

Department of Chemistry

Curriculum for the Bachelor of Science Degree in Chemistry

FRESHMAN YEAR

First Semester

4 - CH 101 General Chemistry
1 - CH 141 Chemistry Orientation
3 - Humanities/Social Science/STS/CC
3 - ENGL 103 Composition
4 - MTHSC 106 Calculus of One Variable I
15

Second Semester

4 - CH 102 General Chemistry
4 - MTHSC 108 Calculus of One Variable II
3 - PHYS 122 Physics with Calculus I
3 - Humanities/Social Science/STS/CC
2 - CH 152 Chemistry Communication I
16

SOPHOMORE YEAR

First Semester

3 - CH 223 Organic Chemistry
1 - CH 227 Organic Chemistry Lab
4 - MTHSC 206 Calculus of Sev. Var.
3 - PHYS 221 Physics with Calculus II
1 - PHYS 223 Physics Lab II
4 - Foreign language requirement
16

Second Semester

3 - CH 224 Organic Chemistry
1 - CH 228 Organic Chemistry Lab
4 - MTHSC 208 Intro. to Ord. Diff. Equa.
3 - PHYS 222 Physics with Calculus II
1 - PHYS 224 Physics Lab II
3 - CH 205 Intro. to Inorganic Chemistry
15

JUNIOR YEAR

First Semester

3 - CH 313 Quantitative Analysis
2 - CH 315 Quantitative Analysis Lab
3 - CH 331 Physical Chemistry
1 - CH 339 Physical Chemistry Lab
3 - BIOCH 301 Biochemistry
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 - Elective
3 - Literature requirement
15

SENIOR YEAR

First Semester

3 - CH 402 Inorganic Chemistry
2 - CH 403 Advanced synthetic techniques
3 - CH 443 Research Problems
3 - Chemistry Requirement
3 - Humanities/Social Science/STS/CC
14

Second Semester

3 - Chemistry Requirement
3 - CH 450 Chemistry Capston
1 - CH 452 Chemistry Communication II
3 - CH 444 Research Problems
3 - Elective
3 - Humanities/Social Science/STS/CC
16

122 Total Semester Hours

Notes:

1. General education requirements must include one STS and one cross-cultural
2. Foreign language requirement – equivalent of a 102 level course in any modern foreign language

Career Guidance Programs

Of the 122 total semester hours shown above, 6 are hours for chemistry required elective courses and 6 are other electives. Some suggestions for your chemistry (C) and other (E) electives based on career goals are given below. The courses listed below are suggestions to help you plan your particular program. The credit hours are shown in parentheses.

- a. Graduate study in chemistry
C: CH 421(3), CH 425(3) CH 435(3), CH 413(3), CH 451(3)
E: BIOL 110(5) and BIOL 111(5), or BIOL 103(4) and BIOL 104(4), BIOCH 423(3), MTHSC 301(3)
- b. Employment after receiving the B.S. degree in sales, production, management, or laboratory work.
C: CH 413(3) CH 425(3) CH 471(3)
E: ACCT 201(3), ACCT 202(3), ACCT 307(3), FIN 306(3), ECON 200(3),ECON 301(3), ECON 309(3), MTHSC 301(3), MGT 307(3).
- c. Professional or graduate study in disciplines requiring a strong preparation in biology, medicine, dentistry, etc.
C: BIOCH 423(3), CH425(3) CH 451(3)
E: BIOL* 110(5) and BIOL* 111(5), or BIOL* 103(4) and BIOL* 104(4), MICRO 305(4), MICRO 411(4), AGRIC 104(3)
*Need to be taken the first year, if possible
- d. Graduate study in chemical physics
C: CH435(3), CH 427(3), CH 451(3)
E: PHYS 321(3), PHYS 322(3), MTHSC 301(3)
- e. Graduate study in geochemistry
C: CH 435(3), CH 427(3) CH 413(3)
E: GEOL 101(4), GEOL 102(4), GEOL 306(3), GEOL 318(3), MTHSC 301(3)
- f. Professional study for patent or corporate law
C: CH 413(3), CH425(3), CH 451(3)
E: PHIL 102(3), PO SC 101(3), PO SC 302(3), LAW 322(3), ACCT 201(3), ACCT 202(3), MTHSC 301(3)
- g. Chemistry teaching in secondary schools
C: CH 427(3), CH 471(3)
E: EDF 301(3), EDF 302(3), EDF 335(3), ED 427(3), ED SP 402 (3), ED 498 (3), ED 412 (Directed teaching)
- h. Chemistry with an Environmental Chemistry Specialization
C: CH 413 (3), EE&S 411(3)
E: BIOL 103 (4), BIOL 104(4), ENSP 200(3), EE&S 401(3), EE&S 402(3), GEOL 112(4)

Other courses which can be used to satisfy the chemistry requirements include BIOCH 406, 423; ENTOX 421, 430; EE&S 411, 485; FD SC 401; TC 406.

This list is not comprehensive. Check with your advisor for additional options. Seniors with a GPR of 3.0 or greater may also take 800-level chemistry courses for credit. Permission must be obtained from the Graduate School.