

BUS 100 Business Correspondence**Units:** 3.0 **Hours:** 3.0 Lecture**Transferable:** CSU; GAV-GE:F

Using word processing software, students will plan, compose, and revise a variety of business documents including letters, emails, reports, and memos. Messages will be analyzed to develop correspondence that is appropriate to the target audience and that is effective and professional. Using presentation graphics software, students will prepare professional level oral reports for a variety of business situations. This course has the option of a letter grade or pass/no pass. Also listed as BOT 100. **ADVISORY:** CSIS 122, CSIS 126 or equivalent. **PREREQUISITE:** ENGL 1A

BUS 102 Business Mathematics**Units:** 3.0 **Hours:** 3.0 Lecture**Transferable:** CSU

Basic concepts of business mathematics with emphasis on problem solving. Covers arithmetic fundamentals, business applications, percentages, merchandising, accounting, and measuring business performance and success. This course has the option of a letter grade or pass/no pass. Previously listed as GBUS 102. **ADVISORY:** Eligible for Mathematics 402 and English 260.

BUS 190 Occupational Work Experience / General Business**Units:** 1.0 TO 4.0 **Hours:** 5.0 TO 20.0 Laboratory**Transferable:** CSU

Occupational work experience for students who have a job related to their major. A training plan is developed cooperatively between the employer, college and student. (P/NP grading) 75 hours per semester paid work = 1 unit. 60 hours non-paid (volunteer) work per semester = 1 unit. May be taken for a maximum total of 16 units. Minimum 2.00 GPA. **REQUIRED:** Declared vocational major.

CARPENTRY**CARP 200 Introduction to Apprenticeship****Units:** 1.5 **Hours:** 22.0 Lecture and 14.0 Laboratory**Transferable:** No

Introduction to Apprenticeship is designed to make the apprentice familiar with the tools and skills to be successful in construction. This includes hazard awareness, safe use of selected power tools, review of mathematics used in construction and understanding the Union and apprentice's role and responsibilities.

CARP 201 Worker Safety and Tool Skills**Units:** 1.5 **Hours:** 18.0 Lecture and 18.0 Laboratory**Transferable:** No

This course will examine possible hazards of the construction site and the methods used to protect the worker from those hazards. Students will become familiar with California workplace safety regulations designed to protect the worker from the hazards of employment. And students will gain the experience necessary to safely use a selected group of power tools.

CARP 202 The Apprentice Carpenter and the Trade**Units:** 2.0 **Hours:** 36.0 Lecture**Transferable:** No

This course covers the history of carpenter apprenticeship and the trade. Topics include wages and benefits, worker's compensation, job placement, collective bargaining, working conditions, and labor-management relations as they pertain to unions, contractors, and cooperatives.

CARP 203 Construction Math and Introduction to Working Drawings**Units:** 2.0 **Hours:** 30.0 Lecture and 6.0 Laboratory**Transferable:** No

This course covers mathematics applications to the construction trade with specific focus on mathematical processes in carpentry. Topics include an introduction to elements of working drawings used in the construction process.

CARP 204 Foundations and Floors**Units:** 1.0 **Hours:** 6.0 Lecture and 30.0 Laboratory**Transferable:** No

This course covers layout, forming, and framing of foundations, joist and sub-flooring construction.

CARP 205 Residential Blueprint Reading**Units:** 2.5 **Hours:** 30.0 Lecture and 6.0 Laboratory**Transferable:** No

This course is an introduction to residential blueprints. Topics include conventions, lines, symbols, measurements, and specifications used for residential construction.

CARP 206 Structural Framing**Units:** 1.0 **Hours:** 6.0 Lecture and 30.0 Laboratory**Transferable:** No

This course covers basic framing systems and layout of walls, ceilings and stairwells.

CARP 207 Form Detailing, Construction and Erection**Units:** 1.0 **Hours:** 6.0 Lecture and 30.0 Laboratory**Transferable:** No

This course covers planning and building of form work, construction and erection of various concrete forms, and construction materials and methods.

CARP 208 Exterior Finish**Units:** 1.0 **Hours:** 6.0 Lecture and 30.0 Laboratory**Transferable:** No

This course covers exterior design, materials, and methods of application and finishes in building construction. Students will complete the tasks required in planning and installing exterior finish and trim materials in a safe and efficient manner.

