BUS 80  Business Law  
Units: 3.0   Hours: 3.0 Lecture  
Transferable:  CSU, UC, CANBUS12  
Introduction to the law applicable to business institutions and their operations; social forces and their effect upon the development of law; sources of law, agencies for enforcement, and court procedure and administration agencies. Substantive law, that law which includes rights and duties, will include contracts, agency employment relationships, torts and crimes. This course has the option of a letter grade or pass/no pass. Previously listed as GBUS 80. ADVISORY: Eligible for English 250 and English 260.

BUS 100  Business Correspondence  
Units: 3.0   Hours: 3.0 Lecture  
Transferable:  CSU  
Development of business writing techniques and English usage skills for effective communication through various forms of business correspondence. Emphasizes the public relations function of correspondence; covers a review of grammar, punctuation, and job application techniques. This course has the option of a letter grade or pass/no pass. Previously listed as GBUS 100. ADVISORY: CSIS 122, 123 or equivalent; Eligible for English 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  
College credit for learning experience obtained on the job in accordance with a training plan developed cooperatively between the employer, college and student. 75 hours per semester per unit or 60 hours per semester for unpaid experience. This is a pass/no pass course. May be taken for a maximum of 16 work experience units. Previously listed as GBUS 190. REQUIRED: Declared vocational major. Concurrent enrollment in seven or more units (including CWE units, except for summer school. For summer school enrollment in one other class is required.) Minimum 2.00 G.P.A.

CARPENTRY

CARP 201  Worker Safety and Tool Skills  
Units: 1.5   Hours: 18.0 lecture 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. May be repeated once for credit.

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. May be repeated once for credit.

CARP 203  Construction Math and Introduction to Working Drawings  
Units: 2.0   Hours: 3.0 lecture 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. May be repeated once for credit.

CARP 204  Foundations and Floors  
Units: 1.0   Hours: 6.0 lecture 30.0 Laboratory  
Transferable:  No  
This course covers layout, forming, and framing of foundations, joist and sub-flooring construction. May be repeated once for credit.

CARP 205  Residential Blueprint Reading  
Units: 2.5   Hours: 30.0 lecture 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. May be repeated once for credit.

CARP 206  Structural Framing  
Units: 1.0   Hours: 6.0 lecture 30.0 Laboratory  
Transferable:  No  
This course covers basic framing systems and layout of walls, ceilings and stairwells. May be repeated once for credit.

CARP 207  Form Detailing, Construction and Erection  
Units: 1.0   Hours: 6.0 lecture 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. May be repeated once for credit.

CARP 208  Exterior Finish  
Units: 1.0   Hours: 6.0 lecture 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. May be repeated once for credit.

CARP 209  Blueprint Reading - Commercial and Industrial  
Units: 2.0   Hours: 30.0 lecture 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. May be repeated once for credit.

CARP 210  Concrete - Precast & Prestressed  
Units: 1.0   Hours: 6.0 lecture 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. May be repeated once for credit.
COURSE OFFERINGS

Carpentry

Carp 211 Interior Finish
Units: 1.0  Hours: 6.0 lecture 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. May be repeated once for credit.

Carp 212 Level and Layout Instruments
Units: 1.0  Hours: 24.0 lecture 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. May be repeated once for credit.

Carp 213 Engineered Structural Systems
Units: 1.0  Hours: 6.0 lecture 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. May be repeated once for credit.

Carp 214 Interior Systems
Units: 1.0  Hours: 6.0 lecture 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. May be repeated once for credit.

Carp 215 Stair Building
Units: 1.0  Hours: 6.0 lecture 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. May be repeated once for credit.

Carp 216 Roof Framing
Units: 1.0  Hours: 6.0 lecture 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. May be repeated once for credit.

Carp 217 Introduction to Welding and Cutting
Units: 1.0  Hours: 6.0 lecture 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. May be repeated once for credit.

Carp 290 Occupational Work Experience/Carpenter
Units: 1.0 TO 4.0  Hours: 5.0 TO 20.0 Laboratory
Transferable: No
College credit for learning experience obtained on the job in accordance with a training plan developed cooperatively between the employer, college and student. July hours per semester per unit or 80 hours per semester for unpaid experience. This is a pass/no pass course. May be taken for a maximum of 16 work experience units. PREREQUISITES: Required. Declared vocational major. Concurrent enrollment in seven or more units (including CWE units, except for summer school. For summer school, enrollment in one other class is required. Minimum 2.00 G.P.A.

Chemistry

Chem 1A General Chemistry
Units: 5.0  Hours: 4.0 lecture 3.0 Laboratory
Transferable: CSU, UC, CSU-GE:B1, B3, IGETC:5A; 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. PREREQUISITES: 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. ADVISORY: Eligible for English 250 and English 260.

Chem 1B General Chemistry
Units: 5.0  Hours: 4.0 lecture 3.0 Laboratory
Transferable: CSU, UC, CSU-GE:B1, B3, IGETC:5A; 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. PREREQUISITE: Chemistry 1A with a grade of 'C' or better.

Chem 12A Organic Chemistry
Units: 5.0  Hours: 3.0 lecture 6.0 Laboratory
Transferable: CSU, UC, CSU-GE:B1, B3, IGETC:5A; 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. PREREQUISITE: Chemistry 1B

Chem 12B Organic Chemistry
Units: 5.0  Hours: 3.0 lecture 6.0 Laboratory
Transferable: CSU, UC, CSU-GE:B1, B3, IGETC:5A; 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. PREREQUISITE: Chemistry 12A

Chem 30A Elementary Chemistry
Units: 4.0  Hours: 3.0 lecture 3.0 Laboratory
Transferable: CSU, UC, CSU-GE:B1, B3, IGETC:5A; 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 255; eligible for English 250 and English 260.

Chem 30B Elementary Organic and Biochemistry
Units: 4.0  Hours: 3.0 lecture 3.0 Laboratory
Transferable: CSU, UC, CSU-GE:B1, B3, IGETC:5A; 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.