

CHEMISTRY (CHM)

CHM1020 GENERAL CHEMISTRY FOR LIBERAL STUDIES (3.00 Credits)

This course provides students with an introduction to chemical principles and applications for non-science majors. Students will engage in problem solving and critical thinking while applying chemical concepts to one or more of the following areas: environmental science, food and nutrition, health and medicine, energy, and/or everyday materials. Topics will include the Scientific Method of Problem Solving, Classification of Matter, Metric System, Atomic Theory, the Periodic Table, Chemical Bonds, Gases, Chemical Reactions, Energy, and Solutions, including Acids and Bases. This course is designed specifically for students seeking to fulfill their General Education requirements in science.

Total Contact Hrs: 48.00

Lecture Hrs: 48.00

CHM1020L GENERAL CHEMISTRY FOR LIBERAL STUDIES LABORATORY (1.00 Credits)

This course provides students with an introduction to chemical principles and applications for the non-science major. Students will engage in problem solving and critical thinking while applying chemical concepts. Topics will include the scientific method of problem solving, classification of matter, atomic theory, the periodic table, gases, chemical reactions, energy, and chemical bonds. Laboratory experiments to accompany CHM1020.

Total Contact Hrs: 32.00

Lab Hrs: 32.00

Fees: LABORATORY FEE \$6.00

Complete all the courses in the following option:

- Pre or Corequisite: CHM1020 (minimum grade: C)

CHM1025 INTRODUCTION TO CHEMISTRY (3.00 Credits)

This course will provide beginning students with the skills to understand the basic concepts of chemistry, which will enable them to be successful in the first semester of General Chemistry I, CHM 1045. This course is designed for students who have not previously had a successful high school chemistry experience. Topics covered include chemical measurements, atomic structure, the periodic table, chemical bonding, inorganic compound nomenclature and formula writing, stoichiometry, gases, liquids, solids, solutions, and chemical reactions.

Total Contact Hrs: 48.00

Lecture Hrs: 48.00

Complete all the courses in one of the following options:

- Option 1 - Pre or Corequisite: MAC1105 (minimum grade: C)
- Option 2 - Pre or Corequisite: MAC1105C (minimum grade: C)

CHM1032 GENERAL CHEMISTRY SCIENCE ALLIED FIELDS (3.00 Credits)

All allied science fields not for physical science majors, engineers, etc. Warning: Not intended as a substitute for courses in the CHM 040-049 (CHM1045 & CHM1046 at Broward College). Selected topics from general chemistry, organic chemistry and biochemistry. This course is designed specifically for Nursing and other Allied Health Technology students. This course consists of selected topics, specifically designed for a health related major, with practical application of the chemical concepts of matter, atoms, measurements, bonding, reactions, pH, etc. The organic portion will introduce carbon chemistry and its compounds and their relationship to health-related fields.

Total Contact Hrs: 48.00

Lecture Hrs: 48.00

CHM1032L GENERAL CHEMISTRY FOR SCIENCE ALLIED FIELDS LAB (1.00 Credits)

Laboratory exercises to accompany CHM1032.

Total Contact Hrs: 32.00

Lab Hrs: 32.00

Fees: LABORATORY FEE \$19.00

Complete all the courses in the following option:

- Pre or Corequisite: CHM1032 (minimum grade: C)

CHM1045 GENERAL CHEMISTRY 1 (3.00 Credits)

The course is designed for students pursuing careers in the sciences or who need a more rigorous presentation of chemical concepts than is offered in an introductory course. Students will engage in problem solving and critical thinking while applying chemical concepts. Topics will include the principles of chemistry including atomic theory, electronic and molecular structure, measurement, stoichiometry, bonding, periodicity, thermochemistry, nomenclature, solutions, and the properties of gases. This is the first course in a two-semester sequence, CHM1045 and CHM1046. This sequence includes two laboratories: CHM1045L to be taken concurrently with CHM1045 and CHM1046L to be taken with CHM1046. To enroll, it is strongly recommended that students have had previous chemistry at the high school or college level. If a student has not had prior experience in a chemistry course CHM1025 is highly recommended.

Total Contact Hrs: 48.00

Lecture Hrs: 48.00

Complete all the courses in one of the following options:

- Option 1 - Prerequisite: MAC1105 (minimum grade: C), Pre or Corequisite: CHM1045L (minimum grade: C)
- Option 2 - Prerequisite: MAC1105C (minimum grade: C), Pre or Corequisite: CHM1045L (minimum grade: C)

CHM1045L GENERAL CHEMISTRY I LAB (1.00 Credits)

The course is designed for students pursuing careers in the sciences or who need a more rigorous presentation of chemical concepts than is offered in an introductory course. Students will engage in problem solving and critical thinking while applying chemical concepts. Topics will include the principles of chemistry including atomic theory, electronic and molecular structure, measurement, stoichiometry, bonding, periodicity, thermochemistry, nomenclature, solutions, and the properties of gases.

