

CHEMISTRY

Chemistry, an experimental discipline based on observation guided by molecular theory, is of fundamental importance in much of modern science and technology. Its molecular concepts form the basis for ideas about complex material behavior. Due to the fundamental nature and extensive application of chemistry, an unusually large variety of challenging opportunities to contribute in the science-oriented community are open to students whose education is built around the principles of this discipline.

The Chemistry curriculum, through the career requirement options and the large number of electives, provides students the opportunity to select a coherent program of study beyond the basic courses. Career requirement options are provided for students anticipating graduate study in chemistry or related fields; employment following the BS degree in laboratory, production, technical sales, or management positions; professional studies (e.g., medicine); chemical physics; geochemistry; and employment in fields requiring extensive preparation in courses other than sciences (e.g., patent law and technical writing). Significant features of the curriculum are the student's extensive participation in experimental work and the opportunity to take part in a research investigation during the junior and senior years.

Bachelor of Science

Freshman Year

First Semester

- 4 - CH 101 General Chemistry
- 1 - CH 141 Chemistry Orientation
- 3 - ENGL 103 Accelerated Composition
- 4 - MTHSC 106 Calculus of One Variable I
- 3 - Arts and Humanities Requirement¹ *or*
3 - Social Science Requirement¹

15

Second Semester

- 4 - CH 102 General Chemistry
- 2 - CH 152 Chemistry Communication I
- 4 - MTHSC 108 Calculus of One Variable II
- 3 - PHYS 122 Physics with Calculus I
- 3 - Arts and Humanities Requirement¹ *or*
3 - Social Science Requirement¹

16

Sophomore Year

First Semester

- 3 - CH 223 Organic Chemistry
- 1 - CH 227 Organic Chemistry Lab.
- 4 - MTHSC 206 Calculus of Several Variables
- 3 - PHYS 221 Physics with Calculus II
- 1 - PHYS 223 Physics Lab. II
- 4 - Foreign Language Requirement²

16

Second Semester

- 3 - CH 205 Introduction to Inorganic Chemistry
- 3 - CH 224 Organic Chemistry
- 1 - CH 228 Organic Chemistry Lab.
- 4 - MTHSC 208 Intro. to Ordinary Diff. Equations
- 3 - PHYS 222 Physics with Calculus III
- 1 - PHYS 224 Physics Lab. III

15

Junior Year

First Semester

- 3 - BIOCH 301 Molecular Biochemistry *or*
3 - BIOCH 305 Essential Elements of Bioch.
- 3 - CH 313 Quantitative Analysis
- 2 - CH 315 Quantitative Analysis Lab.
- 3 - CH 331 Physical Chemistry
- 1 - CH 339 Physical Chemistry Lab.
- 3 - ENGL 314 Technical Writing

15

Second Semester

- 3 - CH 332 Physical Chemistry
- 1 - CH 340 Physical Chemistry Lab.
- 3 - CH 411 Instrumental Analysis
- 2 - CH 412 Instrumental Analysis Lab.
- 3 - Arts and Humanities (Literature) Requirement¹
- 3 - Elective

15

Senior Year

First Semester

- 3 - CH 402 Inorganic Chemistry
- 2 - CH 403 Advanced Synthetic Techniques
- 3 - CH 443 Research Problems
- 3 - Arts and Humanities Requirement¹ *or*
3 - Social Science Requirement¹
- 3 - Chemistry Requirement³

14

Second Semester

- 3 - CH 444 Research Problems
- 3 - CH 450 Chemistry Capstone
- 1 - CH 452 Chemistry Communication II
- 3 - Arts and Humanities Requirement¹ *or*
3 - Social Science Requirement¹
- 3 - Chemistry Requirement³
- 3 - Elective

16

122 Total Semester Hours

¹See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

²One semester (through 102) in any modern foreign language is required.

³See advisor.

Bachelor of Arts

Freshman Year

First Semester

4 - CH 101 General Chemistry
1 - CH 141 Chemistry Orientation
3 - ENGL 103 Accelerated Composition
4 - MTHSC 106 Calculus of One Variable I
3 - Arts and Humanities Requirement¹ *or*
3 - Social Science Requirement¹

15

Second Semester

4 - CH 102 General Chemistry
2 - CH 152 Chemistry Communication I
4 - MTHSC 108 Calculus of One Variable II
3 - PHYS 122 Physics with Calculus I
3 - Arts and Humanities Requirement¹ *or*
3 - Social Science Requirement¹

16

Sophomore Year

First Semester

3 - CH 223 Organic Chemistry
1 - CH 227 Organic Chemistry Lab.
4 - MTHSC 206 Calculus of Several Variables
3 - PHYS 221 Physics with Calculus II
4 - Foreign Language Requirement²

15

Second Semester

3 - CH 205 Introduction to Inorganic Chemistry
3 - CH 224 Organic Chemistry
1 - CH 228 Organic Chemistry Lab.
6 - Arts and Humanities Requirement¹ *or*
6 - Social Science Requirement¹
4 - Foreign Language Requirement²

17

Junior Year

First Semester

3 - CH 313 Quantitative Analysis
1 - CH 317 Quantitative Analysis Lab.
3 - Arts and Humanities Requirement¹ *or*
3 - Social Science Requirement¹
3 - Arts and Humanities (Literature) Requirement¹
3 - Foreign Language Requirement²
3 - Minor Requirement

16

Second Semester

3 - CH 331 Physical Chemistry
3 - ENGL 314 Technical Writing
3 - Arts and Humanities Requirement¹ *or*
3 - Social Science Requirement¹
3 - Foreign Language Requirement²
3 - Minor Requirement

15

Senior Year

First Semester

3 - CH 332 Physical Chemistry
3 - Chemistry Requirement³
3 - Minor Requirement
6 - Elective

15

Second Semester

3 - CH 450 Chemistry Capstone
1 - CH 452 Chemistry Communication II
3 - Chemistry Requirement³
6 - Minor Requirement

13

122 Total Semester Hours

¹See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

²Four semesters (through 202) of the same modern foreign language are required.

³See advisor.