

Chemistry Major Degree Plan

The following suggested schedule is for students working toward a Bachelor of Science or Bachelor of Arts degree in Chemistry. Students should consult with their advisor to develop a plan of study tailored to their individual needs and interests.

In addition to the University Studies requirements for graduation, chemistry majors take a series of core courses spread across a traditional four-year period. The completion of the chemistry core also covers the College of Science requirements for graduation.

Chemistry Major Core Requirements Suggested Schedule

First Year (30-32 credits)

Fall Semester (15-16 credits)

CHEM 1210 Principles of Chemistry I	4
CHEM 1215 Chemical Principles Laboratory I	1
MATH 1210 (QL) Calculus I	4
University Studies courses	6-7

Spring Semester (15-16 credits)

CHEM 1220 (BPS) Principles of Chemistry II	4
CHEM 1225 Chemical Principles Laboratory II	1
MATH 1220 (QL) Calculus II	4
University Studies courses	6-7

Second Year (32-33 credits)

Fall Semester (16 credits)

CHEM 2310 ² Organic Chemistry I	4
CHEM 2315 ² Organic Chemistry Laboratory I	1
CHEM 3000 (QI) Quantitative Analysis	3
CHEM 3005 Quantitative Analysis Laboratory	1
PHYS 2210 (QI) General Physics—Science and Engineering I	4
MATH 2210 (QI) Multivariable Calculus	3

Spring Semester (16-17 credits)

CHEM 2320 ³ Organic Chemistry II	4
CHEM 2325 ³ Organic Chemistry Laboratory II	1
CHEM 3510 ³ Intermediate Inorganic Chemistry	2
CHEM 3520 ³ Inorganic Chemistry Laboratory	1
PHYS 2220 (QI/BPS) General Physics—Science and Engineering II	4
University Studies courses	4-5

Third Year (29-31 credits)

Fall Semester (14-16 credits)

CHEM 3060 (QI) ² Physical Chemistry	3
CHEM 3080 (CI) ² Physical Chemistry Laboratory I	1
CHEM 5700 ² General Biochemistry I	3
MATH 2250 (QI) ¹ Linear Algebra and Differential Equations (4 cr) or STAT 3000 (QI) ¹ Statistics for Scientists (3 cr)	3 or 4
University Studies or elective courses	4-5

Spring Semester (15 credits)

CHEM 3070 (QI) ³ Physical Chemistry	3
CHEM 3090 (CI) ³ Physical Chemistry Laboratory II	1
CHEM 5640 ³ Instrumental Analysis	3
CHEM 5650 ³ Instrumental Analysis Laboratory	2
University Studies or elective courses for specific degree emphasis	6

Fourth Year (31-32 credits)

CHEM 4990 (CI) Undergraduate Seminar	2
Upper-division and advanced elective courses for specific degree emphasis	29-30

¹ The completion of MATH 2250 or STAT 3000 is optional for the Teaching Major.

Chemistry Degree Emphases

Professional Chemistry Emphasis (ACS Certified)

In addition to the chemistry core, students must complete the following:

CHEM 5520 ² Advanced Inorganic Chemistry (F)	2
CHEM 5530 ³ Advanced Synthesis Laboratory (Sp)	2
Advanced electives, as approved by department	6

Biochemistry Emphasis (ACS Certified)

In addition to the chemistry core, students must complete the following:

CHEM 5710 ³ General Biochemistry II (Sp)	3
CHEM 5720 ³ General Biochemistry Laboratory (Sp)	3
BIOL 1610 ² Biology I (F)	4
Advanced Biology electives, as approved by department	4

Environmental Chemistry Emphasis (ACS Certified)

In addition to the chemistry core, students must complete the following:

CHEM 5670 ³ Intermediate Environmental Chemistry (Sp)	3
CHEM 5680 ³ Environmental Chemistry Laboratory (Sp)	2
Introductory environmental electives as approved by department	6-7
Advanced environmental electives as approved by department	3

Chemical Education Emphasis (ACS Certified)

In addition to the chemistry core, students must complete the following:

SCI 4300 Science in Society (F,Sp)	2
Required courses for the Secondary Teacher Education Program (STEP) (see details in the Department of Chemistry and Biochemistry section of the <i>General Catalog</i>)	35
Teaching minor from outside the Department of Chemistry and Biochemistry	18-30

² Offered fall semester only

³ Offered spring semester only

BS Degree in Chemistry with Honors

This option can be met by completing any ACS certified program and by meeting the following requirements:

1. Minimum GPA of 3.50 in chemistry courses
2. Overall GPA of 3.30
3. Completion of 15 credits of honors work by successfully completing honors contracts in the following courses:

CHEM 4800 (CI) Research Problems (F, Sp, Su)	3-6
CHEM 4990 (CI) Undergraduate Seminar (F, Sp)	2
Credits selected from Honors courses numbered 3000 or above in chemistry or related subjects, as appropriate. Three credits may be selected from chemistry courses numbered 6000 or above	3-6

In addition, select two courses from the following:

CHEM 2320 Organic Chemistry II (Sp)	4
CHEM 3070 (QI) Physical Chemistry (Sp)	3
CHEM 5640 Instrumental Analysis (Sp)	3
CHEM 5700* General Biochemistry I (F) (3 cr) or CHEM 3700 Introductory Biochemistry (Sp) (3 cr)	3

*CHEM 5700 cannot be taken as an elective course if the CHEM 3700 option is taken.

Chemistry Major Degree Plan

BS in Chemistry, Life Science Emphasis

In addition to the Chemistry Core Requirements (with the exception of CHEM 5640, 5650), students must complete the following:

BIOL 1610 Biology I (F).....	4
BIOL 1620 (BLS) Biology II (Sp) (4 cr) or	
BIOL 2420 Human Physiology (F,Sp,Su) (4 cr).....	4
BIOL 3060 (QI) Principles of Genetics (F,Sp,Su) (4 cr) or	
BIOL 3300 (BLS) General Microbiology (F,Sp) (4 cr)	4
CHEM 5710 General Biochemistry II (Sp).....	3
CHEM 5720 General Biochemistry Laboratory (Sp).....	3

BA in Chemistry

In addition to the chemistry core (with the exception of CHEM 5640, 5650), students must complete the following:

CHEM 5520 Advanced Inorganic Chemistry (F) (2 cr) or	
CHEM 5640 Instrumental Analysis (Sp) (3 cr).....	2 or 3
Completion of one foreign language (16 cr) or	
Completion of two foreign languages (20 cr).....	16 or 20

Chemistry Teaching Major

In addition to the Chemistry Core Requirements (with the exception of MATH 2250 or STAT 3000, and CHEM 5640 and 5650), students must complete the following:

SCI 4300 Science in Society (F,Sp).....	2
Required courses for the Secondary Teacher Education Program (STEP) (see details in the Department of Chemistry and Biochemistry section of the <i>General Catalog</i>)	35
Teaching minor from outside the Department of Chemistry and Biochemistry	18-30