

## ***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
- So | **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  
**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)*