

## Biochemistry

### Recommended Four-Year Plan (Fall 2016)

This recommended four-year plan is designed to provide a blueprint for students to complete their degrees within four years. These plans are the recommended sequences of courses. Students must meet with their Major Advisor to develop a more individualized plan to complete their degree. This plan assumes that no developmental courses are required. If developmental courses are needed, students may have additional requirements to fulfill which are not listed in the plan and degree completion may take longer.

**NOTE:** This recommended Four-Year Plan is applicable to students admitted into the major during the 2016-2017 academic year.

First Year					
Fall Semester	HRS	✓	Spring Semester	HRS	✓
Gen Ed: INTD 101-First Year Seminar	4		Gen Ed: SOSOC 101-Social Issues	4	
Gen Ed: CRWT 102-Critical Reading & Writing II	4		BIOL 112-Fundamentals of Biology II***	4	
BIOL 110-Fundamentals of Biology I*** WI	4		CHEM 112-Fundamentals of Chemistry II***	4	
CHEM 110-Fundamentals of Chemistry I***	4		MATH 121-Calculus I	4	
<b>Total:</b>	16		<b>Total:</b>	16	

Second Year					
Fall Semester	HRS	✓	Spring Semester	HRS	✓
Gen Ed: History	4		Gen Ed: AIID 201-Readings in Humanities	4	
CHEM 210-Organic Chemistry I***	4		Gen Ed: Intercultural North America	4	
MATH 122-Calculus II	4		CHEM 212-Organic Chemistry II***	4	
PHYS 114-Physics w/ Calculus I***	4		PHYS 115-Physics with Calculus II***	4	
<b>Total:</b>	16		<b>Total:</b>	16	

Third Year					
Fall Semester	HRS	✓	Spring Semester	HRS	✓
Gen Ed: Topics in Arts & Humanities or Topics in Social Science	4		TAS School Core: Science in Cultural Perspective	4	
CHEM 323-Analytical Chemistry***	4		BIOL 331-Genetics***†	4	
CHEM 426- Biochemistry I***\$	4		CHEM 340-Physical Chemistry I*	3	
Gen Ed: International Issues	4		CHEM 446- Biochemistry II* <sup>\$C</sup> WI	4	
<b>Total:</b>	16		<b>Total:</b>	15	

Fourth Year					
Fall Semester	HRS	✓	Spring Semester	HRS	✓
BIOL 406-Cell & Molecular Biology***† WI	4		CHEM 443-Advanced Inorganic Chemistry***‡	4	
CHEM 341-Physical Chemistry I** WI	1		Elective <sup>RE</sup>	4	
Gen Ed or Elective <sup>RE</sup>	4		Elective <sup>RE</sup>	4	
Elective <sup>RE</sup>	4		Elective <sup>RE</sup>	4	
Elective <sup>RE</sup>	4				
<b>Total:</b>	17		<b>Total:</b>	16	

**Total Credits Required:** 128 credits

**GPA:** 2.0

\*Lecture Only, \*\*Lab Only, \*\*\*Lecture & Lab

† Offered in both Spring and Fall Semesters

‡ Advanced Inorganic Chemistry (CHEM 443) must be taken to be certified by the American Chemistry Society

**RE** Biochemistry Program strongly recommended taking recommended electives (check list of the recommended elective courses from requirements on the major)

§ Biochemistry I (CHEM 426) and Biochemistry II (CHEM446) can be taken in 3<sup>rd</sup> or 4<sup>th</sup> year. It is recommended to take Biochemistry I (CHEM 426) and Biochemistry II (CHEM 446) continuously in the same academic year.

**C** Biochemistry II (CHEM 446) capstone course is designed to draw from and build on content and skills learned during a student's progression through the major. The course includes both a lecture and laboratory component, with a significant writing component. In undertaking this course, students will demonstrate: a thorough understanding of the relevant biochemistry material, an ability to apply problem-solving strategies, expertise in laboratory procedures and instrumentation, oral and written communication skills, an ability to comprehend and critically evaluate scientific literature. Requires prerequisite CHEM 426

Biochemistry Program strongly recommends to attend TAS Research Honor courses (SRSH 301, 302, 401 and 402) during 3<sup>rd</sup> and 4<sup>th</sup> year for hands-on research experience. Students who completed all of TAS Research courses (SRSH 301, 302, 401, and 402) will graduate with TAS Research Honor Distinction. Requires prerequisite CHEM 212

WI: Writing Intensive-3 required in the major