC students. It is intended to help students develop skills needed to increase their chances of success in the college environment. Students develop communication skills to improve individual performance and group interaction. They relate organizational ethical values to the effectiveness of a leader. Highly encouraged, but optional, participation in one-hour sessions of physical fitness are offered. (SCC, SFCC)

### **MILSC 103 – Introduction to Leadership III (2 cr)**

Students build on and apply principles of effective leading and team development in the classroom and at the leadership laboratory. They continue to develop self-confidence through participation in physically and mentally challenging exercises with upper-division ROTC students. They develop skills to increase chances of success in a college environment, with special emphasis on communication skills, individual performance, social skills and group interaction. Highly encouraged, but optional, participation in one weekend exercise and participation of one-hour sessions of physical fitness are offered (SCC, SFCC)

### **MILSC 110 – Leadership Laboratory I (1 cr)**

A practical application course designed to complement MILSC 100, this course introduces the student to the fundamentals of the professional soldier through classroom instruction and practical application of various military skills such as marching, tactics, care and maintenance of military equipment and land navigation. Field training practical exercises are conducted several times each term on weekends. While participation is not mandatory, it is highly recommended. Prerequisite: Concurrent enrollment in MILSC 100. (SCC, SFCC)

### **MILSC 111 – Leadership Laboratory II (1 cr)**

A continuation of MILSC 110, this is a practical application course which complements MILSC 101. Prerequisite: Concurrent enrollment in MILSC 101. (SCC, SFCC)

### **MILSC 115 – Rifle Marksmanship (2 cr)**

Instruction in the fundamentals of rifle marksmanship using 22-caliber match quality rifles (provided by the military science department). Participation in ROTC is not necessary. (SCC, SFCC)

### **MILSC 201 – Self/Team Development (3 cr)**

Students learn and apply ethics-based leadership skills that develop individual abilities and contribute to the building of effective teams of people. They develop skills in oral presentations, writing concisely, planning for events, coordination of group efforts, advanced first aid, land navigation and basic military tactics. They learn fundamentals of ROTC's Leadership Development Program. Two hours of classroom instruction and a required two-hour leadership lab each week are offered. Highly encouraged, but optional, participation in one weekend exercise and participation in one-hour sessions of physical fitness also are offered. (SCC, SFCC)

### **MILSC 202 – Individual/Team Military Tactics (3 cr)**

This course is an introduction to individual and team aspects of military tactics in small unit operations. Includes use of radio communications, making safety assessments, movement techniques, planning for team safety/security and methods of pre-execution checks. Practical exercises with upper-division ROTC students are provided. Students learn techniques for training others as an aspect of continued leadership development. Two hours of classroom instruction and a required two-hour leadership lab each week are offered. Highly encouraged, but optional, participation in one weekend exercise and participation in one-hour sessions of physical fitness also are offered. (SCC, SFCC)

### **MILSC 203 – Team Leadership/Military Tactics (3 cr)**

An examination of the role of leadership and management in the context of a small organization element is provided with this course. Topics covered include motivation, handling disruptive influences, counseling skills, leadership styles and group dynamics. Students have an opportunity to identify their own strengths and weaknesses as leaders and managers. The course is presented in the context of military leadership, but the concepts can be applied in any context where leadership and management are essential. Highly encouraged, but optional, participation in one weekend exercise and participation in one-hour sessions of physical fitness are offered. (SCC, SFCC)

### **MILSC 210 – Leadership Laboratory III (1 cr)**

A practical application course designed to complement MILSC 201, this course introduces the student to the fundamentals of the professional soldier through classroom instruction and practical application of various military skills such as marching, tactics, care and maintenance of military equipment, and land navigation. Field training practical exercises are conducted several times each term on weekends. While participation is not mandatory, it is highly recommended. Prerequisite: Concurrent enrollment in MILSC 201. (SCC, SFCC)

### **MILSC 211 – Leadership Laboratory IV (1 cr)**

A continuation of MILSC 110, this is a practical application course that complements MILSC 202. Prerequisite: Concurrent enrollment in MILSC 202. (SCC, SFCC)

### **MILSC 290 – Professional Military Development (1-5 cr)**

An intensive but flexible course designed to allow selected students to qualify for the ROTC advanced course during the summer. This course includes an examination of the major elements of United States military history, leadership styles and principles, a comparison of various international military systems, as well as a broad range of military skills including drill and ceremonies, land navigation, first aid, tactics, use of military equipment, and physical conditioning. Prerequisite: Permission of the professor of military science. (SCC, SFCC)

## **MUSIC**

### **MUSC 100 – Music Fundamentals (3 cr)**

Formerly MUSIC 100. Basics of music, including rhythm, melody and harmony, scales, keys, chords, and an introduction to the keyboard. (SFCC)

### **MUSC& 105 – Music Appreciation (5 cr)**

Formerly MUSIC 107. Listening and understanding of common musical forms, idioms and styles; and how music relates to us today. (SCC, SFCC)

### **MUSC 106 – History of Popular Music (5 cr)**

Formerly MUSIC105. The development of popular American music from 1900 to the present. Pre-20th century influences and the development of jazz, blues, the swing era, rhythm and blues, rock and roll, country music, the British invasion, funk, electronic influences and fusion. (SCC, SFCC)

### **MUSC 108 – Music and Cinema (5 cr)**

Formerly MUSIC 108. This course examines the various functions of music in film and traces the historical development of film music. (SCC, SFCC)

### **MUSC 109 – World Music (5 cr)**

Formerly MUSIC 109. This course explores several musical cultures throughout the world, including but not limited to Africa, the Americas, Asia, Near East, Europe and South Pacific. The course is designed to enhance student's appreciation for the diversity of music throughout the world as well as the people that perform it. Students gain an understanding of features in the music that distinguish one style from another and the cultural and social-historical factors that shape the development of music. Lectures, films, recordings and live presentations assist students in their understanding of course topics. Though a knowledge of music is helpful, a music background is not required for this course. (SCC, SFCC)

### **MUSC 111 – Improvisation I (4 cr)**

Formerly MUSIC 111. Beginning and intermediate students learn the basics of improvisation. Linear and horizontal melodic concepts, including scales and modes, chords, inversions, alterations and harmonic progressions are presented. Students may register with any instrument. Prerequisite: AUDIO 116 or MUSC 100 (formerly MUSIC 100) or MUSC& 141 (formerly MUSIC 101). (SFCC)

### **MUSC 112 – Improvisation II (4 cr)**

Formerly MUSIC 112. Students learn more advanced techniques of linear improvisation, including application of scales, modes, altered chords, chordal substitutions and harmonic progressions. Prerequisite: MUSC 111 (formerly MUSIC 111). (SFCC)

*See program/course abbreviation key on page 143.*



**MUSC 114 – Contemporary Harmony (3 cr)**

Formerly MUSIC 114. This course includes the study of harmony as used in contemporary popular music, jazz, commercial media and film, including chords, scales, harmonic progressions, the blues, chord scale relationships, improvisation theory, notation and dictation. Students develop aural skills through listening and analysis. Prerequisite: AUDIO 116 or MUSC& 141 (formerly MUSIC 101), and MUSC 166 or 180 (formerly MUSIC 166 or 180) and concurrent enrollment in MUSC 167 or 180 (formerly MUSIC 167 or 180). (SFCC)

**MUSC 115 – Symphony Orchestra (1-3 cr)**

Formerly MUSIC 115. Students perform an extensive repertoire of quality orchestral music from the Baroque era to the present. Each course may be taken up to three times. (SFCC)

**MUSC 124 – History of Jazz (5 cr)**

Formerly MUSIC 104. A survey of jazz in which recent investigations in cultural anthropology and American history, as well as the traditional viewpoints of music history and theory, are reflected. (SCC, SFCC)

**MUSC 127 – Chamber Singers (1-3 cr)**

Formerly MUSIC 127. A select performing ensemble whose purpose is to study, practice and perform representative chamber music from the 16th through the 20th centuries. Each course may be taken up to three times. Prerequisite: Permission of instructor. (SFCC)

**MUSC 134 – Jazz Combo (1 cr)**

Formerly MUSIC 133. Jazz combos offer students an opportunity to play jazz in a small group format, concentrating on improvisation in many different styles. The combos perform regularly, including tours, jazz festivals and professional engagements. Each course may be taken up to three times. (SFCC)

**MUSC 139 – All College Chorus (1-2 cr)**

Formerly MUSIC 139. Elementary work in mixed chorus ensemble singing together with study of appropriate choral literature. Each course may be taken up to three times. (SFCC)

**MUSC& 141 – Music Theory I (5 cr)**

Formerly MUSIC 101. Students develop skills in writing and understanding correct musical notation, major and minor scales, and modes. Students write and apply intervals and triads to simple melodic and harmonic exercises. An emphasis is placed on the structural elements of music. (SFCC)

**MUSC& 142 – Music Theory II (5 cr)**

Formerly MUSIC 102. Students continue to study scales and modes and their application to melodic and harmonic composition. Students employ the use of triads and seventh chords, including all inversions, in four-part harmonic progressions, and continue to develop aural recognition of scales, intervals and triads with an emphasis on melodic dictation, rhythm, and ear training. Prerequisite: MUSC& 141 (formerly MUSIC 101). (SFCC)

**MUSC& 143 – Music Theory III (5 cr)**

Formerly MUSIC 103. This course focuses on modulation, secondary dominants and leading tone chords. Students are introduced to chromatic harmony, and analyze and write chorale-type compositions with an emphasis on the soprano/bass framework. Chordal analysis, including cadences and non-chordal tones, is emphasized. Aural recognition of scales, intervals and chords, with exercises in melodic dictation, rhythm, and ear training also are included. Prerequisite: MUSC& 142 (formerly MUSIC 102). (SFCC)

**MUSC 144 – Commercial Music Groups (1 cr)**

Formerly MUSIC 144. Students study and perform current popular music styles including rock, blues, fusion, top 40, country and standards. Each course may be taken up to three times. (SFCC)

**MUSC 145 – Concert Band (1-3 cr)**

Formerly MUSIC 142. Students perform an extensive repertoire of master works by composers from the Renaissance to the present. Each course may be taken up to three times. (SFCC)

**MUSC 148 – Stage Band (1-3 cr)**

Formerly MUSIC 148. Students study and perform modern trends and practices of jazz and related music areas. Individual music arrangements can be studied and created. Each course may be taken up to three times. (SFCC)

**MUSC 151 – String Ensemble (1 cr)**

Formerly MUSIC 151. This course is open to all students with reasonable proficiency on string instruments. Music performed surveys string repertoire for all combinations from masterworks of the baroque, classic, romantic and modern eras. Each course may be taken up to three times. (SFCC)

**MUSC 166 – Functional Piano I (2 cr)**

Formerly MUSIC 166. Students develop piano performance techniques relevant and practical for today's professional musician. Synchronized with MUSC 114 (formerly MUSIC 114), this course includes the study of scales, chords, voicings, harmonic progressions, chord/scale relationships

and basic comping, and improvisational techniques. This course is essential for all students of jazz and commercial music, regardless of their primary instrument. (SFCC)

**MUSC 167 – Functional Piano II (2 cr)**

Formerly MUSIC 167. Students develop piano performance techniques relevant and practical for today's professional musician. This course includes the study of scales, chords, voicings, harmonic progressions, chord/scale relationships and basic comping, and improvisational techniques. This course is essential for all students of jazz and commercial music, regardless of their primary instrument. Prerequisite: MUSC 166 (formerly MUSIC 166) or permission of instructor. (SFCC)

**MUSC 170 – Fundamentals of Singing (1 cr)**

Formerly MUSIC 170. Students study the fundamentals of singing through participation, performance and observation in a class setting. (SFCC)

**MUSC 171 – Advanced Fundamentals of Singing (2 cr)**

Formerly MUSIC 171. Students continue to develop the technical skills of singing with an emphasis on the application of technique to repertoire. This course may be repeated up to three times, advancing in repertoire with the advice of the instructor. English, as well as other languages, will be included. Prerequisite: MUSC 170 (formerly MUSIC 170) or permission of instructor. (SFCC)

**MUSC 176 – Beginner Piano Class I (2 cr)**

Formerly MUSIC 176. This course provides a basic hands-on introduction to keyboard musicianship and proficiency within a group setting. Keyboard application skills include an introduction to music reading, rhythms, improvisations, technique, solo repertoire and group ensembles. This course is intended for the complete beginner or for students with little experience in piano. (SFCC)

**MUSC 177 – Beginner Piano Class II (2 cr)**

Formerly MUSIC 177. Students continue to develop keyboard musicianship and proficiency within a group setting. Keyboard application skills include an introduction to chord progressions, harmonization, transposition, and further development of sight-reading, two-handed rhythms, technique, solo repertoire and group ensembles. Prerequisite: MUSC 176 (formerly MUSIC 176) or permission of instructor. (SFCC)

**MUSC 178 – Beginner Piano Class III (2 cr)**

Formerly MUSIC 178. Students continue to develop keyboard musicianship and proficiency within a group setting. Keyboard application skills include an introduction to secondary chords, varied accompaniment patterns, and further development of sight-reading, two-handed rhythms, technique, solo repertoire and group ensembles. Prerequisite: MUSC 177 (formerly MUSIC 177) or permission of instructor. (SFCC)

**MUSC 180 – Private Lessons (1 cr)**

Formerly MUSIC 180. Private instruction on voice or instrument. A study of the fundamentals of tone production, technical requirements and overall musicianship, with an emphasis on solo literature and performance. Each course may be taken up to three times. (SFCC)

**MUSC 182 – Guitar Class I (1 cr)**

Formerly MUSIC 182. Students learn the fundamentals of note reading, basic theory and technical skills for both hands using a fingerstyle approach. Students are required to furnish their own instrument. (SFCC)

**MUSC 191 – Musical Events (1-5 cr)**

Formerly MUSIC 191. Students attend informative preconcert orientations prior to attending live musical performances of professional caliber. A list of approved concerts is issued at the first class. Students enrolling for five credits will be required to fulfill a writing component. The one to three variable credit option may be repeated three times for a maximum of nine credits. (SCC, SFCC)

**MUSC 204 – Arranging I (5 cr)**

Formerly MUSIC 204. The study of harmony and arranging techniques in the contemporary jazz ensemble. This includes voicings, progressions, styles, forms and contrapuntal ideas. Prerequisite: MUSC 114 (formerly MUSIC 114) AND MUSC 166 (formerly MUSIC 166), or MUSC& 141 (formerly MUSIC 101). (SFCC)

**MUSC 210 – Improvisation III (5 cr)**

Formerly MUSIC 210. Students learn advanced improvisation skills with an emphasis on the current trends of working professionals. Students analyze recorded solos and gain transcription experience. Prerequisite: MUSC 112 (formerly MUSIC 112). (SFCC)

**MUSC 211 – Improvisation IV (5 cr)**

Formerly MUSIC 211. Students learn advanced concepts of improvisation including altered chords, altered scales, substitutions and analysis of recorded professionals. Prerequisite: MUSC 210 (formerly MUSIC 210). (SFCC)

**MUSC 212 — Improvisation V (3 cr)**

Formerly MUSIC 212. Students study advanced concepts of improvisation including altered chord scales and progressions. Students will analyze and perform contemporary jazz styles. Prerequisite: MUSC 211 (formerly MUSIC 211). (SFCC)

**MUSC 214 — Contemporary Harmony II/Songwriting (5 cr)**

Formerly MUSIC 214. This is a study of major pop/rock, folk/country, and adult contemporary musical styles and the writers, producers, and artists who shape the music. Learn about many musical styles while striving to define your own. Develop instrumental and lyric songwriting techniques. Prerequisite: MUSC 114, 167 (formerly MUSIC 114, 167) and concurrent enrollment in AUDIO 217, 218 and 213 or 255. (SFCC)

**MUSC 215 — Symphony Orchestra (1-3 cr)**

Formerly MUSIC 215. Students perform an extensive repertoire of quality orchestral music from the Baroque era to the present. Each course may be taken up to three times. Prerequisite: MUSC 115 (formerly MUSIC 115). (SFCC)

**MUSC 227 — Chamber Singers (1-3 cr)**

Formerly MUSIC 227. A select performing ensemble whose purpose is to study, practice and perform representative chamber music from the 16th through the 20th centuries. Each course may be taken up to three times. Prerequisite: Permission of instructor. (SFCC)

**MUSC 234 — Jazz Combo (1 cr)**

Formerly MUSIC 233. Jazz combos offer students an opportunity to play jazz in a small group format, concentrating on improvisation in many different styles. The combos perform regularly, including tours, jazz festivals and professional engagements. Each course may be taken up to three times. Prerequisite: MUSC 134 (formerly MUSIC 133) or permission of instructor. (SFCC)

**MUSC 235 — History of Western Music I (4 cr)**

Formerly MUSIC 221. Development of music in Western culture from classical antiquity through the Italian Renaissance. (SCC)

**MUSC 236 — History of Western Music II (4 cr)**

Formerly MUSIC 222. Development of music in Western culture from the advent of the Baroque style through late 18th century Viennese period. (SCC)

**MUSC 237 — History of Western Music III (4 cr)**

Formerly MUSIC 223. Development of music in Western culture from early 19th century romanticism to the present. (SCC)

**MUSC 239 — All College Chorus (1-2 cr)**

Formerly MUSIC 239. Elementary work in mixed chorus ensemble singing together with study of appropriate choral literature. Each course may be taken up to three times. (SFCC)

**MUSC& 241 — Music Theory IV (5 cr)**

Formerly MUSIC 201. This course focuses on practical writing and analytic experience in diatonic and chromatic harmony used during the 18th and 19th centuries. Students study musical forms, basics for arranging, orchestrating and composing, ear training and sight singing in solfege. Prerequisite: MUSC& 143 (formerly MUSIC 103) or permission of instructor. (SFCC)

**MUSC& 242 — Music Theory V (5 cr)**

Formerly MUSIC 202. Students continue to study music theory with further discussion on secondary functions, modulatory techniques, chromaticism, altered and borrowed chords, mode mixtures, augmented sixth chords and modulations, ear training and sight singing. Students compose the exposition of a piano sonata. Prerequisite: MUSC& 241 (formerly MUSIC 201). (SFCC)

**MUSC& 243 — Music Theory VI (5 cr)**

Formerly MUSIC 203. Students continue to study the harmonic vocabulary and elements in late romanticism and the 20th century, impressionism, scales, parallelism, pandiatonicism, set theory, 12-tone technique, serialism, electronic music, advanced sight singing and ear training. Prerequisite: MUSC& 242 (formerly MUSIC 202). (SFCC)

**MUSC 244 — Commercial Music Groups (1 cr)**

Formerly MUSIC 244. Students study and perform current popular music styles including rock, blues, fusion, top 40, country and standards. Each course may be taken up to three times. Prerequisite: MUSC 144 (formerly MUSIC 144) or permission of instructor. (SFCC)

**MUSC 245 — Concert Band (1-3 cr)**

Formerly MUSIC 242. Students perform an extensive repertoire of master works by composers from the Renaissance to the present. Each course may be taken up to three times. Prerequisite: MUSC 145 (formerly MUSIC 142). (SFCC)

**MUSC 248 — Stage Band (1-3 cr)**

Formerly MUSIC 248. Students study and perform modern trends and practices of jazz and related music areas. Individual music arrangements can be studied and created. Each course may be taken up to three times. Prerequisite: MUSC 148 (formerly MUSIC 148). (SFCC)

**MUSC 251 — String Ensemble (1 cr)**

Formerly MUSIC 251. This course is open to all students with reasonable proficiency on string instruments. Music performed surveys string repertoire for all combinations from masterworks of the baroque, classic, romantic and modern eras. Each course may be taken up to three times. (SFCC)

**MUSC 276 — Advanced Piano Class I (2 cr)**

Formerly MUSIC 276. Students learn advanced keyboard musicianship and proficiency within a group setting. Keyboard application skills include an introduction to basic conducting and further development of keyboard technique, harmonization, transposition, improvisation, sight-reading, solo repertoire, and group ensembles. Prerequisite: MUSC 178 (formerly MUSIC 178) or permission of instructor. (SFCC)