CARP 209 Blueprint Reading - Commercial and Industrial**Units:** 2.0 **Hours:** 30.0 Lecture and 6.0 Laboratory**Transferable:** No

This course is an introduction to commercial and industrial blueprints. Topics include conventions, lines, symbols, measurements, and specifications used for commercial and industrial construction. Complete construction material take-off calculations commonly used on the job.

CARP 210 Concrete - Precast & Prestressed**Units:** 1.0 **Hours:** 6.0 Lecture and 30.0 Laboratory**Transferable:** No

This course covers concrete components and the effect of component proportions on the workability and strength of concrete. The type of cement and admixtures to use in a given situation are discussed. Detail and build tilt-up panel forms. Construct a bridge deck and the forms for a box beam girder.

CARP 211 Interior Finish**Units:** 1.0 **Hours:** 6.0 Lecture and 30.0 Laboratory**Transferable:** No

This course covers interior designs, materials, and methods of application in building construction. Students will complete the tasks required in planning and installing interior materials in a safe and efficient manner.

CARP 212 Level and Layout Instruments**Units:** 1.0 **Hours:** 24.0 Lecture and 12.0 Laboratory**Transferable:** No

This course covers use of leveling devices. It includes reading and interpreting an engineer's rod, horizontal and vertical setting circles, and vernier scale. Additional topics include construction layout of horizontal and vertical angles.

CARP 213 Engineered Structural Systems**Units:** 1.0 **Hours:** 6.0 Lecture and 30.0 Laboratory**Transferable:** No

This course covers the design of heavy timber construction, lamination, dams, bridges and trusses. Construct, in proper sequence, a panel roof system having hinge connectors, steel caps, beam seats, and sawn lumber roof members. Construct a truss roof system. Tie the basic knots used in rigging. Direct a crane using university recognized hand signals.

CARP 214 Interior Systems**Units:** 1.0 **Hours:** 6.0 Lecture and 30.0 Laboratory**Transferable:** No

This course is a comprehensive study of materials, work processes and the proper use of tools necessary to install layout and material application for metal framing, drywall, suspended ceilings, metal frames and doors, door hardware, and access floors.

CARP 215 Stair Building**Units:** 1.0 **Hours:** 6.0 Lecture and 30.0 Laboratory**Transferable:** No

This course covers types, designs, nomenclature and Uniform Building Codes requirements for building stairs. Topics include mathematical calculations and layout procedures, constructing stairs, landings, newels and handrails.

CARP 216 Roof Framing**Units:** 1.0 **Hours:** 6.0 Lecture and 30.0 Laboratory**Transferable:** No

This course covers roof framing, layout and construction. Topics include planning and building several styles of roofs using accepted terminology, technical information, construction materials and methods, and meeting accepted industry standards.

CARP 217 Introduction to Welding and Cutting**Units:** 1.0 **Hours:** 6.0 Lecture and 30.0 Laboratory**Transferable:** No

This course covers welding methods, brazing, flame cutting, and shielded arc welding. Topics include thermo forming and thermo setting plastics applicable to the building construction industry. Perform basic welding tasks in a safe manner.

CARP 290 Occupational Work Experience / Carpenter**Units:** 1.0 TO 4.0 **Hours:** 5.0 TO 20.0 Laboratory**Transferable:** No

Occupational work experience for students who have a job related to their major. A training plan is developed cooperatively between the employer, college and student. (P/NP grading) 75 hours per semester paid work = 1 unit. 60 hours non-paid (volunteer) work per semester = 1 unit. May be taken for a maximum total of 16 units. Minimum 2.00 GPA. **REQUIRED:** Declared vocational major.

Ceramics: see Art

CHEMISTRY

CHEM 1A General Chemistry**Units:** 5.0 **Hours:** 4.0 Lecture and 3.0 Laboratory**Transferable:** CSU, UC; CSU-GE:B1, B3, IGETC:5A, 5C; GAV-GE:B1, B3; CAN:CHEM2, CHEM SEQ A

This is the first semester of a year-long general chemistry course designed for science, engineering and pre-professional majors. Topics include properties of matter, atomic structure, the Periodic Table, stoichiometry, elements and compounds, bonding, molecular structure, chemical reactions, states of matter, as well as the properties of gases and solutions. (C-ID: CHEM 110) (C-ID CHEM 120S: Chem 1A + Chem 1B) **ADVISORY:** Eligible for English 250 and English 260. **PREREQUISITE:** Chemistry 30A with a grade of 'C' or better, or high school chemistry with a grade of 'B' or better completed within the last five years, and Mathematics 233 with a grade of 'C' or better.

