UW–La Crosse ACS–Chemistry & Biochemistry Major Curricula
Comparison of Required CHM Courses

In addition to the two major tracks outlined below, students also may pursue the following degree tracks: Chemistry Major with Business Concentration, Chemistry Major with Environmental Science Concentration, Chemistry Major with Teacher Certification, Dual Degree in Chemistry and Chemical Engineering, Chemistry Minor
See UW–L Course Catalogs for more detail

Chemistry Major, American Chemical Society (ACS) Certified

The Department of Chemistry and Biochemistry is fully accredited by the American Chemical Society. Students following this ACS–prescribed curriculum, which meets the high standards of the Society, will earn the ACS–Certified Bachelor of Science Degree in Chemistry.

46–52 Credits:

Fr | CHM 103–General Chemistry I (5 cr) — MTH 150 prereq or place in MTH 151 (Pre–calc) or higher
CHM 104–General Chemistry II (5 cr) — grade of C or better in CHM 103 prereq

CHM 231–Fundamental Inorganic Chemistry (4 cr) — grade of C or better in CHM 104 prereq (L=42)
CHM 271–The Chemical Community (1 cr) — CHM 104 and sophomore standing

So | CHM 301–Analytical Chemistry (5 cr) — CHM 104 prereq (L=84)
CHM 303–Organic Chemistry Theory I (3 cr) — CHM 104 prereq
CHM 304–Organic Chemistry Theory II (3 cr) — CHM 303 prereq
CHM 305–Organic Chemistry Laboratory (2 cr) — CHM 303 prereq (L=84)

Jr | CHM 309–Physical Chemistry Theory I (3 cr) — MTH 310, PHY 203–204 prereqs
CHM 310–Physical Chemistry Theory II (3 cr) — CHM 309 prereq
CHM 313–Physical Chemistry Laboratory (3 cr) — CHM 309 prereq/coreq (L=84)
CHM 325–Fundamental Biochemistry (4 cr) —CHM 304 prereq (L=42)
OR
CHM 417–Biochemistry I (3 cr) —CHM 300 or 304 prereq (L=42)

Sr | In–Depth Electives or Research (CHM 499) to generate 84 total lab hours* (4–10 cr) (L=84)
CHM 471–Capstone in Chemistry (1 cr) — senior standing

Total Credits: 46–52
Total Lab (L) Hours = 420

* Choose from:
CHM 314–Advanced Physical Chemistry Laboratory (2 cr, w/lab=42),
CHM 330–Industrial Chemistry (3 cr),
CHM 403–Advanced Organic Chemistry (3 cr),
CHM 405–Advanced Synthesis Laboratory (2 cr, w/lab=42),
CHM 407–Biophysical Chemistry (3 cr),
CHM 412–Environmental Chemistry (3 cr),
CHM 418–Biochemistry II (3 cr),
CHM 419–Advanced Biochemistry Laboratory (2 cr, w/lab=84),
CHM 424–Spectroscopy (3 cr, w/lab=42), CHM 431–Advanced Inorganic Chemistry (3 cr),
CHM 441–Instrumental Analysis (4 cr, w/lab=42),
CHM 461–Nuclear Chemistry (4 cr, w/lab=42),
CHM 499–Research (2 cr max, lab=42 per credit)
Biochemistry Major

The Department of Chemistry and Biochemistry is fully accredited by the American Chemical Society...

46 Credits:

Fr
- CHM 103—General Chemistry I. (5 cr) — MTH 150 prereq or place in MTH 151 (Pre-calc) or higher
- CHM 104—General Chemistry II. (5 cr) — grade of C or better in CHM 103 prereq

So
- CHM 271—The Chemical Community (1 cr) — CHM 104 and sophomore standing
- CHM 301—Analytical Chemistry (5 cr) — CHM 104 prereq (L=84)
- CHM 303—Organic Chemistry Theory I (3 cr) — CHM 104 prereq
- CHM 304—Organic Chemistry Theory II (3 cr) — CHM 303 prereq
- CHM 305—Organic Chemistry Laboratory (2 cr) — CHM 303 prereq (L=84)

Jr
- CHM 417—Biochemistry I (3 cr) — CHM 300 or 304 prereq (L=42)
- CHM 418—Biochemistry II (3 cr) — grade of C or better in CHM 417 prereq
- CHM 419—Advanced Biochemistry Laboratory (2 cr) — grade of C or better in CHM 417 prereq (L=84)
- CHM 407—Biophysical Chemistry (3 cr) — CHM 417 or 325, MTH 208 or 265, PHY 104 or 204 prereqs

Sr
- BIO 435—Molecular Bio (2 cr) — BIO 306 and BIO 315 or MIC 416 prereqs
- BIO 436—Molec Bio Lab (1 cr, L=42) — must take BIO 435 concurrently (L=42)
- CHM 471—Capstone in Chemistry (1 cr) — senior standing

Total Credits: 46

Total Lab (L) Hours = 336

PLUS, select 5 credits of electives from the following list (to total 46 credits):

- CHM 403—Advanced Organic Chemistry (3 cr), CHM 405—Advanced Synthesis Laboratory (2 cr, w/lab=42), CHM 431—Inorganic Chemistry (3 cr), CHM 441—Instrumental Analysis (4 cr, w/lab=42), CHM 499—Research (2 cr max, lab=42 per credit), and/or
- MIC 310—Immunology (3 cr), MIC 407—Pathogenic Bacteriology (4 cr, w/lab=56), MIC 410—Immunology Laboratory (2 cr, w/lab=56), MIC 420—Introductory Virology (3 cr), MIC 421—Virology Laboratory (2 cr, w/lab=56), and/or
- BIO 408—Developmental Biology (4 cr, w/lab=56), BIO 424—Human Endocrinology (3 cr), BIO 432—Biology of Cancer (2 cr), BIO 440—Bioinformatics (2 cr), BIO 443—Drugs & Disease (3 cr), BIO 449—Adv Microscopy and Biological Imaging (3 cr, w/lab=28?), BIO 465—Neurophysiology (3 cr), BIO 466—Human Molecular Genetics (3 cr), BIO 467—Neurobiology Lab Techniques (2 cr, w/lab=84?), BIO 468—Human Molecular Genetics Lab (1 cr, w/lab=42).

(At minimum, would need to acquire >64 LAB hours from these electives for the ACS-Certified Biochemistry Major)