**MUSC 277 — Advanced Piano Class II (2 cr)**

Formerly MUSIC 277. Students continue to develop advanced keyboard musicianship and proficiency within a group setting. Keyboard application skills include an introduction to varied chord progressions using secondary chords and inversions. The course includes group discussions on performance anxiety and related issues, and further development of keyboard technique, harmonization, transposition, improvisation, sight-reading, solo repertoire and group ensembles. Prerequisite: MUSC 276 (formerly MUSIC 276). (SFCC)

**MUSC 278 — Advanced Piano Class III (2 cr)**

Formerly MUSIC 278. Students continue to develop advanced keyboard musicianship and proficiency within a group setting. Keyboard application skills include an introduction to chorale score reading, accompaniment and further development of keyboard technique, harmonization, transposition, improvisation, sight-reading, solo repertoire and group ensembles. Prerequisite: MUSC 277 (formerly MUSIC 277). (SFCC)

**MUSC 280 — Private Lessons (1 cr)**

Formerly MUSIC 280. Private instruction on voice or instrument. A study of the fundamentals of tone production, technical requirements and overall musicianship, with an emphasis on solo literature and performance. Each course may be taken up to three times. (SFCC)

**MUSC 282 — Guitar Class II (1 cr)**

Formerly MUSIC 282. Students continue to develop note reading, basic theory and technical skills for both hands using a fingerstyle approach. Students are required to furnish their own instrument. Prerequisite: MUSC 182 (formerly MUSIC 182) or permission of instructor. (SFCC)

**NATURAL RESOURCE MANAGEMENT****NATRS 101 — Environmental Conservation (5 cr)**

This course is a general introductory course designed to provide students with a basic knowledge of the principles of conservation. Emphasis is on the renewable natural resources, soil, water, forest, range, wildlife and recreation. (SCC)

**NATRS 110 — Forest Plant Science (5 cr)**

This course is designed to give the student basic knowledge concerning the biological principles and relationship between plants and man. A basic knowledge of the plant-dependent world ecosystem that supports man is emphasized. (SCC)

**NATRS 111 — Natural Resources Seminar (3 cr)**

Students obtain a basic introduction to the field of natural resources. Employment opportunities, salaries and typical job duties are discussed. The organizational structure of state and federal agencies, and selected topics in natural resources are presented. Leadership skills and responsibilities are practiced by participation in the Natural Resources Association. Prerequisite: Natural resources students only or permission of instructor. (SCC)

**NATRS 112 — Natural Resources Mathematical Applications (5 cr)**

Students learn the fundamentals of geometry and trigonometry with emphasis on practical applications to the fields of natural and water resources. (SCC)

**NATRS 120 — Basic Computer Applications in Natural Resources (2 cr)**

This is a beginning course in the use of computers in natural resource management. Use of specific software in a setting similar to on-the-job computer use in natural resource management such as word processing, presentation and the Internet is emphasized. (SCC)

**NATRS 121 — Natural Resources Seminar (3 cr)**

This course is a continuation of the concepts presented in NATRS 111. Leadership, human relations and personnel supervision skills are emphasized. Prerequisite: Natural resources students only or permission of instructor and concurrent enrollment in the natural resources program. (SCC)

**NATRS 122 — Natural Resources Trigonometric Applications (5 cr)**

Students learn basic arithmetic and algebra skills necessary for application in the fields of natural and water resources. Prerequisite: NATRS 112 or equivalent. (SCC)

**NATRS 130 — Chainsaw Operation, Maintenance and Safety (3 cr)**

Students learn the proper operation, care, maintenance and safety in the use of chainsaws. Practical applications and demonstrations are emphasized. (SCC)

**NATRS 131, 132, 133 — Field Projects in Natural Resources (3 cr ea)**

This course provides practical experience that allows students to gain additional knowledge in a special topic of interest in natural resources management. Guidance from the natural resources instructors is provided to help students maximize their projects. Prerequisite: Permission of instructor; must be a natural resources major. (SCC)

**NATRS 201 — Forest Protection (5 cr)**

Students learn basic principles of fire control and behavior, and the control and identification of insect and disease damage to forest trees. (SCC)

**NATRS 202 — Dendrology (5 cr)**

This class combines lecture, lab, field trips and a variety of laboratory plant identification exercises. The majority of the class is held at Mt. Spokane State Park and the Newman Lake area describing and identifying forest plants. (SCC)

**NATRS 203 — Forest Harvesting and Products (5 cr)**

This course provides an overview of the wood products industry from the harvesting of raw material through its processing into a product. Students realize the connection between product specifications and their impact on harvesting equipment and techniques. Safety procedures when working around harvesting and processing equipment are practiced and stressed. (SCC)

**NATRS 204 — Maps and Aerial Photo Interpretation (5 cr)**

Students learn the basic principles of interpretation and field use of aerial photographs relating to natural resources. Field use of planimetric and topographic maps is emphasized. Prerequisite: NATRS 112 or equivalent. (SCC)

**NATRS 205 — Surveying (5 cr)**

Students learn elementary surveying, including fundamentals of forest surveying, and use and care of equipment. Emphasis is on use of staff compass, Abney level, clinometer, tapes, transit and stadia rod. Prerequisite: NATRS 122 or MATH& 142 (formerly MATH 112). (SCC)

**NATRS 207 — Wildlife Biology (5 cr)**

This is a practical course designed to provide students with the basic principles of wildlife ecology, habitat, population dynamics, behavior and management practices. (SCC)

**NATRS 208 — Outdoor Recreation and Interpretation (5 cr)**

Students learn outdoor recreation, including importance and interpretation of natural value, economic aspects, supply and demand, and use and management of recreational resources. (SCC)

**NATRS 209 — Silviculture (5 cr)**

Students learn basic principles of timber stand improvement, cutting practices and forest regeneration methods. (SCC)

**NATRS 210 — Environmental Soil Science (5 cr)**

This is a basic course in forest soils. It is designed to give the student a basic knowledge of the properties, characteristics and functions of soils found in natural conditions. Emphasis is placed on the relationships between native vegetation and noncultivated soils. (SCC)

**NATRS 215 — Forest Measurements (5 cr)**

Students learn basic principles of forest and natural resources sampling and measurement. Field work emphasizes correct use of forest measurements tools and instruments. Class work emphasizes calculations using measurements taken in the field. Prerequisite: NATRS 112 or MATH 099 (formerly MATH 99). (SCC)

**NATRS 216 — Forest Inventory (5 cr)**

This course furthers the principles of forest measurements with emphasis on cruising, forest inventory, volume calculations and forest-type mapping. Prerequisite: NATRS 215. (SCC)

**NATRS 217 — Freshwater Fisheries Biology (5 cr)**

Students learn to identify fish and study biology, ecology, habitat requirements and management, hatchery propagation, stream enhancement and restoration procedures, and selected aquatic insect and riparian plant identification. (SCC)

**NATRS 220 — Introduction to Geographic Information Systems for Natural Resources (4 cr)**

Students learn the basics of the ArcGIS suite of products and integrate spreadsheets and databases into geographic information systems (GIS) to analyze common problems in natural resources. Prerequisite: CIS 105 or NATRS 120. (SCC)

**NATRS 221 — Applications in Geographic Information Systems (5 cr)**

This course builds on the basic geographic information systems (GIS) skills developed in NATRS 220 using ArcGIS software and extensions for GIS applications in natural resources management. Cartographic concepts are introduced. Prerequisite: NATRS 220. (SCC)

**NATRS 225 — Natural Resources Occupational Experience (1-12 cr)**

This practical course assists students in pursuing careers in natural resources. Students learn to complete specific employment applications, resumes and letters of inquiry, and employment portfolios. Students also contact employers for interviews and follow-up. Students are required to evaluate their work experience and submit comprehensive written and oral reports. Prerequisite: Natural resources students only or permission of instructor and concurrent enrollment in the natural resources program. (SCC)

**NATRS 230 — Global Positioning Systems (3 cr)**

This course teaches students to use global positioning systems to collect, prepare, and map static and kinematic data. Using GPS to find points in the field is practiced as well. Prerequisite: NATRS 204. (SCC)

**NATRS 231, 232, 233 — Field Projects in Natural Resources (3 cr ea)**

This course provides practical experience that allows students to gain additional knowledge in a special topic of interest in natural resources management. Guidance from the natural resources instructors is provided to help students maximize their projects. Prerequisite: Permission of instructor; must be a natural resources major. (SCC)

**NATRS 235 — Advanced Surveying Applications (3 cr)**

Students review skills from NATRS 105 and 220 and learn advanced skills necessary to complete surveying projects often performed by technicians in natural resources and environmental science fields. This course includes the use of transits, stadia, levels, electronic surveying instruments and field data recorders. Skill areas include taking measurements, recording field notes, evaluating data and preparing maps. Prerequisite: NATRS 105, 204, 220. (SCC)

**NATRS 267 — Cooperative Education Work Experience (1-18 cr)**

For course description, see Cooperative Education. (SCC)

**NONINVASIVE CARDIOVASCULAR TECHNOLOGY****NCT 113 — Electrophysiology I (4 cr)**

Students are introduced to the field of cardiovascular technology, basic cardiac anatomy, physiology and electrophysiology with emphasis on the performance and interpretation of the electrocardiogram. Laboratory experiences to support these concepts also are included. Prerequisite: Enrollment in invasive cardiovascular technology, noninvasive cardiovascular technology or respiratory care. (SCC)

**NCT 123 — Electrophysiology II (4 cr)**

This course continues the concepts introduced in NCT 113. A detailed look at the twelve-lead ECG as it relates to myocardial infarction is presented. A working knowledge of exercise tolerance testing is developed through lecture and laboratory experience. Arrhythmia recognition is expanded through the use of dynamic ambulatory ECG monitoring. Physical assessment of the cardiovascular system and pharmacology also are presented. Prerequisite: NCT 113 and concurrent enrollment in ICT 124. (SCC)

**NCT 133 — Noninvasive Cardiovascular Fundamentals (5 cr)**

Students are introduced to the field of cardiovascular technology, basic cardiac anatomy, physiology and electrophysiology with emphasis on the performance and interpretation of the electrocardiogram. Laboratory experiences to support these concepts also are included. Prerequisite: NCT 123 and concurrent enrollment in ICT 134. (SCC)

**NCT 141 — Computers for the CV Technologist (3 cr)**

Students explore applications in medicine and develop the ability to use the microprocessor for word processing database management and statistical analysis. Principles of statistics are reviewed and applied through database management. Prerequisite: Concurrent enrollment in NCT 143. (SCC)

**NCT 142 – Noninvasive Cardiovascular Clinical (4 cr)**

Students develop basic imaging skills by imaging normals within the SCC echocardiography laboratory. Clinical requirements are discussed and defined. The role and job description of the noninvasive cardiovascular technologist are evaluated. Prerequisite: Concurrent enrollment in NCT 143. (SCC)

**NCT 143 – Noninvasive Cardiovascular Clinical Observation (6 cr)**

Students spend four weeks in a clinical setting. Two weeks are spent in an echocardiography laboratory assisting staff in patient preparation; imaging time is provided when appropriate. Two weeks are spent in a noninvasive electrophysiology laboratory performing ECGs, exercise tolerance testing, Holter monitoring and pacemaker checks under the direction of a staff technologist. Weekly clinical seminars are conducted with SCC staff. A clinical consciousness is developed with emphasis on professionalism, clinical rapport, medical ethics and patient care. Prerequisite: Completion of NCT 133 or permission of instructor. (SCC)

**NCT 251 – Echocardiography Clinical I (4 cr)**

Students obtain hands-on experience in hospital and clinical environments. Development of clinical technique in the utilization of current echocardiographic instrumentation in the evaluation of acquired cardiovascular disease is emphasized. Students apply the principles of medical legal ethics and professionalism to the patient, physician and other members of the health team. Clinical case reports are required. Prerequisite: Concurrent enrollment in NCT 253. (SCC)

**NCT 253 – Echocardiography I (11 cr)**

Students utilize the fundamentals presented in the first year of noninvasive cardiovascular technology to evaluate acquired cardiovascular disease states. This course incorporates all forms of noninvasive cardiovascular testing with emphasis on the performance and interpretation of M-mode, two-dimensional and Doppler echocardiography. Related physician lectures, clinical and laboratory experiences are presented. Prerequisite: Satisfactory completion of first-year NCT program or permission of instructor. (SCC)

**NCT 261 – Echocardiography Clinical II (4 cr)**

Students utilize the skills learned in NCT 251 and obtain advanced experience in hospital and clinical environments. Development of clinical technique in the utilization of current echocardiographic instrumentation in the evaluation of acquired cardiovascular disease is emphasized. Students apply the principles of medical legal ethics and professionalism to the patient, physician and other members of the health team. Clinical case reports are required. Prerequisite: Concurrent enrollment in NCT 263. (SCC)

**NCT 263 – Echocardiography II (11 cr)**

Students utilize the fundamentals presented in the first year of noninvasive cardiovascular technology to evaluate congenital heart disease. This course continues with the study of cardiac noninvasive diagnostics with emphasis on specialty applications and new developments. Statistics, research and quality control methods are utilized. Related physician lectures, clinical and laboratory experiences are presented. Prerequisite: NCT 253. (SCC)

**NCT 273 – Echocardiography Clinical III (13 cr)**

Students practice clinical skills previously developed through active participation in a noninvasive cardiovascular laboratory. This full-time clinical internship is completed in an affiliated local or out-of-town hospital. Clinical skills necessary to the performance and evaluation of the M-mode, two-dimensional and Doppler Echocardiogram are emphasized. Written reports, review of current literature and attendance at conferences are required. Prerequisite: NCT 263. (SCC)

**NCT 299 – Independent Studies in Noninvasive Cardiovascular Technology (1-13 cr)**

This course is designed for students wishing to complete specialized studies in the field of noninvasive cardiovascular technology. Objectives are developed jointly by the student and instructor. Credit hours are assigned according to the length of time required to complete the objectives. Credits are agreed upon at the time of enrollment. Students complete specialized clinical internships in pediatric echocardiography, color flow mapping or vascular technology. Prerequisite: Current enrollment or graduate of NCT, or permission of instructor. (SCC)

**NURSING PROGRAM (R.N., L.P.N.)****NURS 107 – Women and Health (1-2 cr)**

This course is an overview of contemporary women's health care topics and promotes the development of a critical framework for informed personal decision making in the health care system. Topics include women and cancer, women and heart disease, menopause, women and mental health, diet and exercise recommendations for women. (SCC)

**NURS 116 – Nursing Foundations (9 cr)**

This course introduces nursing emphasizing the life cycle, self-care concepts in the health-illness continuum, and how the nursing process is utilized when providing direct patient care. General topics include basic hygiene and safety, legal and ethical aspects, concepts of aging, and skill development for assisting with activities of daily living. Prerequisite: Admission requirements. (SCC)

**NURS 125 – Introduction to Medical/Surgical Nursing (8 cr)**

This course introduces the health-illness continuum and enables students to adapt health maintenance concepts toward the restoration of dysfunctions through utilization of the nursing process. Restoration of optimal health is discussed as it relates to each state of development throughout the life cycle. General and specific nursing actions, related clinical competencies, dietary modifications, human relationships and health teaching are included. Prerequisite: Successful completion of prior quarter coursework. (SCC)

**NURS 126 – Pharmacology For Nurses (2 cr)**

This course is an overview of the most recent advances in clinical pharmacology for nurses. It updates drugs and nursing implications for drugs commonly used in hospitals today. This comprehensive course categorizes drugs by classes. Prerequisite: NURS 116,131 and concurrent enrollment in NURS 125. (SCC)

**NURS 131 – Intravenous Therapy Concepts (1 cr)**

Students learn the physiological parameters for fluid and electrolyte therapy. In addition, students learn to assess the client/patient for fluid balance, apply the principles of infection control procedures and understand legal implications. Prerequisite: Successful completion of prior quarter coursework or permission of instructor. (SCC)

**NURS 135 – Parental and Perinatal Nursing (5 cr)**

This course emphasizes parents as the basic unit and child rearing as a natural experience. Normal aspects of maternal and child health is stressed; however, consideration is given to the recognition of complications. Physiological, psychological, social and cultural influences are discussed and analyzed so students understand the effect on all members of the family. Concepts of health maintenance, growth and development, and client teaching is emphasized. Students develop communication skills and nursing techniques. Prerequisite: Successful completion of prior quarter coursework. (SCC)

**NURS 136 – Mental Health Nursing (5 cr)**

Students apply concepts of mental health and illness to the promotion, maintenance and restoration of health for clients, families and significant to others throughout the life cycle. Using dynamic interaction between the nurse and client, concepts of communication, personality, feelings, behavior, self-awareness, group process and the process of interpersonal relationships are utilized to promote self-care and intervene in major problems related to psychotic and nonpsychotic behavior. Concepts related to ethical/legal, physiological, cultural and spiritual issues, and safety are integrated throughout the course. Application of mental health concepts are provided for acute care settings, extended care facilities and community health agencies. Prerequisite: NURS 116,131,125,126. (SCC)

**NURS 141 – Professional Relationships (1 cr)**

This course is required for students planning to write the Licensed Practical Nurse Board Exams. Career opportunities and legal aspects of the graduate are emphasized. Prerequisite: Successful completion of prior quarter coursework. (SCC)

**NURS 145 – Medical Surgical Nursing Concepts (12 cr)**

This course promotes maintenance and restoration of health throughout the life cycle. The body systems approach is used to further focus on related health and illness problems. Concepts of safety, ethical/legal, physiological, cultural and spiritual care are integrated into the course. Orem's Theory of self-care plays a major role in meeting the needs of the client in the clinical setting, and the application is accomplished in an acute care setting. Students observe the growth and development of the ill child vs. the well child in a pediatric unit and/or day care center. Student competencies are identified for the nursing process, technical skills, communications, and the roles and responsibilities of client teaching. Prerequisite: Successful completion of prior quarter coursework. (SCC)

**NURS 215 – Advanced Nursing Concepts I (10 cr)**

This course enables students to adapt concepts of health and illness toward the promotion, maintenance and restoration of health for clients and their families throughout the life cycle. Using the nursing process, major problems related to biopsychosocial issues, motion and oxygen-carbon dioxide exchange are discussed as they relate to the client, family and significant others emphasizing self-care. Safety, ethical/legal, physiological, cultural and spiritual concepts are integrated with each major health problem. Application of these concepts is provided for in acute care and extended care facilities, and community health agencies. As the student cares for clients

and their families in a clinical setting, competencies are identified for the nursing process, client education, technical skills, communication, leadership, and roles and responsibilities. Prerequisite: Satisfactory completion of prior quarter coursework. (SCC)

#### **NURS 216 – Health Care in the Community (2-3 cr)**

This course enables students to provide services to the community in the health care field. Students learn the value of contributing back to the community in which they live and work by volunteering in a community health service agency. At the end of the course, students display skills in communications, problem solving, responsibility and global awareness. Students contribute a minimum of 11 hours lecture and 33 hours clinical for 2 credits or 11 hours lecture and 66 hours clinical for 3 credits. Prerequisite: NURS 145 and concurrent enrollment in NURS 215, 225 or 235. (SCC)

#### **NURS 225 – Advanced Nursing Concepts II (10 cr)**

This course enables students to adapt concepts of health and illness toward the promotion, maintenance and restoration of health for clients, families and small groups throughout the life cycle. Using the nursing process, major problems related to genitourinary, integumentary and major sensory organs, digestion and gastrointestinal, and advanced maternal-child concepts are discussed as they relate to the client, family and significant others emphasizing self-care. Safety, ethical/legal, physiological, cultural and spiritual concepts are integrated with each major health problem. Application of these concepts is provided in acute care and extended care facilities, and community health agencies. As the student cares for clients and their families in a clinical setting, competencies are identified for the nursing process, client education, technical skills, communication, leadership, and roles and responsibilities. Prerequisite: Successful completion of prior quarter coursework. (SCC)

#### **NURS 226 – Health Care Management (2 cr)**

This course emphasizes management theories, legal issues, ethical implications and political impacts on leadership, supervision and delegation. Prerequisite: Satisfactory completion of prior quarter coursework or permission of department chair. (SCC)

