Chemistry - Biochemistry

"Chemistry is called the 'central science' because of its central position in a fundamental understanding of diverse fields such as biology, medicine and pharmacy, physics, the environment, and geology. Our majors study the structure, properties, and reactivity of matter in both lecture and hands-on laboratories. Many of our students engage in undergraduate research where they work one-on-one with our faculty to apply course work to a real chemical problem. Graduating majors go on to pursue advanced degrees, gain employment in chemical industry and work in government laboratories."

Dr. Janet Asper, chair

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New students considering a major in biochemistry must take the Chemistry Placement test. Based on the test recommendation, majors should select either Foundations of Chemistry (**CHEM 101**) or General Chemistry I (**CHEM 111**), an introductory Biology course (**BIOL 121** or **BIOL 125)** and an appropriate mathematics course (e.g. **MATH 111, 121** or **MATH 122**). If a student's Placement Test score is 32, 33, or 34, they may consider co-enrolling in CHEM111 and Quantitative Reasoning for the Sciences (**MATH120**). CHEM 111 fulfills the first semester of the two- semester natural science sequence (CHEM 111-112). CHEM 111 also fulfills a requirement for majors in biology, geology and environmental science and minors in neuroscience and pre-conservation in fine art. Course descriptions for the biology, mathematics and physics courses can be found in the information for the Departments of Mathematics and Physics, respectively. Please visit the Chemistry Department's website for more information.

Below please find some examples of first semester schedules for a chemistry major. There are many variations of a first semester schedule; these examples are just meant to help you see that there are several ways to reach the same goals.

Example 1: Fall semester biochemistry major with a CHEM 111 placement test recommendation

Course (credits)	Requirement(s) Met
1. FSEM 100X[a] – Chemistry and War (3)	FSEM
2. CHEM 111[b] – General Chemistry I with Lab (4)	Major, NSL
3. BIOL 121[b] or 125[c]* – Biology Concepts or Phage Hunters (4)	Major, NSL
4. MATH 121[b] – Calculus I (4)	QREA
5. SPAN 101[b] - Beginning Spanish (3)	LANG

Example 2: Fall semester biochemistry major with a CHEM 101 placement test recommendation

Course (credits)	Requirement(s) Met
1. FSEM 100B8[(a)] – Ethics & Literature (3)	FSEM
2. CHEM 101 – Foundations of Chemistry (3)	Elective
3. MATH 111[(b)] – Precalculus (3)	QREA
4. BIOL 121[(b)] or 125[(c)]* – Biology Concepts or Phage Hunters (4)	Major, NSL
5. FREN 101[(b)] – Beginning French (3)	LANG

Example 3: Fall semester biochemistry major with a placement test score falling between 32 and 34 and wishing to enroll in CHEM 111

Course (credits)	Requirement(s) Met
1. FSEM 100X[(a)] – First Year Seminar (3)	FSEM
2. CHEM 111 – General Chemistry I with Lab (4)	Major, NSL
3. MATH 120 – Quantitative Reasoning for the Sciences (3)	QREA
4. BIOL 121[(b)] or 125[(c)]* – Biology Concepts or Phage Hunters (4)	Major, NSL

Athletes for varsity sports must register for the 400-level course of the sport. Practice times for varsity sports vary, but, generally speaking, athletes should allow for time to get to and from practice on weekdays from 3 - 6 p.m. Please check with the coach for your sport to verify specific practice times.

For the **spring semester**, students might consider the following example schedules:

Example 1: Biochemistry major with CHEM 111 completed during the first semester

Course (credits)	Requirement(s) Met
1. CHEM 112[(c)]* - General Chemistry II with Lab (4)	Major, NSL, HN*
2. BIOL 132 – Organism Function and Diversity	Major, NSL
or BIOL 126[(c)]* – Phage Hunters (4)	Major, NSL, WI*, HN*
3. MATH 122 - Calculus II (4)	QREA
4. SPAN 102 - Beginning Spanish (3)	LANG

Example 2: Biochemistry major with CHEM 101 completed during the first semester

Course (credits)	Requirement(s) Met
1. CHEM 111 – General Chemistry I with Lab (4)	Major, NSL
2. MATH 121 - Calculus I (4)	QREA
3. BIOL 132 – Organism Function and Diversity	Major, NSL
or BIOL 126[(c)]* – Phage Hunters (4)	Major, NSL, WI*, HN*
4. FREN 102 – Beginning French (3)	LANG

(a) Honors Program students should take HIST 201/202HN or FSEM 100HN to fulfill required first-year Honors coursework.

(b) This particular course is in a discipline that allows students with demonstrated competence upon admission to UMW (such as AP/IB credit, dual enrollment, etc.) to begin courses at a higher level. Talk to Academic Services if you believe you should start at a higher level.

(c) BIOL 125, BIOL 126, CHEM 112, PHYS 105, and PHYS 106 are also available as honors (HN) designated options.

** Not all sections of a course may have the Writing Intensive (WI), Speaking Intensive (SI), or Honors (HN) attributes. These designations for a course are dependent on instructor and semester, and are listed in the Banner description for the semester in which you are registering.*