BACHELOR OF SCIENCE CHEMISTRY



Approved Sample Curriculum for Pre-Medical Students

The Chemistry Department offers a challenging program of study providing the student with a strong foundation in the basic areas of chemistry necessary to pursue advanced study in graduate or professional school. The Chemistry program allows the student majoring in Chemistry the opportunity to earn a bachelor's degree, other science majors to broaden the scope of their knowledge and increase their potential as scientists with a Chemistry minor, and non-science majors to satisfy the general core requirements. The department highly recommends a second major a minor in any of the following areas: Biology, Business Administration, Computer Information Systems, Criminal Justice, Economics, Mathematics, or Physics. The Chemistry Department also offers a bachelor's degree in Biochemistry and a concentration in Forensic Science.

Second Century Core: Inner core courses identified with green text, outer core possibilities identified with purple text.

-EVEN YEAR START-

First Year

| Fall | CR | Spring | CR |
|---|----|---|----|
| FYE 150 First Year Exploration | 1 | Communication Core | 3 |
| CHE 111/111L General Chemistry I and Lab (Science + Lab – Core) | 4 | CHE 113/113L General Chemistry II and Lab | 4 |
| MAT 151 Calculus and Analytical Geometry I (Math Core) | 4 | MAT 152 Calculus and Analytical Geometry II | 4 |
| ENG 150 Literature, Writing and Research | 3 | BIO 102/102L General Biology II and Lab | 4 |
| BIO 101/101L General Biology I and Lab | 4 | | |

Subtotal 16 Subtotal 15

Second Year

| Fall | CR | Spring | CR |
|--|----|---|----|
| CHE 220/220L Organic Chemistry I and Lab | 4 | CHE 240/240L Organic Chemistry II and Lab | 4 |
| PHY 141/141L General Physics I and Lab | 5 | PHY 142/142L General Physics II and Lab | 5 |
| MAT 201 Calculus and Analytical Geometry III | 4 | English 200+ Core | 3 |
| Social Science – Core – PSY 105 or SOC 105 | 3 | BIO 206/206L Genetics and Lab | 4 |
| | | Philosophy Core #1 | 1 |

Subtotal 16 Subtotal 17

Third Year

| Fall | CR | Spring | CR |
|---|----|---|----|
| CHE 301 The Chemical Literature | 1 | CHE 304 Introduction to Chemical Research | 1 |
| CHE 415/415L Instrumental Analysis and Lab | 4 | CHE 358/358L Advanced Inorganic Chemistry and Lab | 4 |
| CHE 339 Biochemistry I * | 3 | CHE 385/CHE 385L Quantitative Analysis and Lab | 4 |
| BIO 211/211L Anatomy & Physiology I and Lab (recommended) | 4 | Theology Core | 3 |
| History Core | 3 | Outer Core Sequence 1 | 3 |

Subtotal 15 Subtotal 15

Fourth Year

| Fall | CR | Spring | CR |
|---|----|--|----|
| CHE 411 Senior Research I | 2 | CHE 412 Senior Research II | 1 |
| CHE 313/313L Physical Chemistry I and Lab | 4 | CHE 314/314L Physical Chemistry II and Lab | 4 |
| Foreign Language | 3 | Fine Arts Core | 3 |
| Philosophy Core #2 | 3 | Theology Core | 3 |
| Outer Core Sequence 2 | 3 | Outer Core Sequence 3 | 3 |

Subtotal 15 Subtotal 14

Total Credits: 123

Note: This course pattern applies to students entering under the 2022-23 Academic Catalog and later. Updated – 08/2023

^{*} CHE 342L Biochemistry Lab Methods is also offered in the fall of the third year. If this course is added to fall of the third year, then a core course may be moved to fall of the fourth year.

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Second Century Core: Inner core courses identified with green text, outer core possibilities identified with purple text.

-ODD YEAR START-

First Year

| Fall | CR | Spring | CR |
|---|----|---|----|
| FYE 150 First Year Exploration | 1 | Communication Core | 3 |
| CHE 111/111L General Chemistry I and Lab (Science + Lab – Core) | 4 | CHE 113/113L General Chemistry II and Lab | 4 |
| MAT 151 Calculus and Analytical Geometry I (Math Core) | 4 | MAT 152 Calculus and Analytical Geometry II | 4 |
| ENG 150 Literature, Writing and Research | 3 | BIO 102/102L General Biology II and Lab | 4 |
| BIO 101/101L General Biology I and Lab | 4 | | |

Subtotal 16 Subtotal 15

Second Year

| Fall | CR | Spring | CR |
|--|----|---|----|
| CHE 220/220L Organic Chemistry I and Lab | 4 | CHE 240/240L Organic Chemistry II and Lab | 4 |
| PHY 141/141L General Physics I and Lab | 5 | PHY 142/142L General Physics II and Lab | 5 |
| MAT 201 Calculus and Analytical Geometry III | 4 | English 200+ Core | 3 |
| Social Science – Core – PSY 105 or SOC 105 | 3 | BIO 206/206L Genetics and Lab | 4 |
| | | Philosophy Core #1 | 1 |

Subtotal 16 Subtotal 17

Third Year

| Fall | CR | Spring | CR |
|---|----|--|----|
| CHE 301 The Chemical Literature | 1 | CHE 304 Introduction to Chemical Research | 1 |
| CHE 313/313L Physical Chemistry I and Lab | 4 | CHE 314/314L Physical Chemistry II and Lab | 4 |
| BIO 211/211L Anatomy & Physiology I and Lab (recommended) | 4 | Fine Arts Core | 3 |
| CHE 339 Biochemistry I * | 3 | Theology Core | 3 |
| History Core | 3 | Outer Core Sequence 1 | 3 |

Subtotal 15 Subtotal 14

Fourth Year

| Fall | CR | Spring | CR |
|--|----|---|----|
| CHE 411 Senior Research I | 2 | CHE 412 Senior Research II | 1 |
| CHE 415/415L Instrumental Analysis and Lab | 4 | CHE 358/358L Advanced Inorganic Chemistry and Lab | 4 |
| Foreign Language | 3 | CHE 385/CHE 385L Quantitative Analysis and Lab | 4 |
| Philosophy Core #2 | 3 | Theology Core | 3 |
| Outer Core Sequence 2 | 3 | Outer Core Sequence 3 | 3 |

Subtotal 15 Subtotal 15

Total Credits: 123

Note: This course pattern applies to students entering under the 2022-23 Academic Catalog and later. Updated -08/2023

^{*} CHE 342L Biochemistry Lab Methods is also recommended. This course is offered in the fall of the fourth year.