#### **NURS 231 – Advanced Intravenous Therapy Concepts (2 cr)**

This course introduces advanced concepts of intravenous infusion therapy. Theory related to intravascular site selection and access, maintenance of various vascular access devices, intravenous nutritional support, administration of blood/blood products, antineoplastic agents and pain management products are presented and discussed. Special considerations related to legal implications of intravenous infusion therapy, intravascular medication administration, home intravenous support therapy and infusion therapy in pediatric and gerontological clients are addressed. Mathematical calculations related to intravenous solution and medication administration are reviewed. Prerequisite: NURS 131 or permission of instructor. (SCC)

#### **NURS 235 – Advanced Nursing Concepts III (11 cr)**

This course enables students to adapt concepts of health and illness toward the promotion, maintenance and restoration of health for clients, families and small groups throughout the life cycle. Using the nursing process, major problems related to genitourinary, integumentary and major sensory organs, digestion and gastrointestinal, and advanced maternal-child concepts are discussed as they relate to the client, family and significant others emphasizing self-care. Safety, ethical/legal, physiological, cultural and spiritual concepts are integrated with each major health problem. Application of these concepts is provided in acute care and extended care facilities, and community health agencies. As the student cares for clients and their families in a clinical setting, competencies are identified for the nursing process, client education, technical skills, communication, leadership, and roles and responsibilities. Prerequisite: Successful completion of prior quarter coursework. (SCC)

## **NUTRITION**

#### **NUTRI 150 – General Nutrition (3 cr)**

Fundamental concepts, theories and terminology of nutrition, including all classes of essential nutrients with respect to properties, functions, deficiencies, toxicities, dietary requirements and major food sources are covered in this class. Current controversial applied nutrition topics are included in many subject areas. (SCC, SFCC)

#### **NUTRI 251 – Nutrition (5 cr)**

The science that studies food and its relation to human health and performance. The various nutrients and their functions in human metabolism are examined. Essential nutrients are studied with respect to properties, functions, deficiencies, toxicities, dietary requirements and major food sources. Prerequisite: BIOL& 160 (formerly BIOL 101) and CHEM& 122 (formerly CHEM 162) or permission of instructor. (SCC, SFCC)

## **OCCUPATIONAL EDUCATION**

#### **OE 101 – Techniques of Teaching (3 cr)**

Basic principles and techniques of effective instruction. Included are sections on the instructor and his/her job, facts and principles of learning, determining what to teach, instructional aids and coverage of the lecture, discussion, and demonstration of methods of instruction. (SFCC)

#### **OE 102 – Occupational Analysis (3 cr)**

This course is designed to assist the professional/technical instructor in analyzing the occupation he/she is teaching to learners. Occupational analysis is used to determine the skills and knowledge which must be taught to ensure that graduates perform adequately on the job. (SFCC)

#### **OE 103 – Course Organization (3 cr)**

This course is designed to assist the new professional/technical instructor in dealing with the problems, techniques, and procedures in the selection and organization of teaching content. This course also includes the preparation of instructional units and evaluation devices. (SFCC)

#### **OE 299 – Learner Centered Facilitation (3 cr)**

This course is designed to assist the new professional/technical instructor in dealing with the challenges, techniques, and procedures in moving from a teacher-centered classroom to a learner-centered learning environment with a focus on learner empowerment. Principles of self-instruction, self-assessment, learning styles, learner facilities management, learner interaction skills, learning readiness, course development and management of self-empowered groups. Prerequisite: OE 100. (SFCC)

## **OCEANOGRAPHY**

#### **OCEA& 101 – Intro to Oceanography (5 cr)**

Formerly OCEAN 102. This course introduces students to the principles of Marine Science; the physical and chemical properties of Seawater; the fundamentals of Biology; the Organisms of the Sea; the structure and function of Marine Ecosystem; and the relationship of Humans to the Sea. (SCC)

## **ORTHOTIC-PROSTHETIC TECHNICIAN**

#### **OR-PR 111 – Prosthetic Tools and Materials (4 cr)**

Become familiar with prosthetic bench tools and equipment, acquire basic proven tool operation skills, classify the general areas of the lab and use of special prosthetic equipment in the lab. As a prosthetic technician students work with many materials such as metals, leather, wood, plastic, etc. This course introduces students to the materials commonly used in prosthetics. (SFCC)

#### **OR-PR 112 – Related Human Anatomy (3 cr)**

In order for the orthotics and prosthetics technician to correctly fabricate orthoses and prostheses, it is necessary for him/her to have a basic knowledge of muscles and bones of the human body. To properly fabricate below-the-knee prosthetic devices in accordance with the measurement chart, a basic understanding of the anatomy of the below-the-knee residual limb is essential. Prerequisite: OR-PR 111. (SFCC)

#### **OR-PR 114 – Below Knee Prosthetics (10 cr)**

The technician learns to identify lower limb prosthetic components, interpret measurement charts, prepare PVA sleeves, lay up PTB socket, fabricate PTB soft insert, laminate PTB socket utilizing vacuum, prepare SACH feet, statically align and assemble unfinished PTB, fabricate the PTB knee cuff, fabricate the PTB waist belt with suspension attachment, duplicate alignment, shape and hollow out prosthesis, lay up and laminate the PTB prosthesis, and finish and assemble the below-knee prosthesis. Prerequisite: OR-PR 111, 112. (SFCC)

#### **OR-PR 122 – Related Anatomy of the Above Knee Amputation (3 cr)**

A basic understanding of anatomy of the above-the-knee residual limb. Prerequisite: OR-PR 111, 112, 114. (SFCC)

#### **OR-PR 124 – Advanced Below Knee Prosthetics (4 cr)**

Identify endoskeletal components, fabricate model, check socket, and liner for endoskeletal prosthesis, laminate endoskeletal socket, assemble, align and shape endoskeletal prosthesis. Prepare plaster model for locking liner prosthesis, prepare shuttle lock installation, fabricate check socket, assemble and align temporary prosthesis, transfer alignment, fabricate definitive socket, complete alignment transfer. Syme and partial foot prosthetics (discussion). Prerequisite: OR-PR 111, 112, 114, 122. (SFCC)

#### **OR-PR 126 – Above-the-Knee Prosthetics (10 cr)**

Interpret A-K information and measurement charts, make a plaster of Paris model for A-K socket. Prepare and lay up the A-K socket, laminate the socket, attach socket into extension block, statically align A-K prosthesis adjustable leg, make flexible leather belt, metal band, and attach hip joint, duplicate alignment of A-K prosthesis, and finish and assemble prosthesis. Prerequisite: OR-PR 111, 112, 114, 122, 124. (SFCC)

**OR-PR 132 – Related Anatomy (Upper Extremity) (2 cr)**

In order for the student to fabricate upper-extremity prosthetic devices in accordance with measurement charts, a basic understanding of the anatomy of upper extremity residual limbs is essential. Prerequisite: OR-PR 111, 112, 114, 122, 124, 126. (SFCC)

**OR-PR 134 – Below Elbow Prosthetics (8 cr)**

Students learn to identify and know the function of currently used upper limb prosthetic components, be able to interpret prosthetic measurement charts, fabricate a below elbow prosthesis as a long residual limb, and make a prosthesis for a short below elbow residual limb. Prerequisite: OR-PR 111, 112, 114, 122, 124, 126, 132. (SFCC)

**OR-PR 136 – Above Elbow Prosthetics (7 cr)**

Students learn to fabricate an AE prosthesis that is functional for the above-elbow amputee, and becomes knowledgeable in the check socket fabrication used on AE fittings. Prerequisite: OR-PR 111, 112, 114, 122, 124, 126, 132, 134. (SFCC)

**OR-PR 138 – Clinical Prosthetics (6 cr)**

The prosthetic student practices fabrication skill in an off-campus prosthetic laboratory. Prerequisite: OR-PR 111, 112, 114, 122, 124, 126, 132, 134, 136. (SFCC)

**OR-PR 141 – Orthopedic Equipment and Materials (4 cr)**

In order to become proficient at fabricating orthoses a student must be able to identify the function and proven choice of orthotic tools. Learning the best choice of equipment is critical to accurate fabrication, to be able to identify basic orthotic components and demonstrate mastery of basic orthotic metal working skills. Prerequisite: OR-PR 141. (SFCC)

**OR-PR 142 – Spinal Anatomy Related to Orthotics (3 cr)**

In order for the orthotics and prosthetics student to correctly fabricate orthoses and prostheses, it is necessary for him/her to have basic knowledge of muscles and bones of the human body. To properly fabricate below-the-knee prosthetic devices in accordance with the measurement chart, a basic understanding of the anatomy of the below-the-knee residual limb is essential. Prerequisite: OR-PR 141 (SFCC)

**OR-PR 144 – Spinal Orthotics (10 cr)**

The student fabricates the metal framework of the lumbo-sacral orthosis, learn to cover a LS orthosis with leather, and fabricate a thoraco-lumbar orthosis and cover with leather. Prerequisite: OR-PR 141, 142. (SFCC)

**OR-PR 152 – Foot and Ankle Skeletal Structure (3 cr)**

In order to fabricate effective shoe modification and orthoses for control of the ankle and foot, a student will acquire a basic understanding of the foot-ankle skeletal structures. Prerequisite: OR-PR 141, 142, 144. (SFCC)

**OR-PR 154 – Orthotic Shoe Fabrications (4 cr)**

It is necessary for a student to develop skills in providing a base of support for the foot, to properly apply sole wedges as per prescription, fabricate shoe buildups of crepe or other material, and to accurately fabricate a foot orthoses (arch-support) per prescription. Prerequisite: OR-PR 141, 142, 144, 152. (SFCC)

**OR-PR 156 – Ankle-Foot Orthosis (10 cr)**

Interpret ankle-foot orthometry, shape stirrup to shoe and ankle, assemble an AFO without tibial torsion, with tibial torsion, fabricate leather work, and have a basic understanding of the varus and valgus corrective straps for the ankle. Prerequisite: OR-PR 141, 142, 144, 152, 154. (SFCC)

**OR-PR 162 – Related Anatomy for the Above Knee Orthotics (1 cr)**

A basic understanding of anatomy for the orthotics limbs. Prerequisite: OR-PR 141, 142, 144, 152, 154, 156. (SFCC)

**OR-PR 164 – Above the Knee Orthotics (8 cr)**

Interpret the knee-ankle-foot orthometry form and layout KAFO, construct metal work with and without tibial torsion of a KAFO, fabricate a KAFO with growth extensions, fabricate the leather work for the KAFO and fabricate knee control pads used in a KAFO. Prerequisite: OR-PR 141, 142, 144, 152, 154, 156, 162. (SFCC)

**OR-PR 172 – Upper Extremity Anatomy Related to Orthotics (1 cr)**

A basic understanding of upper extremity anatomy related to orthotics. Prerequisite: OR-PR 141, 142, 144, 152, 154, 156, 162, 164. (SFCC)

**OR-PR 174 – Upper Extremity Orthotics (7 cr)**

The student learns to identify wrist, hand and forearm anatomy; identify upper extremity components and interpret the orthometry forms; fabricate basic hand orthosis, wrist-hand orthosis (WHO), and learn vacuum forming of WHO. Prerequisite: OR-PR 141, 142, 144, 152, 154, 156, 162, 164, 172. (SFCC)

**OR-PR 178 – Clinical Orthotics (6 cr)**

In order to become proficient in fabricating orthotic devices, it is required that you practice your skills in an actual laboratory setting. Prerequisite: OR-PR 141, 142, 144, 152, 154, 156, 162, 164, 172, 174. (SFCC)

**PALEONTOLOGY****PALEO 103 – Dinosaur Paleontology (5 cr)**

Provides an overview of the history of dinosaur exploration and recovery with short biographies of the great dinosaur biologists and hunters. Provides a discussion of the differences between dinosaurs and other animals. Discusses current theories of dinosaur metabolism and life style. Provides audio-visual materials on well-known dinosaur collecting sites and museums. The CCS paleontological collection includes actual dinosaur bones and teeth, as well as invertebrate and plant fossils contemporary with the dinosaurs. These provide hands-on experiences. There are opportunities for preparation of molds and casts of fossil material. Discusses various extinction theories. Prerequisite: BIOL& 160 (formerly BIOL 101) or permission of instructor. (SFCC)

**PARALEGAL****LA 100 – Legal Careers Orientation (1 cr)**

This course assists students in choosing careers in the legal field. Students acquire professional development plans. Prerequisite: 60 percentile/42 scaled score or better on the written section of the college's assessment test or receive a 2.0 grade or better in BT 109. (SCC)

**LA 101 – Introduction to Paralegalism (2 cr)**

Students learn the role of a paralegal in typical legal settings. Prerequisite: LA 100. (SCC)

**LA 102 – Introduction to Legal Nursing (1 cr)**

This course is a survey of the various roles for legal nurses across a spectrum of legal settings. Additionally, the course examines the professional demands, skills and expectations of the profession. Prerequisite: Permission of instructor/coordinator. (SCC)

**LA 105 – Washington Court Rules-State and Federal (3 cr)**

Students learn to research Washington Court Rules for district, superior, appellate and federal court systems. Interpretation and application of rules as they relate to law office procedures are emphasized. Students also learn to distinguish procedural from substantive rules. The interrelationship of rules to the Washington Digest, Revised Code of Washington (RCW) and Appellate Court requirements is presented. Prerequisite: Permission of instructor. (SCC)

**LA 110 – Legal Research and Writing (5 cr)**

This course specifies practical use of legal resource tools on municipals, state and federal levels. Students learn to draft and prepare legal instruments and documents. Prerequisite: ENGL& 101 (formerly ENG 101). (SCC)

**LA 118 – Instrument Drafting (3 cr)**

This intensive course is for students who are at the end of their paralegal/legal nurse education. Frequent hands-on drafting, critiquing, editing, rewriting, and presenting representative legal instruments in litigation, domestic, criminal, real estate and commercial law are emphasized. Students can expect to experience a rapid improvement in their writing and thinking skills irrespective of their level prior to enrollment. Prerequisite: Permission of instructor. (SCC)

**LA 120 – Law Office Computing (5 cr)**

Students are introduced to high levels of streamlining and automating word processing functions in a law office. Macros, merging, creating, editing and formatting legal documents are emphasized. Prerequisite: Two college-level computer classes (CIS or LSEC) with a grade of 2.0 or higher; one of which must be LSEC 239 or 249. (SCC)

**LA 125 – Advanced Law Office Computing (5 cr)**

Students learn to computerize time and billing in a law office. Litigation, discovery, law office management and calendaring are emphasized. Prerequisite: LA 120 with a 2.0 grade or higher. (SCC)

**LA 130 – Legal Ethics (1 cr)**

This course introduces the rules of professional conduct that govern the professional practice of attorneys. Topics include conflicts of interest, confidentiality, professionalism, advertising and solicitation, client funds, etc. Prerequisite: Permission of instructor/coordinator. (SCC)

**LA 135 – Professional Effectiveness (1 cr)**

Students learn professional effectiveness and how to become successful in the legal environment. Prerequisite: Permission of instructor/coordinator. (SCC)

**LA 201 – Introduction to Probate (3 cr)**

Students study wills and the necessary administration of various categories of estates. Prerequisite: LA 110. (SCC)

**LA 207 – Community Property and Domestic Relations I (3 cr)**

Students learn community property law characteristic of states in the western US. The law of marriage and dissolution of marriage is examined. (SCC)

**LA 211 – Debtor-Creditor and Bankruptcy (3 cr)**

Students study common law writs (attachments, garnishments, etc.), liquidation and reorganization bankruptcies, and the law of collection. Prerequisite: LA 110. (SCC)

**LA 212 – Administrative Law (3 cr)**

Students study administrative law at federal and state levels. Origins of jurisdictional limits, judicial reviews, implementation and enforcement of laws are emphasized. (SCC)

**LA 215 – Commercial Transaction (3 cr)**

This course reviews the Uniform Commercial Code, commercial paper, bank and secure transactions, and electronic and bulk transfers. Various commercial statutes are surveyed. (SCC)

**LA 217 – Business Organizations (3 cr)**

Students study partnership and corporation law for incorporation and administration of business in Washington state. (SCC)

**LA 218 – Employment Law (3 cr)**

Students review federal and state employment statutes governing hiring, termination, discrimination, affirmative action, workers' compensations and work-place safety. (SCC)

**LA 219 – Criminal Law and Procedure (3 cr)**

This course is an overview of the criminal justice system emphasizing the constitutional framework of criminal procedure. Prerequisite: LA 110. (SCC)

**LA 220 – Torts (3 cr)**

This course is a study of law that provides redress and compensation through a civil action. Prerequisite: LA 115 or concurrent enrollment. (SCC)

**LA 221 – Property and Real Estate Transactions I (3 cr)**

This course surveys Real Property Law covering estates in land. Real estate transactions including fundamentals of conveyancing law and statutes of frauds are emphasized. (SCC)

**LA 223 – Idaho Civil and Criminal Court Rules (3 cr)**

Students review the Idaho Rules of Civil Procedures and Idaho Rules of Criminal Procedure emphasizing how these rules differ from the Federal Rules of Civil Procedure. Prerequisite: Permission of instructor/coordinator. (SCC)

**LA 225 – Trial Preparation and Procedures I (3 cr)**

Students study civil procedures and preparation of trial materials and their application to court rules. Pretrial preparation also is covered. Prerequisite: LA 220. (SCC)

**LA 227 – Trial Preparation and Procedures II (3 cr)**

Students study pretrial motions and conferences, trial briefs, juries, witnesses, exhibits, opponent's witnesses, rebuttals, instructions, and argument, and the law as they apply to a trial. Prerequisite: LA 225. (SCC)

**LA 230 – Insurance Law (3 cr)**

This course covers basic insurance terminology and presents a working knowledge of insurance laws that are frequently encountered in today's law office. Prerequisite: LA 115. (SCC)

**LA 240 – Special Issues Seminar (1-10 cr)**

Students survey various areas of the law, learn skills in critical thinking, and review new and emerging issues. The substance of the course varies. Prerequisite: Permission of instructor/coordinator. (SCC)

**LA 245 – Supervised Legal Work Experience (1-8 cr)**

This course provides an in-depth clinical experience required for all students enrolled in the paralegal or legal nurse programs. Students are supervised in the clinic by attorneys and the legal program coordinator. Students receive thorough experience in law office practices and procedures. Progress is monitored through a combination of in-class seminars and individualized instructor contact. Grading option: Pass/fail. Prerequisite: Permission of instructor/coordinator. (SCC)

**LA 267 – Cooperative Education Work Experience (1-18 cr)**

For course description, see Cooperative Education. (SCC)

**LA 285 – Legal Office Internship (1-3 cr)**

This course provides on-the-job learning experience for students while they attend classes at SCC. Students are able to apply the principles learned in the program to work in a law or law-related office under the supervision of an attorney or other legal professional. Grading option: Pass/fail. Prerequisite: Permission of instructor/coordinator. (SCC)

**PHARMACY TECHNICIAN****PHARM 101 – Introduction to Pharmacy Technician (3 cr)**

This course introduces students to practice roles of pharmacy technicians. Employment opportunities, medical terminology, drug dosage forms, IV infusion, introduction to prescription interpretation and pharmacy law are emphasized. (SCC)

**PHARM 115 – Mathematics for Pharmacy Technicians (5 cr)**

Students are introduced to the application of basic math skills to real-life scenarios in pharmacy technician career fields. This course includes review of basic skills, followed by applications of dosage calculations for IVs, tablets, liquids and injectables. Students are also introduced to the applications of math skills determined by body surface area, chemotherapy and pediatric dosing. (SCC)

**PHARM 119 – Pharmacology (3 cr)**

Students learn to identify drugs normally used in hospital and retail pharmacy settings. Therapeutic drug classifications, routes of administration, codes and abbreviations, and correct drug name spelling are emphasized. Students also learn to distinguish between generic and trade (brand) names of drugs. (SCC)

**PHARM 122 – Advanced Pharmacology (5 cr)**

Students learn to categorize the top 200 drugs into the major therapeutic classifications; distinguish between generic and brand names of drugs; identify accepted dosage forms, routes and dosing intervals of each drug. Human medical conditions relating to anatomy and physiology are emphasized. Prerequisite: PHARM 119. (SCC)

