

Chemistry Catalog Descriptions - Laney College

Introductory General Chemistry - Chem 30A

Course Number: CHEM 30A

Units: 4

Class: 3 hours lecture, 3 hours laboratory (GR)

Prerequisite(s) MATH 201 or 208 or 210A-D

Acceptable for credit: CSU, UC

Description: Fundamental principles of general chemistry. Metric measurements, matter and energy, atomic structure, chemical nomenclature, chemical bonding, chemical reactions, stoichiometry, gas laws, nuclear chemistry; properties of liquids, solids, solutions, acids and bases.

1905.00

AA/AS area 1 CSU area B1, B3 IGETC area 5A, 5C (C-ID CHEM 101)

General Chemistry I - Chem 1A

Course Number: CHEM 1A

Units: 5

Class: 3 hours lecture, 3 hours lecture-demonstration, 3 hours laboratory (GR)

Prerequisites:

- Chem 30A *or* Chem 50 *or* complete the online [ALEKS Gen Chem Prep Course](#) *or* satisfactory score on the Chemistry assessment *and*
- Math 203 or 211D *or* satisfactory score on the Math assessment.

Recommended Preparation: English 1A or ESOL 52A.

Acceptable for credit: CSU, UC

Description: General principles of chemistry measurements, atomic theory, chemical nomenclature, chemical composition, stoichiometry, reactions in aqueous solution, thermochemistry, electron configurations, periodic properties, chemical bonding, gases, liquids, solids, and solutions. 1905.00

AA/ AS area 1 CSU area B1, B3 IGETC area 5A, 5C (C-ID CHEM 110) (C-ID 120S when taken with CHEM 1B)

General Chemistry II - Chem 1B

Course Number: CHEM 1B

Units: 5

Class: 3 hours lecture, 3 hours lecture-demonstration, 3 hours laboratory (GR)

Prerequisite CHEM 1A

Acceptable for credit: CSU, UC

Description: General principles of chemistry: Kinetics, equilibrium, acid-base equilibria, buffers, solubility equilibria, entropy and free energy, electro-chemistry, nuclear chemistry, coordination chemistry, and an introduction to organic chemistry. 1905.00

AA/ AS area 1 CSU area B1, B3 IGETC area 5A, 5C (C-ID 120S when taken with CHEM 1A)

Organic Chemistry I - Chem 12A

Course Number: CHEM 12A

Units: 5

Class: 3 hours lecture, 6 hours laboratory (GR) Prerequisite CHEM 1B

Acceptable for credit: CSU, UC

Description: Introduction to structures, nomenclature, properties, and reactions of carbon compounds: Hydrocarbons, monofunctional and polyfunctional compounds; emphasis on structures and mechanisms, spectroscopy, and other analytical techniques. Laboratory work includes reactions, purification techniques, measurements, qualitative analysis, and use of instrumentation. 1905.00

AA/ AS area 1 CSU area B1, B3 IGETC area 5A, 5C (C-ID CHEM 150) (C-ID 160S when taken with CHEM 12B)

Organic Chemistry II - Chem 12B

Course Number: CHEM 12B

Units: 5

Class: 3 hours lecture, 6 hours laboratory (GR) Prerequisite CHEM 12A

Acceptable for credit: CSU, UC

Description: Continuation of CHEM 12A Reactions of functional groups and interactions of polyfunctional compounds, infrared spectroscopy, nuclear magnetic resonance, mass spectrometry, ultraviolet-visible spectroscopy. Introduction to biochemistry. Lipids, carbohydrates, proteins, nucleic acids. Laboratory work includes reactions, purification methods, measurements, multistep syntheses, qualitative analysis, and use of instrumentation. 1905.00

AA/ AS area 1 CSU area B1, B3 IGETC area 5A, 5C (C-ID 160S when taken with CHEM 12A)

Introductory Organic and Biochemistry - Chem 30B

Course Number: CHEM 30B

Units: 4

Class: 3 hours lecture, 3 hours laboratory (GR)

Prerequisite CHEM 30A

Acceptable for credit: CSU, UC

Description: Introduction to basic organic chemistry and biochemistry: Hydrocarbons; organic functional groups, nomenclature, and reactions; polymers, carbohydrates, proteins, enzymes, lipids, nucleic acids, protein synthesis, and metabolic pathways. 1905.00

AA/ AS area 1 CSU area B1, B3 IGETC area 5A, 5C (C-ID CHEM 102)

Independent Study in Chemistry - Chem 49

Course Number: CHEM 49

Units: .5-5 (GR)

Acceptable for credit: CSU, UC◆

Description: In-depth exploration of an area or problem of the student's choice not covered by regular catalog offerings in Chemistry. Student must obtain approval from an appropriate faculty member. For more details, see the section on independent study in the college catalog.