

## CHEMISTRY (CHE)

Degree offered: B.A. or B.S.

### Requirements for the Chemistry Major (B.A. and B.S.)

The **Major in Chemistry for the B.A. Degree** consists of the following **39 hours**:

A.	CHE 101	General Chemistry I	(4 hours)
	CHE 103	General Chemistry II	(4 hours)
	CHE 201	Organic Chemistry I	(5 hours)
	CHE 202	Organic Chemistry II	(5 hours)
	CHE 303	Quantitative Analysis	(4 hours)
	CHE 400	Chemistry Seminar	(1 hour)
	CHE 402	Elementary Physical Chemistry	(4 hours)
B.	MAT 151	Calculus I	(3 hours)
C.	PHY 201	General Physics I	(4 hours)
	PHY 202	General Physics II	(4 hours)

The **Major in Chemistry for the B.S. Degree** consists of the following **42 hours**:

A.	CHE 101	General Chemistry I	(4 hours)
	CHE 103	General Chemistry II	(4 hours)
	CHE 201	Organic Chemistry I	(5 hours)
	CHE 202	Organic Chemistry II	(5 hours)
	CHE 303	Quantitative Analysis	(4 hours)
	CHE 400	Chemistry Seminar	(1 hour)
	CHE 402	Elementary Physical Chemistry	(4 hours)
B.	MAT 151	Calculus I	(3 hours)
	MAT 161	Calculus II	(3 hours)
C.	PHY 201	General Physics I	(4 hours)
	PHY 202	General Physics II	(4 hours)

### Requirements for the Chemistry Minor

The **Minor in Chemistry** consists of the following **30 hours**:

A.	CHE 101	General Chemistry I	(4 hours)
	CHE 103	General Chemistry II	(4 hours)
	CHE 201	Organic Chemistry I	(5 hours)
	CHE 202	Organic Chemistry II	(5 hours)
B.	MAT111	Precalculus Algebra Or any course above MAT 111	(3 hours)
C.	PHY 201	General Physics I	(4 hours)
	PHY 202	General Physics II	(4 hours)

### **Course Descriptions**

#### **CHE 100      INTRODUCTORY CHEMISTRY: 4 hours**

A general course in the fundamental facts, principles, and theories of chemistry with emphasis on those topics most useful to students who are in the pre-nursing program. (Lec. 3, Lab. 2)

#### **CHE 101      GENERAL CHEMISTRY I: 4 hours**

A general course in the fundamental facts, principles and theories of chemistry with emphasis on those topics most useful to students who are science majors or minors. For chemistry majors and minors, and to satisfy the chemistry requirements of non-science majors. (Lec. 3, Lab. 3)

*Co-requisite: MAT 111 or higher*

#### **CHE 103      GENERAL CHEMISTRY II: 4 hours**

This course, a continuation of CHE 101, includes qualitative analysis and an introduction to quantitative analysis. (Lec. 3, Lab. 3)

*Prerequisite: CHE 101*

#### **CHE 105      ELEMENTARY ORGANIC AND PHYSIOLOGICAL CHEMISTRY: 4 hours**

The second semester of a two-semester course, the first semester of which is CHE 100, designed primarily for pre-nursing students. This course provides an introduction to organic chemistry and biochemistry. Not counted toward a chemistry major or minor. (Lec. 3, Lab. 3)

*Prerequisite: CHE 100, MAT 111 or higher OR concurrent enrollment*

#### **CHE 201, 202      ORGANIC CHEMISTRY I AND II: 5 hours per course**

A course dealing with the theories and principles of organic chemistry. The first semester of laboratory work deals with the preparation of organic compounds, and the second semester of laboratory work includes qualitative organic analysis. (Lec. 3, Lab. 6)

*Prerequisite: CHE 103, a grade of "C" or better in CHE 101 and CHE 103*

#### **CHE 303      QUANTITATIVE ANALYSIS (CT): 4 hours**

A survey course continuing the quantitative analysis part of Chemistry 103. Both gravimetric and volumetric methods of analysis are covered. Also covered are general operating principles of the commonly used analytical instruments. (Lec. 2, Lab. 6)

*Prerequisite: CHE 103*

#### **CHE 307      BIOCHEMISTRY I: 4 hours**

A study of the chemistry of life. Emphasis is placed on the structure and metabolism of carbohydrates, proteins, lipids, nucleic acids, nucleoproteins, vitamins, and minerals. Principles of enzymology are also emphasized. This course has a clinical biochemistry orientation. (Lec. 3, Lab 2) (*Cross-listed with BIO 307*)

*Prerequisite: CHE 202*

#### **CHE 308      BIOCHEMISTRY II: 4 hours**

A continuation of topics discussed in Biochemistry I. Emphasis is placed on the structure and metabolism of complex organic molecules, as well as detailed analysis of mechanisms of gene expression and function. Endocrine regulation of metabolism will also be emphasized. This course is recommended for students planning to apply to Medical School.

(Lec. 2, Lab 4) (*Cross-listed with BIO 308*)

*Prerequisite: CHE 307*

#### **CHE 400      CHEMISTRY SEMINAR (CT): 1 hour**

Course content varies with the needs of the students.

*Prerequisite: CHE 202*

**CHE 402            ELEMENTARY PHYSICAL CHEMISTRY (CT): 4 hours**

A course based largely on the concept of energy and the fundamental properties of matter. A general course not requiring extensive mathematical preparation. (Lec. 3, Lab. 3).

*Prerequisite: CHE 103, PHY 202, MAT 161 OR concurrent enrollment*

**CHE 405            SCIENCE OUTREACH: 1 hour**

A community service program designed to train upper-level science students to host a molecular or environmental science laboratory for high school students. Students will function as a group to organize, prepare, and operate at least one laboratory for a visiting high school group. Students will be graded on their participation and submit a written reflection of their experience. This course mainly serves students preparing for allied health careers and postgraduate work. *(Cross-listed with BIO 405)*

*Prerequisite: BIO 101, BIO 104, OR BIO 105, CHE 103, completion of at least 40 semester hours of coursework*

**CHE 411            SPECIAL STUDIES: 3 hours**

A course for upperclassmen seeking to complete requirements in their major or minor disciplines. Subjects will be taught that do not appear in the College catalog but are of value to a student in her career objectives and/or graduate studies.

*Prerequisite: Approval of the Department Head*

**CHE 412            SPECIAL STUDIES: 3 hours**

A course for upperclassmen seeking to complete requirements in their major or minor disciplines. Subjects will be taught that do not appear in the College catalog but are of value to a student in her career objectives and/or graduate studies.

*Prerequisite: Approval of the Department Head*

**CHE 413            SPECIAL STUDIES: 3 hours**

A course for upperclassmen seeking to complete requirements in their major or minor disciplines. Subjects will be taught that do not appear in the College catalog but are of value to a student in her career objectives and/or graduate studies.

*Prerequisite: Approval of the Department Head*

**CHE 414            SPECIAL STUDIES: 3 hours**

A course for upperclassmen seeking to complete requirements in their major or minor disciplines. Subjects will be taught that do not appear in the College catalog but are of value to a student in her career objectives and/or graduate studies.

*Prerequisite: Approval of the Department Head*

**CHE 449, 450      INDEPENDENT STUDIES: 1 hour to 2 hours**

Course content varies with the needs of the students

*Prerequisite: CHE 202, approval of the Department Head and Academic Dean*