**PHARM 123 – Hospital Pharmacy Dispensing and Management (5 cr)**

Students learn to assist the pharmacist with preparing and dispensing prescription drugs within the hospital setting. Verbal and written communication skills are emphasized. Students are introduced to appropriate inventory control and purchasing. Prerequisite: PHARM 101, 119 with a 2.0 grade or better. (SCC)

**PHARM 124 – Community Pharmacy Dispensing and Management (3 cr)**

This course prepares students to develop the knowledge and skills needed to assist the pharmacist in preparing and dispensing prescription drugs in a community pharmacy setting. Verbal and written communications skills, prescription interpretation, and third party billing are emphasized. Prerequisite: PHARM 101, 119 with a 2.0 grade or better. (SCC)

**PHARM 130 – Entering the Work Environment (2 cr)**

This course prepares students for success in health careers. Students learn job-readiness skills including work ethics, professionalism, resume writing, communication skills and self-esteem. (SCC)

**PHARM 131 – Pharmacy Law and Ethics (3 cr)**

Students learn the law relating to pharmacy, agencies that regulate pharmacy practice and quality assurance. (SCC)

**PHARM 132 – Community Pharmacy (6 cr)**

The course introduces students to the procedures permitted the pharmacy technician in the state of Washington regarding community pharmacy. Prerequisite: PHARM 122, 123, 124 with a 2.0 grade or better. (SCC)

**PHARM 133 – Hospital Pharmacy (6 cr)**

This course offers clinical practice to perfect students' competence in performing pharmacy technician functions that take place under direct supervision of the pharmacist. Students work in a hospital pharmacy assisting the pharmacist. Prerequisite: Completion of all prior required courses with a 2.0 grade or better. (SCC)

**PHILOSOPHY****PHIL& 101 – Intro to Philosophy (5 cr)**

Formerly PHIL 101. Designed to enable students to examine the fundamental problems in philosophy by reading selectively the writings of the significant philosophers and analyzing them in discussion seminars. The lectures are designed to develop a perspective and sense of continuity toward the growth of Western thought. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

**PHIL& 106 – Intro to Logic (5 cr)**

Formerly PHIL 201. A basic introduction to deductive and inductive logic, the nature of formal deductive proof and its application to the traditional logical problems. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

**PHIL 210 – Ethics (5 cr)**

A systematic and historical analysis of some of the problems in ethics. An examination of some of the principle ethical positions and the criteria for their solutions. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

**PHIL 215 — Environmental Philosophy (5 cr)**

Students explore the philosophical relationship between human beings and the non-human world. The moral status of animals and ecosystems, anthropocentrism versus biocentrism, environmental economics and public policy, deep ecology, ecofeminism, and the idea of a “land ethic” are emphasized. (SCC, SFCC)

**PHIL 220 — Philosophy of Religion (5 cr)**

The course is designed to give the student an understanding of both classical and contemporary philosophy of religion by concentrating on the nature of religion, religious disagreements, the existence of God, the problem of evil, the relation between faith and reason, and religious language. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

**PHIL 231 — Modern Philosophical Problems (5 cr)**

The course includes both purely philosophical and literary manifestations of existentialism. Treatment follows a historical progression from the 19th century forerunners of existentialism (Dostoevsky, Nietzsche, Kierkegaard) to the major modern representatives (Heidegger, Jaspers, Sartre and Camus). Prerequisite: PHIL& 101 (formerly PHIL 101) or PHIL 210 or permission of instructor. SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

**PHOTOGRAPHY****PHOTO 101 — Introduction to Photography (5 cr)**

This course introduces black and white photography from a historical, artistic and experiential perspective. Students learn basic camera operation, print-making and composition while exploring the cultural impact photography has on society. (SFCC)

**PHOTO 102 — Photographic Appreciation (2 cr)**

Students explore current and historical trends in photography and identify career opportunities in a wide variety of visual communication fields. Students discover the work of photographers and designers who have had significant impact on the field and learn to speak the “language” of photography in a professional environment. (SFCC)

**PHOTO 111 — Studio Photography I (4 cr)**

Students learn to control lighting and exposure in a studio environment while exploring a variety of subjects, including still life, commercial product and people photography. Students learn to identify the characteristics of light on a subject, operate studio lighting equipment and master a variety of metering techniques to calculate proper exposure. Prerequisite: PHOTO 101. (SFCC)

**PHOTO 112 — Photographic Design (4 cr)**

Students in this course discover the artistic substance of photography through the application of design principles in photography. Students compose images that are balanced, exhibit depth, and explore the relationship between visual elements, emotions and ideas. Students learn to assess their work and formulate criteria for critiquing photography and design. Prerequisite: PHOTO 101 or permission of instructor. (SFCC)

**PHOTO 115 — Photography Lab II (3 cr)**

Students apply the skills acquired in second-quarter photography classes and develop work habits to meet employer standards when using darkroom and shooting room facilities in the photography building. Prerequisite: PHOTO 101. (SFCC)

**PHOTO 120 — Photographic Arts (3 cr)**

Students develop artistic interpretations of black and white images by applying alternative printing techniques. Topics include solarization, photo montages, selective toning, polaroid image transfers, and applying photographic emulsions to other media including canvas, water color paper and ceramic substrates. Prerequisite: PHOTO 101 or permission of department or division. (SFCC)

**PHOTO 121 — Location Photography I (4 cr)**

This course applies the principles of studio photography outside of the studio by teaching students to analyze and modify lighting conditions on location. Students identify the effects of different types of light sources and apply supplemental lighting to make dynamic exposures of people, products, interior design and architectural landscapes. Prerequisite: PHOTO 101. (SFCC)

**PHOTO 125 — Photography Lab III (3 cr)**

Students in this course apply the skills acquired in third-quarter photography classes and develop work habits to meet employer standards when using darkroom and shooting room facilities in the photography building. Prerequisite: PHOTO 115. (SFCC)

**PHOTO 126 — Digital Photography I (5 cr)**

Using the latest image-editing software, students explore the creative possibilities of digital imaging while retouching and creating multiple image

composites. Students acquire knowledge of technical requirements to create photographic quality images using computers, scanners, digital printers and cameras. (SFCC)

**PHOTO 131 — Introduction to Photojournalism (3 cr)**

Students in this course assume the role of photojournalist while investigating the ethical issues involved with journalism in America. Students tell stories with pictures, develop an eye for alternative image perspectives, gather accurate assignment information and work with editors in a fast-paced environment. Students are provided an opportunity to visit with working professionals and to explore career opportunities in journalism. (SFCC)

**PHOTO 132 — Advanced Black and White Photography (3 cr)**

This course provides students an opportunity to fully explore the capabilities of black and white photography while learning the Zone system and advanced darkroom techniques. Prerequisite: PHOTO 101 or permission of instructor. (SFCC)

**PHOTO 133 — Color Lab (3 cr)**

Students in this course learn to make color prints and process color film and transparencies. Instruction includes working in a photo-finishing lab while mastering push and pull film processing, color printing, and mixing chemistry. Prerequisite: PHOTO 101 or permission of instructor. (SFCC)

**PHOTO 200 — Photography Media (4 cr)**

This course focuses on photography as a communication tool. Instead of concentrating on a single image, students script and produce a multimedia presentation that combines still-images, sounds, text and graphics. Students explore ways to market multimedia presentations to corporations and government agencies, and survey current multimedia technology. Prerequisite: PHOTO 101. (SFCC)

**PHOTO 205 — Photography Lab IV (3 cr)**

Students in this course apply skills acquired in their fourth-quarter photography courses and develop work habits to meet employer standards when using darkroom and shooting room facilities in the photography building. Prerequisite: PHOTO 125. (SFCC)

**PHOTO 215 — Photography Lab V (3 cr)**

Students in this course apply the skills acquired in their fifth-quarter photography classes and develop work habits to meet employer standards while using darkroom and shooting room facilities in the photography building. Prerequisite: PHOTO 205. (SFCC)

**PHOTO 225 — Photography Lab VI (3 cr)**

Students in this course apply the skills learned in their sixth-quarter photography classes and develop work habits to meet employer standards while using darkroom and shooting room facilities in the photography building. Prerequisite: PHOTO 215. (SFCC)

**PHOTO 227 — Business of Photography (3 cr)**

Students in this course set career goals and develop a comprehensive personal plan of action. Students gain knowledge of business practices unique to the field of photography, while taking inventory of the skills necessary to be successful. Topics include different methods for earning income, development of a step-by-step strategy to achieve success, business contracts, customer service policies, marketing, financial breakdowns of pricing strategies, sales presentations, professional associations and sources for further education. Prerequisite: PHOTO 205. (SFCC)

**PHOTO 231 — Studio Photography II (4 cr)**

Students expand their knowledge of a variety of lighting and metering techniques introduced in PHOTO 111 to create dynamic images of people and products for advertising layouts. Students develop problem-solving skills as they work with art directors, prepare bids and research current trends in commercial photography. Prerequisite: PHOTO 111. (SFCC)

**PHOTO 232 — Portraiture (4 cr)**

This class focuses on the skills necessary for working with people in the portrait photography field. Students discover lighting and posing techniques to augment an individual's appearance while exploring the variety of markets for portrait photography including high school seniors, weddings, families, executives, children and fine-art portraiture. Prerequisite: PHOTO 101 or permission of instructor. (SFCC)

**PHOTO 233 — Location Photography II (4 cr)**

Students in this course apply a variety of lighting, metering and color correction techniques introduced in PHOTO 121 to gain experience in the corporate and industrial segments of commercial photography. Subjects vary from architectural design, corporate communication and working with fashion models on location. Prerequisite: PHOTO 121. (SFCC)

**PHOTO 234 — Digital Photography II (5 cr)**

Students in this course apply skills acquired in PHOTO 226 to create imaginative photographic illustrations and prepare them for publication. An emphasis is placed on color management and preparing images for the Internet. Prerequisite: PHOTO 226. (SFCC)



**PHOTO 235 – Nature and Landscape Photography (5 cr)**

This course teaches students to refine their composition skills while capturing images of nature, wildlife and landscapes. Marketing of images through publishers, stock agencies and art galleries is discussed. Prerequisite: PHOTO 101 or permission of instructor. (SFCC)

**PHOTO 236 – Photography Workshop (1-4 cr)**

This class enables students to keep abreast of current trends and conduct research projects in various facets of photography. This course may be repeated for up to 12 credits. (SFCC)

**PHOTO 237 – Introduction to Documentary DV Production (3 cr)**

Students examine a variety of creative approaches to filmmaking while using current digital video technology to produce their own short films. Students explore the history of “non-fiction” filmmaking and identify the major characteristics of the documentary genre. Special emphasis is placed on identifying relevant applications of digital video technology within the photographic industry such as: wedding and event videography, corporate communications and biographical tributes. (SFCC)

**PHOTO 266 – Cooperative Education Seminar (1-2 cr)**

For course description, see Cooperative Education. (SFCC)

**PHOTO 267 – Cooperative Education Work Experience (1-18 cr)**

For course description, see Cooperative Education. (SFCC)

**PHYSICAL EDUCATION****PE 100 – Fitness for Life (1 cr)**

This course is designed to acquaint students with proper methods and techniques for establishing an individualized personal wellness and fitness program. It is conducted in the campus Fitness Center and includes personalized inventory and appraisal of current fitness level and explores options available to improve cardiovascular endurance, weight control, strength and flexibility. (SCC, SFCC)

**PE 101 – Beginning Volleyball (1 cr)**

Fundamental skills, rules, etiquette and strategy; development of skills through drills and competitive play. (SCC, SFCC)

**PE 102 – Archery (1 cr)**

Course is designed to develop basic archery skills and appreciation of target archery. Students learn proper use of equipment, fundamental skills, terminology and scoring. (SCC, SFCC)

**PE 105 – Beginning Badminton (1 cr)**

Fundamental skills, rules of the game, court etiquette, techniques, and strategy of singles and doubles play. (SCC)

**PE 106 – Yoga Fitness (1 cr)**

This course promotes individual fitness and total mind-body health. Strength and stretching movements, flexibility and breathing exercises, and relaxation techniques are presented. (SCC, SFCC)

**PE 107 – Jogging (1 cr)**

Course designed to improve the student’s level of physical fitness and wellness, teach proper methods of running/jogging, encourage proper body weight and body fat levels, and establish a permanent habit of exercise. (SCC, SFCC)

**PE 108 – Beginning Tennis (1 cr)**

Basic skills and techniques needed for singles and doubles play. Court etiquette, rules, strategy, scoring and terminology. (SCC, SFCC)

**PE 112 – Beginning Flag Football (1 cr)**

Techniques of offensive and defensive team play. Rules, mechanics and skills. (SFCC)

**PE 114 – Beginning Karate (1 cr)**

Fundamental skills, philosophy, rules and strategy of karate. Emphasizes a combination of skill, power and discipline. (SCC, SFCC)

**PE 115 – Beginning Soccer (1 cr)**

Basic skills, strategy and team play involved in the game of soccer. (SCC, SFCC)

**PE 116 – Beginning Basketball (1 cr)**

Fundamentals of ball handling, shooting, passing, and techniques of offensive and defensive play. Competitive play situations provided. (SCC, SFCC)

**PE 117 – Kickboxing (1 cr)**

Students learn the basic skills, techniques and safety procedures of kickboxing. Sport specific activities to improve individual balance, strength, endurance and cardiovascular conditioning are emphasized. (SCC, SFCC)

**PE 118 – Beginning Bowling (1 cr)**

This course is designed to teach fundamental skills, rules, techniques, scoring and etiquette of bowling. (SCC, SFCC)

**PE 120 – Beginning Softball (1 cr)**

Fundamentals of team play, rules and game strategies. Emphasis placed on participation by all. (SCC, SFCC)

**PE 122 – Beginning Skiing (1 cr)**

Instruction at all levels of competency in the skills and techniques of skiing. Classes are held at Mt. Spokane. (SCC, SFCC)

**PE 126 – Beginning Golf (1 cr)**

Practice and development of fundamental skills, rules and etiquette of golf. (SCC, SFCC)

**PE 127 – Beginning Jazz Dance (1 cr)**

Course includes jazz dance oriented stretching and warm-ups. Class will learn jazz combinations, walks and steps incorporated in a variety of dance routines. (SFCC)

**PE 130 – Pickleball (1 cr)**

Fundamental skills, rules of the game, court etiquette, techniques, and strategy of singles and doubles play. (SFCC)

**PE 133 – Beginning Cycling (1 cr)**

This is an introductory course covering the basic techniques and applications of a fixed gear stationary bike. Students perform an exercise routine on the stationary Schwinn Spinner to increase their cardiovascular and pulmonary efficiency, musculoskeletal strength and endurance, and coordination and balance while riding in a group setting. (SCC, SFCC)

**PE 135 – Gymnastics (1 cr)**

Gymnastics basics covering beginning, intermediate and advanced levels in the areas of tumbling, flexibility, vaulting, bars and balance beam. (SCC)

**PE 139 – Weight Training (1 cr)**

This course covers modern weight training techniques, including strength and endurance training, and flexibility and coordination. Students learn proper techniques of both Olympic freebar weights and machine circuit training programs. (SCC, SFCC)

**PE 140 – Beginning Ski Conditioning (1 cr)**

Ski conditioning class is an intense concentration of exercises that complement the basic movements of skiing. The emphasis is on improving the general level of body conditioning, flexibility and improvement of cardiovascular functions as they relate to skiing. (SCC, SFCC)

**PE 141 – Theory and Conditioning of Soccer (2 cr)**

This is an intense program of physical activity to enhance flexibility, strength, endurance and cardiovascular functions. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 143 – Theory and Conditioning of Basketball (2 cr)**

This is an intense program of physical activity to enhance flexibility, strength, endurance and cardiovascular function. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 144 – Theory and Conditioning of Softball (2 cr)**

This is an intense program of physical activity to enhance flexibility, strength, endurance and cardiovascular functions. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 145 – Theory and Conditioning of Baseball (2 cr)**

This is an intense program of physical activity to enhance flexibility, strength, endurance and cardiovascular functions. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 146 – Theory and Conditioning of Cross Country (2 cr)**

This is an intense program of physical activity to enhance flexibility, strength, endurance and cardiovascular functions. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 147 – Theory and Conditioning of Track (2 cr)**

This is an intense program of physical activity to enhance flexibility, strength, endurance and cardiovascular functions. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 149 – Theory and Conditioning of Golf (2 cr)**

This is a complete offering of skill development, playing strategies, course management, and concepts and rules mastery as they relate to the game of golf. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 151 – Theory and Conditioning of Tennis (2 cr)**

This is an intense program of physical activity to enhance flexibility, strength, endurance and cardiovascular functions. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 154 – Theory and Conditioning of Volleyball (2 cr)**

This is an intense program of physical activity to enhance flexibility, strength, endurance and cardiovascular functions. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 156 – Techniques of Soccer (3 cr)**

This course is a study of the rules, team organization, techniques and strategy of soccer. (SCC, SFCC)

**PE 157 – Track Techniques (3 cr)**

This course is a study of the rules, techniques, and strategy of track and field events. (SCC, SFCC)

**PE 158 – Techniques of Tennis (3 cr)**

This course presents intense techniques of tennis designed for students interested in competitive play in either singles or doubles. Advanced drills, footwork, agility and conditioning for competitive play are emphasized. (SCC, SFCC)

**PE 159 – Techniques of Golf (3 cr)**

This course is a study of the rules, techniques, fundamentals and skills of golf. It is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 160 – Techniques of Volleyball (3 cr)**

This course is a study of the rules, team organization, techniques and strategies of volleyball. (SCC, SFCC)

**PE 164 – Techniques of Basketball (3 cr)**

This course presents an intense study of proper basketball techniques, fundamentals and skills. Individual and team offensive and defensive strategies and philosophies also are presented. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 165 – Techniques of Baseball (3 cr)**

This course is designed to develop knowledge and physical skills of baseball in a laboratory setting. Students learn rules and strategies of baseball, and basic fundamentals of hitting, throwing and catching as applied to the individual's position or positions. (SCC, SFCC)

**PE 169 – Techniques of Softball (3 cr)**

This course is designed for students interested in competitive fast pitch softball. Advanced drills, skills, techniques and conditioning for competitive play are emphasized. (SCC, SFCC)

**PE 170 – Introduction to Physical Education and Recreation (3 cr)**

This course is designed to develop introductory skills and increase knowledge in the occupational areas of health, physical education, recreation and coaching. Students learn historical factors that have shaped the profession, current trends, philosophies and objectives of physical education. (SCC, SFCC)

**PE 177 – Beginning Body Conditioning (1 cr)**

A variety of activities that lead to overall improvement of body conditioning, weight training, walking, jogging, calisthenics and organized physical activities will be employed to increase efficiency of cardiovascular functions. (SCC, SFCC)

**PE 182 – Beginning Ballet (1 cr)**

Introduction and explanation of ballet from fundamental to more complex techniques. (SFCC)

**PE 184 – Professional Technical Physical Education (2 cr)**

This course is designed for professional/technical students who wish to improve their personal fitness level specific to their industry requirements. The 11 lecture hours focus on the components of improving a healthy lifestyle. Topics covered include heart disease, controllable and noncontrollable risk factors, nutrition, stress management, and exercise methods. The 22 hours of lab are designed to implement the methods and techniques studied in the lecture. Students also perform physical assessments to determine their current level of fitness. Following the assessment, a personal exercise program is developed for them to carry out during the quarter. (SCC, SFCC)

**PE 185 – Beginning Aerobic Fitness (1 cr)**

A program of stretching and aerobic conditioning set to music. Course designed to improve and appraise flexibility, strength and cardiovascular fitness through a variety of aerobic techniques. (SCC, SFCC)

**PE 186 – Fast Fitness, Beginning (1 cr)**

Comprehensive physical fitness course designed to develop strength, flexibility, muscular endurance and cardiovascular efficiency in an effective and timely manner through the use of circuits. (SCC, SFCC)

**PE 187 – Cross Training (2 cr)**

The term cross training is the involvement of a variety of different activities into a single coordinated program. The objective is to achieve high levels of strength, endurance and flexibility while at the same time preventing injuries. It is necessary to include different types of activities into a weekly routine. The cross training class focuses on the following: development of a comprehensive, personalized fitness program utilizing the state-of-the-art equipment in the Fitness Center. The course will require a basic knowledge of the fast fitness circuit concept and an understanding of the cardiovascular equipment. Individual programs will incorporate the use of all exercise

equipment in the Fitness Center. In addition, individuals need to include other activities such as running, rowing, cycling, stair climbing, cross-country skiing, free weight training, in-line skating and walking. Monthly goals are predetermined and a daily training record will be kept to evaluate the individual's progress toward his/her goals. (SCC, SFCC)