Total Contact Hrs: 48.00

Lab Hrs: 48.00

Fees: LABORATORY FEE \$19.00

Complete all the courses in one of the following options:

- Option 1 - Pre or Corequisite: CHM1045 (minimum grade: C)
- Option 2 - Pre or Corequisite: CHM1041 (minimum grade: C)

CHM1046 GENERAL CHEMISTRY II (3.00 Credits)

This is the final course of the two-semester general chemistry sequence: CHM1045 and CHM1046; These sequences include two laboratories: (1)CHM1045L to be taken concurrently with CHM1045, and (2)CHM1046L to be taken with CHM1046. Topics covered include thermochemistry, thermodynamics, kinetics, equilibrium, electrochemistry, coordination chemistry, descriptive chemistry of metals, nuclear chemistry and an introduction to organic chemistry.

Total Contact Hrs: 48.00

Lecture Hrs: 48.00

Complete all the courses in the following option:

- Option 1 - Prerequisite: CHM1045 (minimum grade: C) and CHM1045L (minimum grade: C), Pre or Corequisite: CHM1046L (minimum grade: C)

CHM1046L GENERAL CHEMISTRY II LAB (1.00 Credits)

Laboratory experiments to accompany CHM1046E or CHM1046. Special fee charged. Upon successful completion of this course, the students should be able to use appropriate laboratory equipment to safely perform laboratory experiments that relate to the topics covered in CHM1046 or CHM1046E, to collect data accurately and to use those data to calculate a reasonable answer or come to a logical conclusion.

Total Contact Hrs: 48.00

Lab Hrs: 48.00

Fees: LABORATORY FEE \$26.00, LABORATORY FEE \$26.00

Complete all the courses in one of the following options:

- Option 1 - Prerequisite: CHM1045 (minimum grade: C) and CHM1045L (minimum grade: C), Pre or Corequisite: CHM1046 (minimum grade: C)
- Option 2 - Prerequisite: CHM1041 (minimum grade: C), Pre or Corequisite: CHM1046 (minimum grade: C)

CHM2210 ORGANIC CHEMISTRY I (3.00 Credits)

First part of a two course sequence presenting the structure, preparation, reaction, and nomenclature of various classes of organic compounds and their derivatives. Reaction electronic mechanisms are interpreted and unified in the light of modern theory.

Total Contact Hrs: 48.00

Lecture Hrs: 48.00

Complete all the courses in the following option:

- Option 1 - Prerequisite: CHM1046 (minimum grade: C) and CHM1046L (minimum grade: C), Corequisite: CHM2210L

CHM2210L ORGANIC CHEMISTRY I LABORATORY (1.00 Credits)

Organic laboratory experiments and preparations to accompany CHM2210. Special fee charged.

Total Contact Hrs: 48.00

Lab Hrs: 48.00

Fees: LABORATORY FEE \$62.00

Complete all the courses in the following option:

- Option 1 - Prerequisite: CHM1046 (minimum grade: C) and CHM1046L (minimum grade: C), Corequisite: CHM2210

CHM2211 ORGANIC CHEMISTRY II (3.00 Credits)

Second of the two-part organic chemistry course. A continuation of the study of the remaining classes of organic compounds including use of spectroscopic methods and an introduction to bio-organic molecules.

Total Contact Hrs: 48.00

Lecture Hrs: 48.00

Complete all the courses in the following option:

- Option 1 - Prerequisite: CHM2210 (minimum grade: C) and CHM2210L (minimum grade: C), Corequisite: CHM2211L

CHM2211L ORGANIC CHEMISTRY II LABORATORY (1.00 Credits)

Appropriate experiments and preparation to compliment CHM2211. Special fee charged.

Total Contact Hrs: 48.00

Lab Hrs: 48.00

Fees: LABORATORY FEE \$62.00

Complete all the courses in the following option:

- Option 1 - Prerequisite: CHM2210 (minimum grade: C) and CHM2210L (minimum grade: C), Pre or Corequisite: CHM2211 (minimum grade: C)

CHM3203 ORGANIC & BIOCHEMISTRY (3.00 Credits)

This course introduces the preprofessional science educator to fundamental organic and biochemical concepts. This is a content course in the B.S. Degree in the BC Science Education Program. The course has been designed to enhance the understanding of organic and biochemical concepts essential for the K-12 classroom. This program has been designed to correlate chemistry concepts with the NSTA National Science Content Standards, the Florida Subject Matter Content Standards, and the Florida Sunshine State Science Standards.

Total Contact Hrs: 48.00

Lecture Hrs: 48.00

Complete all the courses in the following option:

- Corequisite: CHM3203L

CHM3203L ORGANIC & BIOCHEMISTRY LAB (1.00 Credits)

This course has a weekly 3-hour session with laboratory experiments to accompany the lectures in CHM3205 Survey of Organic Chemistry and Biochemistry. This is a content laboratory course in the B.S. Degree in the BC Science Education Program. The course has been designed to enhance the understanding of organic and biochemical concepts essential to the K-12 classroom. This program has been designed to correlate chemistry concepts with the NSTA National Science Content Standards, the Florida Subject Matter Content Standards, and the Florida Sunshine State Science Standards.

Total Contact Hrs: 48.00

Lab Hrs: 48.00

Complete all the courses in the following option:

- Corequisite: CHM3203