CHEM 1B General Chemistry**Units:** 5.0 **Hours:** 4.0 Lecture and 3.0 Laboratory**Transferable:** CSU, UC; CSU-GE:B1, B3, IGETC:5A, 5C; GAV-GE:B1, B3; CAN:CHEM4, CHEM SEQ A

This is the second semester of a year-long general chemistry course designed as a continuation of Chemistry 1A. Topics include solutions, thermodynamics, chemical kinetics, the equilibria of acids and bases, solubility systems, complex ions, electrochemistry, the chemistry of metals and nonmetals, as well as nuclear chemistry. (C-ID CHEM 120S: Chem 1A + Chem 1B) **PREREQUISITE:** Chemistry 1A with a grade of C or better.

CHEM 12A Organic Chemistry**Units:** 5.0 **Hours:** 3.0 Lecture and 6.0 Laboratory**Transferable:** CSU, UC; CSU-GE:B1, B3, IGETC:5A, 5C; GAV-GE:B1, B3

This is the first semester of a year-long organic chemistry course designed for chemistry majors, pre-professional medical, biology, and science majors. Topics include nomenclature, stereochemistry, mechanisms, reactions and spectroscopic studies of organic compounds. Lecture and laboratory methods will focus on synthesis, isolation, purification, elucidation, and identification of organic structures, as well as instrumental methods and data interpretation. (C-ID: CHEM 150) **PREREQUISITE:** Chemistry 1B

CHEM 12B Organic Chemistry**Units:** 5.0 **Hours:** 3.0 Lecture and 6.0 Laboratory**Transferable:** CSU, UC; CSU-GE:B1, B3, IGETC:5A, 5C; GAV-GE:B1, B3

This is the second semester of a year-long organic chemistry course designed as a continuation of Chemistry 12A. Topics include nomenclature, stereochemistry, mechanism, reactions, and spectroscopic studies of the various organic functional groups. Lecture and laboratory methods will focus on synthesis, isolation, purification, elucidation and identification of organic structures as well as instrumental methods and data interpretation. (C-ID: CHEM 160S) **PREREQUISITE:** Chemistry 12A

CHEM 30A Elementary Chemistry**Units:** 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory**Transferable:** CSU, UC; CSU-GE:B1, B3, IGETC:5A, 5C; GAV-GE:B1, B3; CAN:CHEM6, CHEM SEQ B

This is a first semester college chemistry course designed for majors preparing to take Chemistry 1A, nursing and allied health students, as well as general education. The course will cover the principles of chemistry including properties of matter, energy, atomic theory, the Periodic Table, stoichiometry, elements and compounds, the properties of bonding, molecular structure, chemical reactions, states of matter, acidity, solutions and gases, as well as an introduction to organic chemistry. **ADVISORY:** Mathematics 205; eligible for English 250 and English 260.

CHEM 30B Elementary Organic and Biochemistry**Units:** 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory**Transferable:** CSU, UC; CSU-GE:B1, B3, IGETC:5A, 5C; GAV-GE:B1, B3; CAN:CHEM8, CHEM SEQ B

This is the second semester of a year-long elementary chemistry course designed as a continuation of Chemistry 30A. It is designed for science majors, nursing and allied health students. The course will cover the principles of organic and biochemistry including hydrocarbons, alcohols, aldehydes and ketones, carboxylic acids, amines and amides, carbohydrates, lipids, proteins and their functions in physiological systems, as well as organic chemical reactions. **PREREQUISITE:** Chemistry 30A with a grade of C or better.

CHILD DEVELOPMENT

CD 1 Principles and Philosophies of Early Childhood Education**Units:** 3.0 **Hours:** 3.0 Lecture**Transferable:** CSU

An overview of the developing child, current theories and research within the context of family, school, and community, and an historical perspective on the development of early childhood education. The processes of socialization and identity development will be highlighted showing the importance of respectful, reciprocal relationships that support and empower families. Observations in schools are to be arranged. (C-ID: ECE 120) **ADVISORY:** Eligible for English 250 and English 260.