**PE 188 – Basic Fitness I (2 cr)**

This initial fitness course includes one lecture session per week covering the basic "how to's" of exercise and nutrition, starting a fitness program, eating for maximum energy and weight management. Students participate in two activity sessions per week of low-level, nonimpact and nonintimidating activities. Students take a personalized inventory and appraisal of their current fitness level and explore options available to improve cardiovascular endurance, weight control, strength and flexibility. (SCC, SFCC)

**PE 200 – Fitness for Life (1 cr)**

This course is designed to acquaint students with proper methods and techniques for establishing an individualized personal wellness and fitness program. It is conducted in the campus Fitness Center and includes personalized inventory and appraisal of current fitness level and explores options available to improve cardiovascular endurance, weight control, strength and flexibility. (SCC, SFCC)

**PE 201 – Advanced Volleyball (1 cr)**

Fundamental skills, rules, etiquette and strategy; development of skills through drills and competitive play. (SCC, SFCC)

**PE 202 – Archery (1 cr)**

Course is designed to develop basic archery skills and appreciation of target archery. Students learn proper use of equipment, fundamental skills, terminology and scoring. (SCC, SFCC)

**PE 205 – Advanced Badminton (1 cr)**

Fundamental skills, rules of the game, court etiquette, techniques, and strategy of singles and doubles play. (SCC)

**PE 206 – Yoga Fitness (1 cr)**

This course promotes individual fitness and total mind-body health. Strength and stretching movements, flexibility and breathing exercises, and relaxation techniques are presented. (SCC, SFCC)

**PE 207 – Jogging (1 cr)**

Course designed to improve the student's level of physical fitness and wellness, teach proper methods of running/jogging, encourage proper body weight and body fat levels, and establish a permanent habit of exercise. (SCC, SFCC)

**PE 208 – Advanced Tennis (1 cr)**

Basic skills and techniques needed for singles and doubles play. Court etiquette, rules, strategy, scoring and terminology. (SCC, SFCC)

**PE 212 – Advanced Flag Football (1 cr)**

Techniques of offensive and defensive team play. Rules, mechanics and skills. (SFCC)

**PE 214 – Advanced Karate (1 cr)**

Fundamental skills, philosophy, rules and strategy of karate. Emphasizes a combination of skill, power and discipline. (SCC, SFCC)

**PE 215 – Advanced Soccer (1 cr)**

Basic skills, strategy and team play involved in the game of soccer. (SCC, SFCC)

**PE 216 – Advanced Basketball (1 cr)**

Fundamentals of ball handling, shooting, passing, and techniques of offensive and defensive play. Competitive play situations provided. (SCC, SFCC)

**PE 217 – Kickboxing (1 cr)**

Students learn the basic skills, techniques and safety procedures of kickboxing. Sport specific activities to improve individual balance, strength, endurance and cardiovascular conditioning are emphasized. (SCC, SFCC)

**PE 218 – Advanced Bowling (1 cr)**

This course is designed to teach fundamental skills, rules, techniques, scoring and etiquette of bowling. (SCC, SFCC)

**PE 220 – Advanced Softball (1 cr)**

Fundamentals of team play, rules and game strategies. Emphasis placed on participation by all. (SCC, SFCC)

**PE 222 – Advanced Skiing (1 cr)**

Instruction at all levels of competency in the skills and techniques of skiing. Classes are held at Mt. Spokane. (SCC, SFCC)

**PE 226 – Advanced Golf (1 cr)**

Practice and development of fundamental skills, rules and etiquette of golf. (SCC, SFCC)

See program/course abbreviation key on page 143.

**PE 227 – Advanced Jazz Dance (1 cr)**

Course includes jazz dance oriented stretching and warm-ups. Class will learn jazz combinations, walks and steps incorporated in a variety of dance routines. (SFCC)

**PE 230 – Pickleball (1 cr)**

Fundamental skills, rules of the game, court etiquette, techniques, and strategy of singles and doubles play. (SFCC)

**PE 233 – Advanced Cycling (1 cr)**

This advanced-level course continues development of techniques and applications presented in PE 133. Students perform a variety of advanced exercise routines on stationary Schwinn Spinner bicycles to increase cardiovascular and pulmonary efficiency, musculoskeletal strength and endurance, and coordination and balance while riding in a group setting. Prerequisite: PE 133. (SCC, SFCC)

**PE 235 – Gymnastics (1 cr)**

Gymnastics basics covering beginning, intermediate and advanced levels in the areas of tumbling, flexibility, vaulting, bars and balance beam. (SCC)

**PE 239 – Weight Training (1 cr)**

This course covers modern weight training techniques, including strength and endurance training, and flexibility and coordination. Students learn proper techniques of both Olympic freebar weights and machine circuit training programs. (SCC, SFCC)

**PE 240 – Advanced Ski Conditioning (1 cr)**

Ski conditioning class is an intense concentration of exercises that complement the basic movements of skiing. The emphasis is on improving the general level of body conditioning, flexibility and improvement of cardiovascular functions as they relate to skiing. (SCC, SFCC)

**PE 241 – Theory and Conditioning of Soccer (2 cr)**

This is an intense program of physical activity to enhance flexibility, strength, endurance and cardiovascular functions. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 243 – Theory and Conditioning of Basketball (2 cr)**

This is an intense program of physical activity to enhance flexibility, strength, endurance and cardiovascular function. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 244 – Theory and Conditioning of Softball (2 cr)**

This is an intense program of physical activity to enhance flexibility, strength, endurance and cardiovascular functions. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 245 – Theory and Conditioning of Baseball (2 cr)**

This is an intense program of physical activity to enhance flexibility, strength, endurance and cardiovascular functions. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 246 – Theory and Conditioning of Cross Country (2 cr)**

This is an intense program of physical activity to enhance flexibility, strength, endurance and cardiovascular functions. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 247 – Theory and Conditioning of Track (2 cr)**

This is an intense program of physical activity to enhance flexibility, strength, endurance and cardiovascular functions. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 249 – Theory and Conditioning of Golf (2 cr)**

This is a complete offering of skill development, playing strategies, course management, and concepts and rules mastery as they relate to the game of golf. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 251 – Theory and Conditioning of Tennis (2 cr)**

This is an intense program of physical activity to enhance flexibility, strength, endurance and cardiovascular functions. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 254 – Theory and Conditioning of Volleyball (2 cr)**

This is an intense program of physical activity to enhance flexibility, strength, endurance and cardiovascular functions. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 256 – Techniques of Soccer (3 cr)**

This course is a study of the rules, team organization, techniques and strategy of soccer. (SCC, SFCC)

**PE 257 – Track Techniques (3 cr)**

This course is a study of the rules, techniques, and strategy of track and field events. (SCC, SFCC)

**PE 258 – Techniques of Tennis (3 cr)**

This course presents intense techniques of tennis designed for students interested in competitive play in either singles or doubles. Advanced drills, footwork, agility and conditioning for competitive play are emphasized. (SCC, SFCC)

**PE 259 – Techniques of Golf (3 cr)**

This course is a study of the rules, techniques, fundamentals and skills of golf. It is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 260 – Techniques of Volleyball (3 cr)**

This course is a study of the rules, team organization, techniques and strategies of volleyball. (SCC, SFCC)

**PE 264 – Techniques of Basketball (3 cr)**

This course presents an intense study of proper basketball techniques, fundamentals and skills. Individual and team offensive and defensive strategies and philosophies also are presented. The course is designed for students interested in individual and team competition. (SCC, SFCC)

**PE 265 – Techniques of Baseball (3 cr)**

This course is designed to develop knowledge and physical skills of baseball in a laboratory setting. Students learn rules and strategies of baseball, and basic fundamentals of hitting, throwing and catching as applied to the individual's position or positions. (SCC, SFCC)

**PE 266 – Cooperative Education Seminar (1-2 cr)**

For course description, see Cooperative Education. (SCC, SFCC)

**PE 267 – Cooperative Education Work Experience (1-18 cr)**

For course description, see Cooperative Education. (SCC, SFCC)

**PE 269 – Techniques of Softball (3 cr)**

This course is designed for students interested in competitive fast pitch softball. Advanced drills, skills, techniques and conditioning for competitive play are emphasized. (SCC, SFCC)

**PE 270 – Nutrition for Fitness (3 cr)**

This course provides students with a working knowledge of prudent nutritional practices and focuses on issues of concern to individuals who are active in physical fitness programs. In addition to basic nutritional information, the course covers topics with special applications to the fitness field, such as the nutritional requirements of different activities, planning training diets and pregame meals. The effects of ergogenic foods on performance, fluid and electrolyte balance also are covered. (SCC, SFCC)

**PE 272 – Psychology of Athletic Achievement (3 cr)**

This course provides the student with the principles and practices of personal achievement as applied to athletics and academic endeavors. Techniques of developing a positive self-image through understanding and application of basic philosophies relating to goal setting, motivation and personal discipline are introduced. (SCC, SFCC)

**PE 277 – Advanced Body Conditioning (1 cr)**

A variety of activities that lead to overall improvement of body conditioning, weight training, walking, jogging, calisthenics and organized physical activities will be employed to increase efficiency of cardiovascular functions. (SCC, SFCC)

**PE 282 – Advanced Ballet (1 cr)**

Introduction and explanation of ballet from fundamental to more complex techniques. (SFCC)

**PE 284 – Professional Technical Physical Education II (2 cr)**

This advanced course is designed for professional/technical students who have completed PE 184. The 11 lecture hours will involve analyzing current industry requirements, such as type of job, tools used, length of time standing, variety of positions utilized, physical demands and injury statistics. The 22 hours of lab focuses on developing an exercise program that meets the needs of specific vocational requirements. Students also perform physical tests required by the industry. An example would be the police science student performing the obstacle course within current police academy standards. Prerequisite: PE 184. (SCC, SFCC)

**PE 285 – Advanced Aerobic Fitness (1 cr)**

A program of stretching and aerobic conditioning set to music. Course designed to improve and appraise flexibility, strength and cardiovascular fitness through a variety of aerobic techniques. (SCC, SFCC)

**PE 286 – Fast Fitness, Advanced (1 cr)**

Comprehensive physical fitness course designed to develop strength, flexibility, muscular endurance and cardiovascular efficiency in an effective and timely manner through the use of circuits. (SCC, SFCC)

**PE 287 – Cross Training (2 cr)**

The term cross training is the involvement of a variety of different activities into a single coordinated program. The objective is to achieve high levels of strength, endurance and flexibility while at the same time preventing

injuries. It is necessary to include different types of activities into a weekly routine. The cross training class focuses on the following: development of a comprehensive, personalized fitness program utilizing the state-of-the-art equipment in the Fitness Center. The course will require a basic knowledge of the fast fitness circuit concept and an understanding of the cardiovascular equipment. Individual programs will incorporate the use of all exercise equipment in the Fitness Center. In addition, individuals need to include other activities such as running, rowing, cycling, stair climbing, cross-country skiing, free weight training, in-line skating and walking. Monthly goals are predetermined and a daily training record will be kept to evaluate the individual's progress toward his/her goals. (SCC, SFCC)

#### **PE 288 – Basic Fitness II (2 cr)**

Students utilize advanced concepts of fitness and exercise developed in PE 188. Knowledge of wellness and fitness is enhanced through completion of 10 self-motivated independent study modules. Prerequisite: PE 188. (SCC, SFCC)

### **PHYSICAL THERAPIST ASSISTANT**

#### **PTA 101 – Introduction to Physical Therapy (3 cr)**

This course is an introduction to the practice of physical therapy emphasizing the role of the physical therapist assistant as a member of the health care team. Investigation of the law pertaining to the practice of physical therapy and ethical conduct are covered. Issues of teamwork, interpersonal communication skills and patient motivation will be explored. Prerequisite: Acceptance into PTA program. (SFCC)

#### **PTA 102 – Physical Therapy Terminology (1 cr)**

This course is a supervised self-study of medical terminology and abbreviations used to describe the anatomy, physiology and pathology of the body systems used in relationship to the practice of physical therapy. Terms associated with diagnostics, surgery, laboratory tests, pharmacology and patient care are included. Prerequisite: Acceptance into PTA program. (SFCC)

#### **PTA 103 – Applied Anatomy (6 cr)**

Course offering includes instruction in human anatomy with an emphasis on the musculoskeletal system, external palpation and identification of structures, and relationship to function. Introduction to kinesiology. Prerequisite: Grade of 2.0 or better in PTA courses or permission of instructor. (SFCC)

#### **PTA 104 – Survey of Pathophysiology (5 cr)**

This course includes a basic overview of disease processes, including general pathological responses and the physiology of healing and repair. A description of specific diseases and conditions, and the medical and surgical forms of treatment as they relate to rehabilitation is covered and there is discussion of systemic origins of musculoskeletal pain. Prerequisite: Grade of 2.0 or better in PTA courses or permission of instructor. (SFCC)

#### **PTA 105 – Introduction to Neuroscience (4 cr)**

An introduction to the structures and basic functions of the nervous system in relationship to physical therapy treatment of patients with neurological diagnoses is offered in this course. Prerequisite: Grade of 2.0 or better in PTA courses or permission of instructor. (SFCC)

#### **PTA 106 – Regional Human Anatomy and Physiology (5 cr)**

Human body structure and function from a regional viewpoint with emphasis on the skeletal, muscular and nervous systems; the respiratory and cardiovascular systems and introduction of digestive and endocrine systems. Prerequisite: BIOL& 241 (formerly A-P 242). (SFCC)

#### **PTA 110 – PTA Procedures I: Basic PT Procedures (7 cr)**

Basic patient care skills including vital signs, bandaging, aseptic techniques, wound care and athletic taping are offered in this course. Preparation of patient and treatment environment, as well as theory and application of superficial heat, cold and hydrotherapy are covered. Prerequisite: Acceptance into PTA program. (SFCC)

#### **PTA 111 – PTA Procedures II: PT Modalities (7 cr)**

The focus of study is on theory and application of deep heat modalities, principles and application of basic massage techniques, and the introduction to fundamentals of traction and electrotherapy. Prerequisite: Grade of 2.0 or better in PTA 110 and all PTA courses. (SFCC)

#### **PTA 112 – PTA Procedures III: Functional Restoration (7 cr)**

Instruction addresses physical restoration techniques including bed mobility, patient transfers, postural analysis, principles of normal and abnormal ambulation, use of assistive devices, and selected functional rehabilitation activities. Prerequisite: Grade of 2.0 or better in PTA 111 and all PTA courses. (SFCC)

#### **PTA 151 – Clinical Experience I (2 cr)**

Supervised clinical observation and experience in a variety of physical therapy clinic settings affiliated with the college are provided. A clinical discussion group focuses on interpersonal communication and patient interaction, oral and written patient progress reports, and effective prob-

lem-solving skills. Prerequisite: Grade of 2.0 or better in all PTA courses or permission of instructor. (SFCC)

#### **PTA 201 – Issues in Physical Therapy and Health Care (2 cr)**

This course is a survey of medical, legal, and psychosocial issues relating to the role of the physical therapist assistant in various physical therapy facilities and in the delivery of health care. Emphasis is on the goals of physical therapy and how the PTA can influence the achievement of those goals. Prerequisite: Grade of 2.0 or better in PTA courses or permission of instructor. (SFCC)

#### **PTA 202 – Introduction to Orthopedics (3 cr)**

This course is the basic introduction to biomechanics and mechanisms of orthopedic injuries and diseases. Fundamentals of orthopedic terminology are addressed, and a survey of surgical repair with emphasis on rehabilitation is included. Prerequisite: Grade of 2.0 or better in PTA courses or permission of instructor. (SFCC)

#### **PTA 210 – PTA Procedures IV: Therapeutic Exercise (7 cr)**

Instruction addresses therapeutic exercise and selected kinesiological principles related to exercise. Also addressed are basic principles of selected physical therapy testing procedures. Specific exercise protocols and prosthetic and orthotic devices are studied. Patient motivation issues and work as a member of the health care team are covered. Prerequisite: Grade of 2.0 or better in PTA 112 and all PTA courses. (SFCC)

#### **PTA 211 – PTA Procedures V: Rehabilitation Applications (7 cr)**

Instructional focus is on application of basic physical therapy skills for the treatment of specific neurologic disabilities including spinal cord injuries, stroke, head injuries, MS and other neurologic diseases. Additional emphasis is placed on the development of treatment programs for orthopedic patients including upper and lower extremity dysfunctions, injuries to the spine, and lower extremity amputations. Students develop specific home programs, instruct in family training, and select appropriate assistive devices and equipment for neurologic, geriatric and orthopedic patients. Students apply physical therapy skills for the comprehensive treatment of the geriatric patient, vestibular and burn patients, and analyze functional assessments and testing for sensory related deficits. Prerequisite: Grade of 2.0 or better in PTA 210 and all PTA courses and concurrent enrollment in PTA 201, 252. (SFCC)

#### **PTA 212 – PTA Procedures VI: Pediatric Rehabilitation (3 cr)**

Instruction is provided in normal and abnormal human development, pediatric treatment philosophies and principles, pediatric assessment tools, gross motor skill development, behavior management and communication skills, and common pediatric disorders. Laboratory sessions focus on facilitation of developmental sequence and common treatment approaches including handling, positioning, range of motion, and strength and mobility. Students perform pediatric assessment tools on typically developing children. Prerequisite: Grade of 2.0 in all PTA courses and concurrent enrollment in PTA 210, 251. (SFCC)

#### **PTA 251 – Clinical Experience II (2 cr)**

This is a supervised clinical experience in a physical therapy department affiliated with the college. A clinical discussion group focuses on oral and written communication skills, writing resumes, and interview basics. Prerequisite: Grade of 2.0 or better in PTA courses or permission of instructor. (SFCC)

#### **PTA 252 – Clinical Experience III (4 cr)**

This is a supervised practical experience in the administration of duties of a PTA in a physical therapy department affiliated with the college. Clinical discussion group focuses on patient interaction, interpersonal communication and ethical issues related to patient care. Prerequisite: Grade of 2.0 or better in all PTA courses or permission of instructor. (SFCC)

#### **PTA 253 – PTA Clinical Affiliation (12 cr)**

This is a full-time internship of practical performance and appropriate application of physical therapy procedures and techniques under supervision in two selected clinic settings or a physical therapy department associated with the college. This affiliation is sufficient to insure the student has reached the minimum level of competency required for an entry-level physical therapist assistant in the application of physical therapy procedures and the understanding of clinic responsibilities and supervisory relationships prior to graduation. Grading option: Pass/fail. Prerequisite: Grade of 2.0 or better in all PTA courses or permission of instructor. (SFCC)

### **PHYSICS**

#### **PHYS 100 – Introductory Physics (5 cr)**

This course is intended for nonscience majors to provide exposure to the culture of physics-its history, principles, laws, recent developments and societal impacts. Math is minimal and weekly laboratory study is required. Credit is being granted for both PHYS 100 and 115. (SCC, SFCC)

**PHYS 101 – General Physics (5 cr)**

This course is for science and other majors not requiring calculus-level physics. There is an emphasis on mechanics, Newton's Laws of Motion, rotation motion and conservation principles. This course also requires a weekly laboratory. Prerequisite: 2.0 or better in one of the following Math courses: MATH 111, 112, 124, 125, 126, 220, 224, 225, 274. (SCC, SFCC)

**PHYS 102 – General Physics (5 cr)**

For science and other majors not requiring calculus-level physics. Emphasis on wave motion optics, thermodynamics and fluids. Requires weekly laboratory. Prerequisite: PHYS 101. (SCC, SFCC)

**PHYS 103 – General Physics (5 cr)**

For science and other majors not requiring calculus-level physics. Emphasis on electricity, magnetism, relativity and quantum physics. Requires weekly laboratory. Prerequisite: PHYS 101. (SCC, SFCC)

**PHYS 105 – Optics (5 cr)**

Light phenomena with emphasis on aspects encountered in photographic studies. Geometrical, physical and wave optics, photometry, color, and light sources. (SFCC)

**PHYS 108 – Acoustics (5 cr)**

Nonmath approach to basic topics of physics emphasizing the application of these topics to the field of acoustics. Includes mechanics, sound, light and electricity. (SFCC)

**PHYS 120 – Fundamentals of Medical Physics (5 cr)**

This course emphasizes applications of physics in the health science areas for cardiopulmonary and echocardiographic instrumentation. Topics covered include mechanics, fluid statics (Archimedes' and Pascal's Principles), molecular phenomena related to biological processes, elasticity and wave motion, physics of sonographic imaging, and instruments. Prerequisite: MATH 99 or equivalent; PHYS 100 or high school physics. Enrollment is limited to invasive or noninvasive cardiovascular technology students. (SCC)

**PHYS 121 – Medical Physics II (4 cr)**

Advanced applications in medical physics and instrumentation are emphasized in this course. Topics include pressure and energy of flowing fluids in the circulatory system with various medical applications of Poiseuille's Law, Bernoulli Effect, Venturi Effect; AC and DC electric circuits; instrumentation, and safety issues; applications using LASERS; light, nuclear radiation; and other topics in modern physics. Other topics may include Magnetic Resonance Imaging (MRI), Near Infrared (NIR) spectroscopy, Ocular Coherence Tomography (OCT), or Positron Emission Tomography (PET). Prerequisite: PHYS 120 and enrolled in an invasive or noninvasive cardiovascular technology program. (SCC)

**PHYS 200 – Introduction to Einstein's Physics (5 cr)**

Einstein's physics is designed for the non physics major who desires to understand 20th century physics. The course begins with a review of the inadequacies of classical physics, then develops the ideas of relativity (both special and general) and quantum mechanics. The course includes a weekly two-hour laboratory exercise. Algebra is used extensively. Prior knowledge of classical physics is necessary. Prerequisite: MATH 99 and PHYS 100. (SFCC)

**PHYS 201 – Engineering Physics I (5 cr)**

Calculus-level classical physics with emphasis on mechanics. This course is for engineering and physical science majors transferring to four-year institutions. Topics include kinematics, dynamics, gravity, momentum and energy. A weekly laboratory is required. Prerequisite: PHYS 100 or 115 or one year of high school physics and MATH 125 and concurrent enrollment in MATH 126. (SFCC)

**PHYS 202 – Engineering Physics II (5 cr)**

Calculus-level classical electricity and magnetism for physical science and engineering majors. Topics include AC and DC circuits, Gauss' Law, Kirchhoff's Laws and Maxwell's equations. A weekly laboratory is required. Prerequisite: PHYS 201 and MATH 126. (SFCC)

**PHYS 203 – Engineering Physics III (5 cr)**

Calculus-level classical thermodynamics and wave mechanics for physical science and engineering majors. Topics include laws of thermodynamics, thermal properties of matter, mechanical waves, sound and light. A weekly laboratory is required. Prerequisite: MATH 126 and PHYS 201. (SFCC)

**POLITICAL SCIENCE****POLS& 101 – Intro to Political Science (5 cr)**

Formerly POLSC 101. Development of Western political theory and ideology, comparative analysis of contemporary ideologies, examination of political processes with emphasis on the individual's role. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

**POLS 102 – Comparative Government (5 cr)**

Formerly POLSC 102. This is an introductory, interdisciplinary course designed to introduce students to the systematic study of comparative political systems. In an increasingly interdependent world, this course provides students with the conceptual and analytical tools to study political behavior, institutions and processes of various countries across the globe. (SCC)

**POLS 125 – Introduction to Global Issues (5 cr)**

Formerly POLSC 125. This is an introductory, multidisciplinary course designed to introduce the student to pertinent global issues. A goal of this course is to foster and promote understanding, attitudes and skills that enables citizenry in local communities to function humanely in an age of global interdependence. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

**POLS 201 – State and Local Government (5 cr)**

Formerly POLSC 201. Development of an understanding of the structure of state and local government in general, and Washington in particular, including a working knowledge of current issues facing the state and its political subdivisions. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

**POLS& 202 – American Government (5 cr)**

Formerly POLSC 111. The basic course develops an understanding of American politics and political institutions, the philosophies and concepts of American constitutionalism, and the structure and operation of the American form of government. Emphasis is placed on the theories and practice of democracy, pluralism and elitism. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

**POLS& 203 – International Relations (5 cr)**

Formerly POLSC 270. A broad survey of the relations of nations: political, military, economic and cultural, and of the forces for order in the international world. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

**POLS 204 – Political Philosophy (5 cr)**

Formerly POLSC 202. This is an introduction to the basic theories behind political philosophy. Areas of emphasis includes government, state of nature, authority and legitimacy. (SCC)

**POLS 205 – Islam and the West: Theater of Cooperation and Conflict (5 cr)**

Formerly POLSC 203. This introductory, multidisciplinary course introduces students to the systematic study of Islam and the West in world politics. Conceptual and analytical tools to study Global Islam are provided. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

**POLS 280 – Introduction to Modern British Government and Social Services (3 cr)**

Formerly POLSC 280. A two-week introduction to British cultural, economic and political institutions in their historical context. Prerequisite: Only for students in England for the Service Learning in England program. (SFCC)

**PSYCHOLOGY****PSYC& 100 – General Psychology (5 cr)**

Formerly PSYCH 101. A general survey of the following areas of psychology: physiology, sensation/perception, cognition/memory, motivation, learning, development, social, intelligence, personality, mental health and scientific method. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

**PSYC 181 – Psychology Seminar (1-5 cr)**

Formerly PSYCH 181. Seminars provide contemporary depth in a variety of areas and problems, e.g., business, education, and the helping professions. Psychology seminars provide career exploration for both intended psychology majors and those interested in specific seminar topics. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. PSYC& 100 (formerly PSYCH 101) with a 2.0 or better within the last five years or permission of instructor. (SCC, SFCC)

**PSYC 182 – Psychology Seminar (1-5 cr)**

Formerly PSYCH 182. Seminars provide contemporary depth in a variety of areas and problems, e.g., business, education, and the helping professions. Psychology seminars provide career exploration for both intended psychology majors and those interested in specific seminar topics. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. PSYC& 100 (formerly PSYCH 101) with a 2.0 or better within the last five years or permission of instructor. (SCC, SFCC)

**PSYC& 200 – Lifespan Psychology (5 cr)**

Formerly PSYCH 201. A survey of human development from conception through late adulthood. Physical, emotional, cognitive and psychosocial development will be explored. Prerequisite: Must have passed PSYC&

100 (formerly PSYCH 101) with a 2.0 or better within the last five years or permission of instructor. (SCC, SFCC)

#### **PSYC 204 – Research Methods (5 cr)**

Formerly PSYCH 204. The study of the basic data, theory, methodology and attitudes of the social scientist independent of any special area. Prerequisite: PSYC& 100 (formerly PSYCH 101). (SCC, SFCC)

#### **PSYC 210 – Conception through Adolescent Developmental Psychology (5 cr)**

Formerly PSYCH 210. A survey of human development focusing on the physical, mental and emotional/social growth processes from conception through adolescence. Other topics include the history and principles of developmental psychology, childhood education and parenting. Prerequisite: Must have passed PSYC& 100 (formerly PSYCH 101) with a 2.0 or better within the last five years or permission of instructor. SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

#### **PSYC& 220 – Abnormal Psychology (5 cr)**

Formerly PSYCH 215. An introduction to the diagnosis, classification, research and theoretical concepts relating to abnormal and deviant behavior. Prerequisite: PSYC&100 (formerly PSYCH 101) with a 2.0 or better within the last five years or permission of instructor. (SCC, SFCC)

#### **PSYC 250 – Psychology of Adjustment (5 cr)**

Formerly PSYCH 250. Human behavioral, mental and emotional experience are described and analyzed in the context of mental health and psychological growth, with emphasis on issues and problems of personal development and interpersonal relationships. Prerequisite: Must have passed PSYC&100 (formerly PSYCH 101) with a 2.0 or better within the last five years or permission of instructor. (SCC, SFCC)

#### **PSYC 266 – Cooperative Education Seminar (1-2 cr)**

Formerly PSYCH 266. For course description, see Cooperative Education. (SCC, SFCC)

#### **PSYC 267 – Cooperative Education Work Experience (1-18 cr)**

Formerly PSYCH 267. For course description, see Cooperative Education. (SCC, SFCC)

### **RADIOLOGY TECHNOLOGY**

#### **RAD 111 – Radiographic Positioning I (5 cr)**

This course reviews specific anatomy as it appears on x-ray images such as chest and abdomen, upper and lower limbs, shoulder and pelvic girdles, bony thorax, vertebral column, and gastrointestinal systems. Students learn positional techniques used to take appropriate radiographs of each body part based on the physician's request. Correct alignment of radiographic equipment is emphasized. Exposure factors, patient apprehension, safety and comfort are addressed. (SCC)

#### **RAD 112 – Medical Terminology for Radiology I (1 cr)**

This course introduces medical terms and standard medical abbreviations. The language of medicine as it relates to radiology is emphasized. Logical methods for word formations, pronunciation, pluralization and spelling of medical terms are presented. (SCC)

#### **RAD 113 – Patient Care and Ethics I (2 cr)**

Students learn the necessary skills for meeting the physical and emotional needs of the patient. Patient preparation required to perform a radiographic examination is emphasized. (SCC)

#### **RAD 114 – Radiographic Image Evaluation I (2 cr)**

This course introduces essential technical factors used to evaluate radiographic quality including collimation, shielding, positioning, anatomical anomalies, density, contrast and film artifacts in the developed radiograph. Types of images being evaluated build as students' knowledge of positioning grows. (SCC)

#### **RAD 115 – Fuch's Radiographic Principles I (3 cr)**

This course introduces various forms of imaging. Students learn the basic principles of radiographic exposure, formulation of techniques and purpose, and the use of accessories such as grids, screens, collimators, filters and the x-ray tube. (SCC)

#### **RAD 116 – Clinical Education I (7 cr)**

Students learn radiographic positioning, darkroom and office procedures, patient management and critical analysis of radiographs in a clinical setting. Students develop psychomotor skills, cognitive domain and affective behavior in the science of radiographic technology. (SCC)

#### **RAD 121 – Radiographic Positioning II (3 cr)**

This course reviews the anatomy of each body part and system such as GI, respiratory, reproductive and mammography. Students learn positional techniques used to take appropriate radiographs of each body part or system based on the physician's request. Correct alignment of the image receptor

and x-ray tube is emphasized. Exposure factors, patient apprehension, safety and comfort are covered. Prerequisite: RAD 111. (SCC)

#### **RAD 122 – Medical Terminology for Radiology II (1 cr)**

This course continues with the concepts introduced in RAD 112. Students' medical vocabulary is expanded to include medical vernacular pertaining to the positioning class topics. Prerequisite: RAD 112. (SCC)

#### **RAD 123 – Patient Care and Ethics II (2 cr)**

This course continues with the concepts introduced in RAD 113. Students learn the necessary skills for meeting the physical and emotional needs of the patient. Patient preparation required to perform a radiographic examination is emphasized. Potential situations that may lead to litigation are covered. Students also learn to protect themselves and the patient. Prerequisite: RAD 113. (SCC)

#### **RAD 124 – Radiographic Image Evaluation II (2 cr)**

Students build on the skills introduced in RAD 114 and develop radiographic assessment skills based on technical factors such as collimation, shielding, positioning, anatomical anomalies, density, contrast and image artifacts. Prerequisite: RAD 114. (SCC)

#### **RAD 125 – Fuch's Radiographic Principles II (3 cr)**

This course continues with the concepts introduced in RAD 115. Students learn about radiation protection and use of protective devices. Film and film holders are emphasized. Prerequisite: RAD 115. (SCC)

#### **RAD 126 – Clinical Education II (8 cr)**

Students learn radiographic positioning, darkroom and office procedures, patient management and critical analysis of radiographs in a clinical setting. Students continue to develop psychomotor skills, cognitive domain and affective behavior in the science of radiographic technology. Prerequisite: RAD 116. (SCC)

#### **RAD 127 – Mobile/Surgical Procedures (1 cr)**

This course reviews common mobile/surgical procedures using positional techniques to take appropriate radiographs of each body part based on the physician's request. Students review correct alignment of radiographic equipment, exposure factors, patient apprehension, safety and comfort. (SCC)

#### **RAD 131 – Radiographic Positioning III (2 cr)**

Students review the anatomy of the skull and facial bones and positional techniques utilized to take appropriate radiographs based on the physician's request. Correct alignment of image, anatomy and x-ray tube are emphasized. Students prepare for comprehensive tests. Prerequisite: RAD 121. (SCC)

#### **RAD 132 – Radiation Physics (2 cr)**

This course reviews principles and concepts of scientific measurement, molecular theory, matter and energy, and electricity, magnetism and circuitry. Particular emphasis is placed on imaging modalities, x-ray circuitry, and the principles and production of x-rays. (SCC)

#### **RAD 134 – Radiographic Image Evaluation III (2 cr)**

Students continue to develop radiographic assessment skills based on technical factors such as collimation, shielding, positioning, anatomical anomalies, density, contrast and image artifacts. Prerequisite: RAD 124. (SCC)

#### **RAD 136 – Clinical Education III (9 cr)**

This course continues with the development of clinical skills introduced in RAD 126. Prerequisite: RAD 126. (SCC)

#### **RAD 141 – Radiographic Positioning IV (2 cr)**

This course is a review of specific anatomy as it appears on x-ray images such as nervous, biliary arthrography and tomography systems. Students learn positional techniques used to take appropriate radiographs of each body part based on the physician's request. Correct alignment of radiographic equipment is emphasized. Exposure factors, patient apprehension, safety and comfort are addressed. Prerequisite: RAD 131. (SCC)

#### **RAD 144 – Radiographic Image Evaluation IV (1 cr)**

Students continue to develop radiographic assessment skills based on technical factors such as collimation, shielding, positioning, anatomical anomalies, density, contrast and image artifacts. Prerequisite: RAD 134. (SCC)

#### **RAD 145 – Fuch's Radiographic Principles III (2 cr)**

This course continues with the concepts introduced in RAD 125. Students learn about radiation protection and use of protective devices. Film, film holders, processing chemicals, darkroom design and care are emphasized. Prerequisite: RAD 125. (SCC)

#### **RAD 146 – Clinical Education IV (8 cr)**

This course continues with the development of clinical skills introduced in RAD 136. Prerequisite: RAD 136. (SCC)

#### **RAD 211 – Radiographic Positioning V (1 cr)**

This course is a review of specific anatomy as it appears on x-ray images such as chest and abdomen, upper and lower limbs, shoulder and pelvic girdles,

bony thorax, vertebral column and gastrointestinal systems. Students learn positional techniques used to take appropriate radiographs of each body part based on the physician's request. Correct alignment of radiographic equipment is emphasized. Exposure factors, patient apprehension, safety and comfort are addressed. Prerequisite: RAD 141. (SCC)

**RAD 212 – Quality Management (1 cr)**

This course introduces quality assurance programs and techniques used in film quality evaluation, processing and x-ray instrumentation. Students study the theory and practical application of quality assurance. (SCC)

**RAD 213 – Various Modalities (2 cr)**

This course introduces the elements of ultrasound technology principles, nuclear medicine, computerized tomography (CT), magnetic resonance imaging (MRI) and other special procedures. Principles of interventional and angiographic procedures, angiographic equipment and visualized anatomy are addressed. History of development, application and image presentation also are presented. The scope of medical imaging techniques and their correlation is emphasized. (SCC)

**RAD 214 – Radiographic Image Evaluation IV (2 cr)**

This course introduces essential technical factors used to evaluate radiographic quality including collimation, shielding, positioning, anatomical anomalies and density, contrast, and film artifacts in the developed radiograph. Types of images being evaluated build as the students' knowledge of positioning grows. Prerequisite: RAD 134. (SCC)

**RAD 215 – Radiation Biology and Protection (2 cr)**

This course introduces the effects of ionizing radiation on biologic tissue. An overview of pertinent pathological diseases is presented, and the concepts of radiation protection is discussed and emphasized. (SCC)

**RAD 216 – Clinical Education V (9 cr)**

This course continues with the development of clinical skills introduced in RAD 146. Prerequisite: RAD 146. (SCC)

**RAD 223 – Radiation Pathology (2 cr)**

A radiologist discusses disease processes, anomalies and technical factors related to properly completed radiographs. (SCC)

**RAD 224 – Radiographic Image Evaluation V (2 cr)**

This course introduces essential technical factors used to evaluate radiographic quality including collimation, shielding, positioning, anatomical anomalies and density, contrast, and film artifacts in the developed radiograph. Types of images being evaluated build as the students' knowledge of positioning grows. Prerequisite: RAD 214. (SCC)

**RAD 225 – Skull and GI Review (1 cr)**

This course reviews the positional techniques utilized when taking radiographs of the skull and GI system based on the physician's request. (SCC)

**RAD 226 – Clinical Education VI (9 cr)**

This course continues with the development of clinical skills introduced in RAD 216. Prerequisite: RAD 216. (SCC)

**RAD 235 – Pharmacology/Venipuncture (1 cr)**

Students learn safe administration of pharmaceuticals including clinical experience in needle placement. Needle insertion and contrast media injection, and principles of pharmacological agents used in a radiology department are emphasized. (SCC)

**RAD 236 – Clinical Education VII (9 cr)**

This course continues with the development of clinical skills introduced in RAD 226. Prerequisite: RAD 226. (SCC)

**RAD 237 – Review and Registration Preparation (3 cr)**

Students review all the material covered in previous radiology technology courses in preparation of the ARRT examination which may be taken on or after the day of graduation from the program. (SCC)

## REAL ESTATE

**RE 105 – Real Estate Mathematics (3 cr)**

Develop proficiency in understanding and solving mathematical problems in real estate. Prerequisite: RE 171 or permission of real estate coordinator. (SFCC)

**RE 171 – Washington Real Estate Fundamentals (5 cr)**

This is a survey of the entire field of real estate. A prerequisite to all real estate courses. Covers the main areas in the real estate industry, opportunities in the field, economics, ownership, interests and instruments, transfer of property, financing, methods of evaluations, brokerage and administration, and professional practices. (60 clock hours.) (SFCC)

**RE 271 – Real Estate Appraisal (3 cr)**

Principles and techniques used in determining the value of real property. Prerequisite: RE 171 or real estate license or permission of instructor. (SFCC)

**RE 275 – Real Estate Law (3 cr)**

Principles of law governing the interests in real estate, including acquisition, encumbrance, transfer, rights and obligations of parties, and Washington state regulations. Prerequisite: RE 171; Real estate license or permission of real estate coordinator. (SFCC)

**RE 278 – Real Estate Property Management (3 cr)**

Important functions in building management, property analysis, equipment, rental policies, surveys, lease provisions, inspections, building codes, tenant relations, operating policies and financial result analysis. Prerequisite: RE 171. (SFCC)

## RESPIRATORY CARE

**RT 110 – Physical Science for Respiratory Care (3 cr)**

This introductory course applies physical sciences to cardiopulmonary physiology, respiratory care equipment and operation, and application of physical laws to mechanical and physiological measurements. Prerequisite: Admission in program. (SCC)

**RT 111 – Respiratory Care Fundamentals I (3 cr)**

This is the first in a series of four-quarter courses introducing respiratory care fundamentals. Students learn the respiratory care profession, cover pulmonary anatomy and physiology, patient assessment, respiratory disease states, fundamentals of oxygen theory, and cardiopulmonary resuscitation. Prerequisite: Admission in program. (SCC)

**RT 112 – Pharmacology and Medical Terminology I (1 cr)**

This is first in a series of three courses on pharmacology and medical terminology. General pharmacological principles, drug classification, computations, routes of deliver and respiratory medications are emphasized. Word construction, definitions and use of terms related to medical science, hospital service and allied health specialties are covered. Prerequisite: Admission in program. (SCC)

**RT 120 – Respiratory Care Fundamentals II (4 cr)**

This is the second in a series of four-quarter courses introducing respiratory care fundamentals. Arterial blood gas interpretations, humidity and aerosol therapy, oxygen analyzer, pulse oximetry, airway maintenance and secretion management, patient assessment, and manual resuscitation are emphasized. Work ethics and professionalism also are covered. A CPR instructor course is included. Prerequisite: Completion of previous quarter. (SCC)

**RT 130 – Fundamentals of Spirometry and Blood Gas Analysis (3 cr)**

This is first in a series of three courses applying the technique of spirometry and blood gas analysis in the diagnosis of cardiopulmonary dysfunction. Prerequisite: Completion of previous quarter. (SCC)

**RT 131 – Cardiopulmonary Anatomy and Physiology (1 cr)**

This course introduces cardiopulmonary anatomy and physiology. The structure and function of the cardiopulmonary system are emphasized. Prerequisite: Completion of previous quarter. (SCC)

**RT 132 – Respiratory Care Fundamentals III (4 cr)**

This is the third in a series of four-quarter courses introducing respiratory care fundamentals. Hyperinflation therapy, chest physiotherapy, introduction to positive pressure ventilators, a seven-hour special unit on AIDS related education, as required by state law, and infection control are emphasized. Prerequisite: Completion of previous quarter. (SCC)

**RT 133 – Pharmacology and Medical Terminology II (3 cr)**

This course is second in a series of three on pharmacology dealing with principles of mucolytics, antiasthmatics, antimicrobials, anti-inflammatory agents, surface-active and special applications. The medical terminology portion includes laboratory assessment values associated with the cardiopulmonary system. A written report on a specific drug is required. Prerequisite: Completion of previous quarter. (SCC)

**RT 134 – Respiratory Care Clinical I (1 cr)**

Students observe the role of the respiratory care practitioner in the acute care environment while applying didactic and psychomotor skills at the bedside during administration of fundamental respiratory care skills. Prerequisite: Completion of previous quarter. (SCC)

**RT 140 – Respiratory Care Fundamentals IV (2 cr)**

This is the final course in a series of four covering the psychosocial stages of development from infant to geriatrics, a foundation describing the unique requirements of the pediatric patient and pediatric disorders, and the classification, theory and operation of adult acute care ventilators. Prerequisite: Completion of previous quarter. (SCC)

**RT 141 – Medical/Surgical Respiratory Care (1 cr)**

This is an overview course of the medical/surgical problems related to respiratory disease, including the etiology, course therapy and prognosis. Prerequisite: Completion of previous quarter. (SCC)

**RT 142 – Computer Applications for Respiratory Care (1 cr)**

This course introduces fundamental applications of microcomputers, patient management and simulated scenarios. Basic technical writing applied to report preparation, resume writing and cover letters are covered. Prerequisite: Completion of previous quarter. (SCC)

**RT 143 – Respiratory Care Clinical II (5 cr)**

This course continues with the concepts presented in RT 134 with emphasis on specific therapeutic techniques including oxygen, humidity and aerosol therapy, airway management, hyperinflation, and chest physiotherapy with additional exposure to pediatrics, the surgical environment and the infection control process. Prerequisite: Completion of previous quarter. (SCC)

**RT 210 – Critical Care I (6 cr)**

This course introduces all aspects of the adult critically ill patient in need of life support systems, including hemodynamic monitoring, cardiopulmonary assessment and ventilator management. Prerequisite: Completion of previous quarter. (SCC)

**RT 211 – Advanced Cardiac Life Support (2 cr)**

This is the third in a series of cardiopulmonary pharmacology and advanced cardiac life support courses. Content areas include the principles and techniques of advanced emergency cardiac care. Prerequisite: Completion of previous quarter. (SCC)

**RT 212 – Respiratory Care Clinical III (5 cr)**

This course continues with the concepts presented in RT 143 with emphasis on the critically ill adult patient. Team management skills, maintenance and withdrawal of life support, cardiopulmonary assessment, and hemodynamic monitoring are emphasized. Prerequisite: Completion of previous quarter. (SCC)

**RT 213 – Pulmonary Volumes, Diffusion and Instrumentation (3 cr)**

This advanced course introduces pulmonary diagnostics relating to measurement and assessment of flow volume loops, lung volumes, distribution and diffusion. Prerequisite: Completion of previous quarter. (SCC)

**RT 214 – Pulmonary Diagnostics Clinical I (1 cr)**

Students assist in the evaluation of patients with pulmonary disease including pulmonary function testing and arterial blood gas analysis in hospital and private practice laboratories. Prerequisite: Completion of previous quarter. (SCC)

**RT 215 – Cardiopulmonary Pathophysiology (1 cr)**

The pathophysiology of cardiopulmonary diseases including obstructive, restrictive, vascular and lung injuries are presented in this course. Prerequisite: Completion of previous quarter. (SCC)

**RT 220 – Critical Care II (5 cr)**

This course continues with the concepts in RT 210 emphasizing advanced mechanical ventilator applications and nonconventional approaches to patient management in critical care settings with an introduction to the sub-acute, skilled nursing, home and rural areas. Interviewing skills and job market analysis are presented. Prerequisite: Completion of previous quarter. (SCC)

**RT 221 – Perinatal Respiratory Care (3 cr)**

This course emphasizes pediatric and neonatal respiratory care dealing with the pathophysiology, disease status and assessment of the newborn and pediatric patients including therapeutic procedures, resuscitation and mechanical ventilation. Literature review leading to written reports and oral discussion of current and advanced developments also is included. Prerequisite: Completion of previous quarter. (SCC)

**RT 222 – Respiratory Care Clinical IV (4 cr)**

This course continues with the concepts presented in RT 212 with the addition of pediatric and neonatal intensive care settings and an observation in an alternative site. Students observe and assist in patient assessment with pulmonologist and the program's medical director. Prerequisite: Completion of previous quarter. (SCC)

**RT 223 – Advanced Pulmonary Diagnostics (4 cr)**

This course introduces specialized diagnostic procedures including radiographic, bronchoscopies, polysomnography, pulmonary stress testing and exercise physiology. Prerequisite: Completion of previous quarter. (SCC)

**RT 224 – Advanced Pulmonary Diagnostics Clinical II (1 cr)**

This course continues with the applications introduced in RT 214. Students assist in the evaluation of patients with pulmonary disease and disorders in hospital and private practice laboratories including the sleep lab, bedside and outpatient bronchoscopy, and pulmonary stress testing. Prerequisite: Completion of previous quarter. (SCC)

**RT 230 – Current Trends in Respiratory Care (2 cr)**

This course explores current concepts in respiratory care and health care delivery with student presentations and discussions of cardiopulmonary patient case studies involving diagnostic and therapeutic modalities. Prerequisite: Completion of previous quarter. (SCC)

**RT 231 – Patient Management and Problem Solving (3 cr)**

This course introduces the application of respiratory care practices and procedures leading to patient problem solving including computer applications with clinical simulations based on entry and advanced national board exams. Prerequisite: Completion of previous quarter. (SCC)

**RT 232 – Sub-Acute/Rehabilitation Respiratory Care (2 cr)**

This course introduces the application of principles of respiratory care to patients being managed in sub-acute, extended and skilled nursing facilities, rural and home care. Smoking cessation and wellness concepts are shared with the local community. Prerequisite: Completion of previous quarter. (SCC)

**RT 233 – Fundamentals of Management in Health Care (2 cr)**

This course introduces organizational structure, job descriptions and evaluation, employee benefits, reimbursement, budgeting, scheduling, and other management skills required for employment in the health care industry. Prerequisite: Completion of previous quarter. (SCC)

**RT 234 – Respiratory Care Clinical V (5 cr)**

Students transition from student practice to that of a respiratory care practitioner. Added clinical practice in the sub-acute, home care and optional rural environments is offered. Prerequisite: Completion of previous quarter. (SCC)

**RUSSIAN****RUSS& 121 – Russian I (5 cr)**

Formerly RUSSN 101. This course prepares students to be proficient in Russian sound and writing systems, to carry on a conversation in Russian using everyday vocabulary, and to discuss routine, daily activities. (SCC, SFCC)

**RUSS& 122 – Russian II (5 cr)**

Formerly RUSSN 102. This course prepares students to be proficient in Russian sound and writing systems, to carry on a conversation in Russian using everyday vocabulary, and to discuss routine, daily activities. Prerequisite: RUSS& 121 (formerly RUSSN 101) is required. (SCC, SFCC)

**RUSS& 123 – Russian III (5 cr)**

Formerly RUSSN 103. This course prepares students to be proficient in Russian sound and writing systems, to carry on a conversation in Russian using everyday vocabulary, and to discuss routine, daily activities. Prerequisite: RUSS& 122 (formerly RUSSN 102) is required. (SCC, SFCC)

**SALISH****SAL 101 – Salish I (5 cr)**

Interior Salish Language and Culture focuses on Nselxcin language traditionally spoken by the Aboriginal people of North Central and Eastern Washington and Southern British Columbia. Students learn to speak and understand basic Salish and are introduced to the International Phonetic Alphabet. The course consists of a variety of communicative lessons, each with a core vocabulary, phrases and usage information. Course materials are supplemented with songs, traditional stories and other cultural teachings. (SCC, SFCC)

**SAL 102 – Salish II (5 cr)**

A continuation of Salish 101, this course, focuses on Nselxcin language traditionally spoken by the Aboriginal people of North Central and Eastern Washington and Southern British Columbia. Students learn to speak and understand basic Salish and are introduced to the International Phonetic Alphabet. The course consists of communicative lessons, each with a core vocabulary, phrases and usage information. Course materials are supplemented with songs, traditional stories and other cultural teachings. Prerequisite: SAL 101. (SCC, SFCC)

**SAL 103 – Salish III (5 cr)**

Students use the foundation of language acquired in Salish 101 and 102 in order to study and memorize traditional plateau stories written and recorded in the Nselxcin language. This Interior Salish Language and Culture course focuses on Nselxcin language traditionally spoken by the Aboriginal people of North Central and Eastern Washington and Southern British Columbia. In Salish 103 Students increase their proficiency in reading and writing using the International Phonetic Alphabet. The course consists of a variety of literature lessons, each with a core vocabulary and narrative phrases, as well as usage and grammatical information. Course materials are supplemented with songs and other cultural teachings. Prerequisite: SAL 101,102. (SCC, SFCC)



## SMALL BUSINESS MANAGEMENT

### SBM 101 – How to Start a Small Business (5 cr)

This course offers an interesting and realistic look at the scope and trends of small business, the role and future of small business in our economy, and the advantages and disadvantages of owning a business. The main causes for business failure and success, the importance of preparing a business plan, and resources that are available to help the small business owner succeed also are addressed. The class is based on current information and hands-on participation by the student. (SCC-telecourse only) (SCC, SFCC)

### SBM 105 – Targeting Your Market (2 cr)

Introduces students to marketing by examining marketing problems facing the small business owner today. Helps the small business owner better understand how to afford marketing research, select a great location, determine methods of pricing goods and services for profit, and understand customer buying habits. (SFCC)

### SBM 267 – Cooperative Education Work Experience (1-18 cr)

For course description, see Cooperative Education. (SFCC)

## SOCIAL SERVICES

### HSSOC 115 – Social Policy (5 cr)

This is an introductory course that is policy-oriented. It attempts to instill systematic habits of analysis and inquiry that will increase students' awareness and objectivity. The focus is on current issues and problems in social work. (SFCC)

### HSSOC 176 – Counseling Techniques (5 cr)

Various approaches to the treatment of chemical dependency are addressed in this course. Students are exposed to basic counseling skills, strategies employed in chemical dependency treatment, counseling techniques used in addressing treatment needs, and techniques used for removing blocks to recovery. Specific techniques are demonstrated and practiced that are appropriate for a variety of populations suffering from chemical dependency. (SFCC)

### HSSOC 221 – Treatment Theories in Human Services (5 cr)

Concepts, theories and practices regarding social work treatment are covered in this course. Focus is on the constructs, underlying principles, theories, practices and desired outcomes of several contemporary treatment modalities. Prerequisite: HSSUB 176. (SFCC)

### HSSOC 279 – Case Management (3 cr)

This course prepares students to function effectively as case managers in state-approved chemical dependency treatment programs. It includes detailed instruction in a systemized, uniform problem-oriented recording system approved by DASA, as well as methods and strategies employed in intervention, assessment, intake, treatment planning and case supervision in a variety of treatment settings. (SFCC)

## SOCIOLOGY

### SOC& 101 – Intro to Sociology (5 cr)

Formerly SOC 101. Basic concepts and theories of sociology with an emphasis on the group aspects of human behavior. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

### SOC 175 – Sociology of Gender (5 cr)

Sociology of Gender examines the changing views of gender in modern society and explores the available research on the social and institutional pressures that shape women and men and their roles in society. This course directly confronts the myths, misconceptions and stereotypes surrounding nearly every aspect of gender, including work, education, sexuality, politics, economics, marriage, family, crime and spirituality. This course also includes a cross-cultural perspective on gender. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SFCC)

### SOC& 201 – Social Problems (5 cr)

Formerly SOC 240. Social problems have existed in societies throughout time. We live in an increasingly connected world where the social problems experienced in one nation are influenced by events in other parts of the world. This class explores social problems in the U.S. as well as examines social problems on a global scale. Topics covered include: globalization, world economy and world poverty, human rights, population growth and environmental destruction, race and gender, crime, war and terrorism. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

### SOC 211 – Marriage and the Family (5 cr)

A sociological analysis of the institution of the family including historical and cross-cultural variations of the family structure and mate selection processes; the modern family institution with regard to the sexual, reproductive, economic and socialization function; newly emerging lifestyles,

alternate living patterns, family disorganization, and changing definitions of family. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

### SOC 221 – Race and Ethnic Relations (5 cr)

We are a society unprecedented in its diversity of color, class, and cultural origin that reflects the fundamental ethnic and racial composition as well as stratification of the United States population. This class offers a comprehensive examination of race relations that commences with an appreciation of diversity in the United States and seeks to understand these relations through a historically grounded comparative analysis of several dominant/minority global patterns. Prerequisite: SFCC recommended minimum reading placement score: COMPASS 80, ASSET 40. (SCC, SFCC)

### SOC 250 – Sociology of Religion (5 cr)

A sociological analysis of the individual forces, the cultural systems and the social structures that, in interaction, shape religion and are shaped by it. Establishes a powerful frame of reference to understanding the definition of religion, the functions of religions, aspects of religions and probable future. (SCC)

### SOC 261 – Crime and Justice (5 cr)

Explores the phenomenon of crime; considers its causes, theories of prevention and the institutional means employed to combat it, including police, courts and corrections. Crime is interpreted as an American paradox; it is feared and deplored, yet persists and grows. The course examines that paradox by focusing on cultural contradiction in American society regarding crime, justice and punishment. (SCC, SFCC)

### SOC 266 – Cooperative Education Seminar (1-2 cr)

For course description, see Cooperative Education. (SCC)

### SOC 267 – Cooperative Education Work Experience (1-18 cr)

For course description, see Cooperative Education. (SCC)

## SPANISH

### SPAN 105 – Spanish for Social Workers (2 cr)

Students are provided with the basic grammar and vocabulary necessary to interpret documents, ask the most frequently asked questions in the social service profession, and to understand the answers to those questions. (SCC, SFCC)

### SPAN 107 – Business Spanish (4 cr)

An introductory course designed for students preparing for a career in business. Upon completion, students are able to handle the most common situations that they encounter in Spain and be familiar with its government, economy and recent history. (SCC, SFCC)

### SPAN& 121 – Spanish I (5 cr)

Formerly SPAN 101. These courses are an introduction to the Spanish language, traditions and culture using the most modern methods of language learning with emphasis on oral communication. Students complete lab assignments outside of scheduled class times. (SCC, SFCC)

### SPAN& 122 – Spanish II (5 cr)

Formerly SPAN 102. These courses are an introduction to the Spanish language, traditions and culture using the most modern methods of language learning with emphasis on oral communication. Students complete lab assignments outside of scheduled class times. Prerequisite: SPAN& 121 (formerly SPAN 101) or permission of instructor. (SCC, SFCC)

### SPAN& 123 – Spanish III (5 cr)

Formerly SPAN 103. These courses are an introduction to the Spanish language, traditions and culture using the most modern methods of language learning with emphasis on oral communication. Students complete lab assignments outside of scheduled class times. Prerequisite: SPAN& 122 (formerly SPAN 102) or permission of instructor. (SCC, SFCC)

### SPAN& 221 – Spanish IV (5 cr)

Formerly SPAN 201. Intensive review plus emphasis on Spanish culture and the idiomatic usage of the language, both oral and written. Prerequisite: Two years of high school Spanish or one complete year of college Spanish or permission of instructor. (SCC, SFCC)

### SPAN& 222 – Spanish V (5 cr)

Formerly SPAN 202. This course places emphasis on the composition and discussion of contemporary and cultural issues, with increasingly difficult idioms and structural concepts. Prerequisite: SPAN& 221 (formerly SPAN 201) or permission of instructor. (SCC, SFCC)

### SPAN& 223 – Spanish VI (5 cr)

Formerly SPAN 203. This course places continued emphasis on the composition and discussion of contemporary issues as well as Hispanic and Latin American culture, with increasingly difficult vocabulary and structural concepts. Prerequisite: SPAN& 221, 222 (formerly SPAN 201, 202) or permission of instructor. (SCC, SFCC)

**SPAN 241 – Spanish Conversation and Culture (2 cr)**

Students increase their vocabulary, improve their speaking ability, and gain more confidence in using previously studied grammatical concepts. Conducted in Spanish. Prerequisite: Two years of college-level Spanish (SPAN 203) or equivalent. (SCC, SFCC)

**SPAN 242 – Spanish Conversation and Culture (2 cr)**

Students continue to develop their fluency in Spanish by participating in small group discussions that focus on a wide variety of topics in Hispanic culture. Conducted in Spanish. May be taken without SPAN 241 as a prerequisite. Prerequisite: Two years of college-level Spanish (SPAN 203) or equivalent. (SCC, SFCC)

**SPAN 266 – Cooperative Education Seminar (1-2 cr)**

For course description, see Cooperative Education. (SCC, SFCC)

**SPAN 267 – Cooperative Education Work Experience (1-18 cr)**

For course description, see Cooperative Education. (SCC, SFCC)

**SURGICAL TECHNOLOGY****SURG 100 – Introduction to Surgical Technology (2 cr)**

This course introduces the roles of the surgical technologist emphasizing the surgical environmental and procedural safety concerns. (SCC)

**SURG 101 – Surgical Procedures (5 cr)**

This course is an introduction to the knowledge and techniques essential to the surgical technologist in preparation of the patient for major or minor surgical procedures. Expertise in preparation/utilization of equipment and supplies, sterilization/disinfection, aseptic techniques, robotics, and duties of the surgical technologist and assistant circulator are emphasized. Health care provider CPR is included. Prerequisite: SURG 100, 120, 125. (SCC)

**SURG 104 – Central Service Clinical (1 cr)**

This clinical rotation allows students the opportunity to develop performance competencies appropriate to central service units. (SCC)

**SURG 105 – Blood-borne Pathogens and HIV/AIDS (1 cr)**

Students are introduced to current information on blood-borne pathogens with an emphasis on HIV/AIDS education utilizing the 7-hour Washington State curriculum. This course is offered online only. (SCC)

**SURG 107 – Surgical Environment (3 cr)**

Students learn the skills required for the physical environment (working condition) of the operating room. Understanding the basic patient and staff safety issues are emphasized. Prerequisite: Successful completion of first quarter coursework and concurrent enrollment in SURG 100, 125. (SCC)

**SURG 111 – Technical Skills I (4 cr)**

This course provides practical applications for performing the duties of a circulating assistant and scrub technician in a simulated operating room. Duties include patient preparation, equipment and supplies preparation, instrumentation, sterilization/disinfection practices, and aseptic techniques. Prerequisite: Concurrent enrollment in SURG 101. (SCC)

**SURG 120 – Disease Transmission and Control (3 cr)**

This course introduces students to basic microbiology theory including discussion of pathogenic microorganisms. Methods of transmission, identification of microorganisms in the operating room, and growth control and practices in the operating room are emphasized. (SCC)

**SURG 125 – Medical Terminology (5 cr)**

This course introduces the structure of medical terms associated with all bodily functions emphasizing the study of root, prefixes, suffixes and eponyms. Abbreviations and correct spelling of all terms are covered. (SCC)

**SURG 132 – Ethics and Professionalism in Health (2 cr)**

Students develop and use communication skills in relationship to health professionals while being introduced to various medical ethical issues. Medical and moral decision-making processes in health and employer-employee relationships are presented. Interactions with nursing personnel, hospital employees, patients and visitors are emphasized. (SCC)

**SURG 202 – Surgical Procedures (6 cr)**

This course continues with the concepts introduced in SURG 101 with emphasis on advanced preparation and utilization of electrical equipment and lasers. Supplies necessary for specific specialties and various surgical procedures are included. Prerequisite: SURG 101 and concurrent enrollment in SURG 212, 254. (SCC)

**SURG 203 – Surgical Procedures (4 cr)**

This course continues with the concepts introduced in SURG 202 with emphasis on advanced preparation and utilization of equipment. Supplies necessary for specific advanced specialties and various surgical procedures are included. An introduction of physics is presented. Prerequisite: SURG 202, 212 and concurrent enrollment in SURG 132, 206, 213, 255. (SCC)

**SURG 206 – Perioperative Care of the Patient (4 cr)**

Students learn the skills required for preoperative, intraoperative and

postoperative phases of the surgical patient. Understanding the patient's pharmacologic, ethical, anesthetic, wound healing and other related nursing needs are emphasized. Prerequisite: Successful completion of fourth-quarter coursework and concurrent enrollment in SURG 203, 255. (SCC)

**SURG 212 – Technical Skills II (4 cr)**

This course continues with the applications introduced in SURG 111. Duties include patient preparation, equipment and supplies preparation, sterilizing practices, and disinfection and aseptic techniques. Prerequisite: Successful completion of SURG 101, 111 and concurrent enrollment in SURG 202. (SCC)

**SURG 250 – Surgical Seminar (3 cr)**

This weekly conference is based on discussion from the students' operating room experience in the form of case studies. Students also review for preparation for the national certification test. Prerequisite: SURG 255. (SCC)

**SURG 254 – Operating Room Practicum (2 cr)**

This course provides surgical technology students with actual experience in the operating room. In this pre-arranged practicum, students learn teamwork, flexibility, organization, and economy in time, motion and materials. Preparation of all supplies and equipment used for surgical procedures in the operation room is included. Prerequisite: SURG 101, 104, 111 and concurrent enrollment in SURG 202, 212. (SCC)

**SURG 255 – Operating Room Practicum (5 cr)**

This course provides surgical technology students with actual experience in the operating room. In this pre-arranged practicum, students learn teamwork, flexibility, organization, and economy in time, motion and materials. Preparation of all supplies and equipment used for surgical procedures in the operation room is included. First and second scrubbing procedures under the supervision of operating room personnel or instructor are emphasized. Prerequisite: SURG 202, 212, 254 and concurrent enrollment in SURG 132, 203, 206. (SCC)

**SURG 256 – Operating Room Practicum (10 cr)**

Students gain clinical experience in affiliated hospital operating rooms assisting the circulator, and shadowing anesthesia and maternity technicians. Prerequisite: SURG 132, 203, 206, 255 and concurrent enrollment in SURG 250. (SCC)

**VASCULAR TECHNOLOGY****VASC 112 – Vascular Fundamentals (4 cr)**

This course is an introduction to basic vascular anatomy of the lower and upper extremities, abdomen, visceral organs and cerebral vasculature with emphasis on the physiology of these systems. An introduction to the concepts essential for the performance and interpretation of vascular exams is also included. Laboratory experience is required. (SCC)

**VASC 122 – Vascular Procedures (4 cr)**

This course introduces students to the basic vascular procedures used to assess the lower and upper extremities, abdomen, visceral organs and cerebral vasculature with emphasis on the ultrasonic examinations of these systems. Instrumentation commonly used in the vascular laboratory is also presented. Laboratory experience is required. (SCC)

**VASC 132 – Cardiovascular Physiology (5 cr)**

This course is an advanced study of normal cardiovascular physiology and the effects of pathology. It is presented in a series of physician lecture and lab demonstrations with applications in vascular, invasive and noninvasive cardiology. (SCC)

**VASC 143 – Noninvasive Cardiovascular Clinical Observation (6 cr)**

Students are introduced to the clinical environment by spending four weeks in the clinical setting under the direction of a staff technologist. Weekly clinical seminars are conducted with SCC staff. A clinical consciousness is developed that emphasizes professionalism, clinical rapport, medical ethics and patient care. (SCC)

**VASC 252 – Advanced Vascular Techniques (9 cr)**

This course uses the fundamentals presented in the first year of vascular technology to evaluate acquired vascular disease states. The incorporation of all forms of vascular testing performance and interpretation of ultrasonic, Doppler and plethysmographic examinations is presented. Related physician lectures and laboratory experiences are provided. (SCC)

**VASC 262 – Vascular Clinical I (13 cr)**

Students practice clinical skills previously developed through active participation in a vascular laboratory. This course is a full-time clinical internship and is completed in an affiliated local or out-of-town hospital, clinic, or physician's office. Emphasis of this course is on the clinical skills necessary for the performance and evaluation of the vascular procedures. Written reports, review of current literature and attendance at conferences are required. (SCC)

*See program/course abbreviation key on page 143.*

**VASC 272 – Vascular Clinical II (13 cr)**

This course is a continuation of VASC 262 and includes a full-time clinical internship and is completed in an affiliated local or out-of-town hospital, clinic, or physician's office. Emphasis of this course is on the clinical skills necessary for the performance and evaluation of the vascular procedures. Written reports, review of the current literature and attendance at conferences are required. (SCC)

**VISION CARE****VCT 110 – Ophthalmic Optics (5 cr)**

This course introduces the study of light and its properties emphasizing refraction of prisms, characteristics of ophthalmic lenses, correction of refractive errors, and practical verification and manufacturing of ophthalmic lens prescriptions. Students learn necessary skills for the setup and manufacturing of optical prescriptions. Prerequisite: ASSET math-passing score. (SCC)

**VCT 111 – Ocular Anatomy and Physiology (5 cr)**

This course introduces structure and function of the human eye, binocular vision as it relates to orthoptics, and ocular pharmacology. Students review symptoms relating to common ocular disorders. (SCC)

**VCT 112 – Introduction to Pretesting (4 cr)**

Students learn to perform professional techniques of setting up, administering and recording specialized visual tests: instrumentation of ocular mobility, external ocular examination, color testing, peripheral and central visual field testing stereo depth perception, visual acuities and glaucoma. (SCC)

**VCT 123 – Ophthalmic Dispensing (5 cr)**

This course introduces the selection of eyewear with emphasis on fashion, consideration of facial shapes and types of frames. Students learn to adjust eyewear for comfort and repair ophthalmic frames. Prerequisite: VCT 110. (SCC)

**VCT 124 – Ocular Pharmacology (2 cr)**

Students learn to use pharmaceutical agents prescribed in the treatment of certain ocular conditions. (SCC)

**VCT 125 – Advanced Pretesting (6 cr)**

This course continues with the concepts introduced in VCT 112 with emphasis on advanced theory and procedures involved in setting up, administering and recording a variety of specialized visual tests. Prerequisite: VCT 112. (SCC)

**VCT 126 – Contact Lenses (5 cr)**

This course introduces the basic theory of contact lenses including verification, instrumentation and modification, and removal and hygiene-related usage. Prerequisite: VCT 110 or permission of instructor. (SCC)

**VCT 130 – Mechanical Optics (3 cr)**

This course presents practical applications in filling optical prescriptions with emphasis on cutting and edging ophthalmic lenses to ANSI standards. Prerequisite: VCT 110, 123. (SCC)

**VCT 137 – Vision Care Specialties (2 cr)**

This course introduces various specialties offered by many eye care professionals with emphasis on the background and theory in fundus photography, computerized vision testing, in-office surgical assistance, new research areas, sports vision, nutritional vision, vision therapy or orthoptics training, low vision, occupational and safety dispensing, and office management. One area of expanded learning is selected by the student and approved in conjunction with his/her on-site clinical supervisor and program director. Prerequisite: VCT 125. (SCC)

**VCT 138 – Vision Care Practicum (6 cr)**

This course offers practical applications in various office procedures at worksites such as ophthalmology and optometry offices, optical shops or the SCC clinic. Prerequisite: Successful completion of first and second quarter VCT courses. (SCC)

**VCT 139 – Ophthalmic Business Management (4 cr)**

Students learn public relations duties, patient handling and control, appointment scheduling, telephone and mail procedures, professional grooming, and optometric financial systems. (SCC)

**WATER RESOURCES TECHNOLOGY****WATER 109 – Introduction to Water Resources (5 cr)**

This course introduces the fundamentals of field hydrology and the various components of the hydrologic cycle with an emphasis on runoff and hydrologic measurements, basic computational techniques, and water rights doctrines. (SCC)

**WATER 110 – Hydrogeology (5 cr)**

Students study the basic geologic framework and hydrology of aquifers. Geologic factors such rock type, structure, geomorphology and geologic environments are introduced. Groundwater terminology, basic principles of groundwater flow, practical application of geologic maps and aerial photos, and basic computational skills are emphasized. (SCC)

**WATER 111 – Groundwater Systems (5 cr)**

Students review the principles of groundwater flow. Hydrologic parameters associated with confined and unconfined aquifers are introduced. Interpretation of well log data as a tool for understanding aquifers is presented. Quantitative and qualitative groundwater resource problems are discussed. Practical applications and basic computational skills are emphasized. (SCC)

**WATER 120 – Hydrologic Technical and Field Reports (5 cr)**

This course introduces the fundamental techniques of gathering, organizing and presenting technical hydrologic information in written and verbal form. Research of employment opportunities and various job descriptions particular to the water resources career field is conducted. Students learn to complete job application forms and resumes. (SCC)

**WATER 128 – Occupational Preparation and Experience (1-10 cr)**

This practical course assists students in pursuing careers in water resources. Students learn to complete employment applications, resumes and employment portfolios. Faculty assist students in making employer contacts, interviewing and follow-up. Students are required to evaluate their work experiences and submit comprehensive written and oral reports. (SCC)

**WATER 129 – Occupational Preparation and Experience (1-10 cr)**

This practical course assists students in pursuing careers in water resources. Students learn to complete employment applications, resumes and employment portfolios. Faculty assist students in making employer contacts, interviewing and follow-up. Students are required to evaluate their work experiences and submit comprehensive written and oral reports. (SCC)

**WATER 131, 132, 133, 231, 232, 233 – Hydrologic Field Projects (1-3 cr ea)**

This course provides practical experience that allows students to gain additional knowledge in a special topic of interest in water resource management. Guidance from the water resource instructors is provided to help students maximize their projects. (SCC)

**WATER 205 – Surveying (5 cr)**

This course introduces principles of operation of levels, transits, theodolites and electronic measuring devices. Computational techniques are emphasized. Prerequisite: NATRS 122. (SCC)

**WATER 207 – Weather and Climate (5 cr)**

This course introduces the descriptive treatment of meteorological and climatological phenomena including winds, weather fronts, air masses, clouds, temperature and precipitation. Basic computations, weather map analysis, forecasting and instrumentation techniques are emphasized. (SCC)

**WATER 208 – Water Data and Records Analysis (5 cr)**

Students learn basic computation and tabulation techniques, diagrammatic presentation and interpretation of hydrologic data. Analyzing water level recorder charts and state-discharge relationships are emphasized. Students learn basic computer processing of records. (SCC)

**WATER 209 – Water Quality (5 cr)**

This course introduces geologic and drainage basin characteristics. Students learn how man's influence through management activities impact water quality, timing and quantity of flow. Students study ecologic characteristics from a limnological viewpoint combining aspects of water quality and biology. Water quality field sampling and laboratory procedures are practiced. (SCC)

**WATER 210 – Hydrologic Measurement (5 cr)**

This course offers practical experience in the fundamentals of streamflow measurement with emphasis on discharge and stage monitoring. The use, care and maintenance of various instruments and equipment are stressed. (SCC)

**WATER 212 – Water Rights and Laws (5 cr)**

Students to gain a basic understanding of the water rights doctrines and learn practical applications in water management. Water quality regulations that govern the use of water in the western states is emphasized such as the Clean Water Act, Washington State Forest Protection Act and Spokane County regulations. (SCC)

**WATER 213 – Advanced Water Quality (5 cr)**

This course emphasizes basic techniques of field water quality monitoring and sampling. Laboratory analyses of field samples are conducted with a follow-up of data interpretation and recommendations. (SCC)

**WATER 214 – Advanced Hydrologic Records (5 cr)**

Students gain practical experience and develop skills in streamflow measurements, records management and surveying. Instrument and equipment maintenance are emphasized. Various standard computational techniques such as data processing and spread sheets are introduced. (SCC)

**WATER 216 – Watershed Restoration (5 cr)**

Students are given the opportunity to analyze stream corridor processes and characteristics and then apply this knowledge in a final restoration project. (SCC)

**WATER 218 – Hazardous Materials (3 cr)**

Students study hazardous materials regulations, terminology, identification systems, shipping and storage containers, incident command systems and basic analysis, information resources, chemical protective clothing, and decontamination. This course meets the requirements for the 40-hour certificate. (SCC)

**WATER 219 – Hazardous Materials Educational Refresher (1 cr)**

This is an annual refresher course that meets the requirements for the EPA hazardous materials certification. Prerequisite: WATER 218 or possess a hazardous materials 40-hour certificate. (SCC)

**WATER 228 – Occupational Preparation and Experience (1-10 cr)**

This practical course assists students in pursuing careers in water resources. Students learn to complete employment applications, resumes and employment portfolios. Faculty assist students in making employer contacts, interviewing and follow-up. Students are required to evaluate their work experiences and submit comprehensive written and oral reports. (SCC)

**WATER 229 – Occupational Preparation and Experience (1-10 cr)**

This practical course assists students in pursuing careers in water resources. Students learn to complete employment applications, resumes and employment portfolios. Faculty assist students in making employer contacts, interviewing and follow-up. Students are required to evaluate their work experiences and submit comprehensive written and oral reports. (SCC)

**WATER 266 – Cooperative Education Seminar (1-2 cr)**

For course description, see Cooperative Education. (SCC)

**WATER 267 – Cooperative Education Work Experience (1-18 cr)**

For course description, see Cooperative Education. (SCC)

**WATER 288 – Cooperative Education Work Experience (No Seminar) (1-18 cr)**

For course description, see Cooperative Education. (SCC)

**WELDING AND FABRICATION****WELD 113 – Welding Math (2 cr)**

This course introduces theory and practical application utilizing formulas to solve problems encountered in the fabrication industry. Prerequisite: Concurrent enrollment in WELD 114, 115, 116, 117 or permission of instructor. (SCC)

**WELD 114 – Introduction to Blueprint Reading (3 cr)**

This course introduces students to blueprint reading. Structural shapes, conventional and auxiliary views, sections, and welding joints are emphasized. Prerequisite: Concurrent enrollment in WELD 113, 115, 116, 117 or permission of instructor. (SCC)

**WELD 115 – Introduction to Fabrication (2 cr)**

This course introduces tools, equipment and materials used in the layout and fabrication of a variety of welding projects with emphasis on their functions and proper use. Welding shop safety procedures are stressed. Prerequisite: Concurrent enrollment in WELD 113, 114, 116, 117 or permission of instructor. (SCC)

**WELD 116 – Shielded Metal Arc Welding Theory (2 cr)**

This course introduces shielded metal arc welding theory. Welding safety and positions, equipment setup, striking an arc, and cutting operations are emphasized. Prerequisite: Concurrent enrollment in WELD 113, 114, 115, 117 or permission of instructor. (SCC)

**WELD 117 – Shielded Metal Arc Welding Applications (7 cr)**

This course offers practical lab experience utilizing the concepts introduced in WELD 116. The selection and application of welding electrodes to specific weld joints are emphasized. Prerequisite: Concurrent enrollment in WELD 113, 114, 115, 116 or permission of instructor. (SCC)

**WELD 123 – Intermediate Blueprint Reading (2 cr)**

This course continues the concepts introduced in WELD 114. The interpretation of blueprints and corresponding welding symbols are emphasized. Prerequisite: Concurrent enrollment in WELD 124, 125, 126 or permission of instructor. (SCC)

**WELD 124 – Advanced Shielded Metal Arc Welding Theory (2 cr)**

This course continues the concepts introduced in WELD 116. Welding metallurgy, electrode classifications, and the uses of carbon and alloy steels are introduced. Prerequisite: Concurrent enrollment in WELD 123, 125, 126 or permission of instructor. (SCC)

**WELD 125 – Advanced Shielded Metal Arc Welding Applications (6 cr)**

This course provides advanced lab experience of the theory introduced in WELD 124. Welding practices used when working with carbon and alloy steels are emphasized. Prerequisite: Concurrent enrollment in WELD 123, 124, 126 or permission of instructor. (SCC)

**WELD 126 – Intermediate Fabrication (5 cr)**

This course offers practical lab experience using the skills acquired in the first quarter theory and lab courses. Layout and fabrication of a variety of welding projects are emphasized. Prerequisite: Concurrent enrollment in WELD 123, 124, 125 or permission of instructor. (SCC)

**WELD 133 – Advanced Blueprint Reading (2 cr)**

This course continues the concepts introduced in WELD 114 and 123 with emphasis on the interpretation of complex working drawings applying design, layout and sequence of fabrication factors. Prerequisite: Concurrent enrollment in WELD 134, 135, 136 or permission of instructor. (SCC)

**WELD 134 – Specialty Welding Theory (4 cr)**

This course introduces metallurgy and other welding processes such as gas tungsten arc welding, gas metal arc welding and flux core arc welding. Prerequisite: Concurrent enrollment in WELD 133, 135, 136 or permission of instructor. (SCC)

**WELD 135 – Specialty Welding Applications (8 cr)**

This course offers practical applications in equipment setup and operational procedures used in a variety of welding processes. Safety considerations and X-ray quality welding are emphasized. Prerequisite: Concurrent enrollment in WELD 133, 134, 136 or permission of instructor. (SCC)

**WELD 136 – Advanced Fabrication (2 cr)**

This course offers practical applications in the layout and fabrication of metal projects utilizing the appropriate welding processes and fabrication equipment. Prerequisite: Concurrent enrollment in WELD 133, 134, 135 or permission of instructor. (SCC)

**WELD 165 – Oxy-Acetylene Welding (1 cr)**

Students are trained in the selection and use of oxy-acetylene welding and cutting equipment and supplies to perform basic maintenance, repair and construction jobs encountered in various mechanical fields. Prerequisite: Permission of instructor. (SCC)

**WELD 168 – Arc Welding (1 cr)**

Students are trained in the selection and use of arc welding equipment and supplies to perform basic maintenance, repair and construction jobs encountered in various mechanical fields. Prerequisite: Permission of instructor. (SCC)

**WELD 266 – Cooperative Education Seminar (1-2 cr)**

For course description, see Cooperative Education. (SCC)

**WELD 267 – Cooperative Education Work Experience (1-18 cr)**

For course description, see Cooperative Education. (SCC)

**WELD 288 – Cooperative Education Work Experience (No Seminar) (1-18 cr)**

For course description, see Cooperative Education. (SCC)

**WOMENS STUDIES****WS 201 – Women of Our World (5 cr)**

This course embarks on a global journey that seeks awareness of how women from around the world live and work. Students explore the differences and similarities in the social expectations of American women and women from around the world. Topics include but are not limited to the work of women in other cultures, reproductive rights and realities of women in other cultures, motherhood and homemaking in other cultures, and equality between women and men in other cultures. (SCC)

**ZOOLOGY****ZOOL 121 – Invertebrate Zoology (5 cr)**

Basic structure of animals, comprehensive survey of invertebrate phyla, anatomy and ecological relationships. Meets A.A. degree lab science requirement. Prerequisite: BIOL& 160 (formerly BIOL 101). (SCC, SFCC)

**ZOOL 122 – Vertebrate Zoology (5 cr)**

Anatomy, physiology, evolution and ecology of fish, amphibians, reptiles, birds and mammals. Meets A.A. degree lab science requirement. Prerequisite: BIOL& 160 (formerly BIOL 101). (SCC, SFCC)