

Major Academic Plan for B.S. in Biochemistry

A Major Academic Plan (MAP) illustrates one way to complete a degree in a recommended number of semesters. Below is an example of an efficient and

recommended plan, but actual plans will vary by individual student needs. Program requirements are based on Catalog Year.

Course Subject and Title	Credits	Min Grade	*Program Element	**When Offered	Prerequisite	Co Requisite
First Semester						
GE Objective 1: ENGL 1101	3	C-	GE	F, S, Su	Appropriate placement score	
GE Objective 3: MATH 1170	4	C-	GE	F, S, Su	MATH 1144, MATH 1147, or appropriate test score	
GE Objective 5: CHEM 1111 & CHEM 1111L	5	C-	GE	F, S, Su	MATH 1144, MATH 1147, or appropriate test score	
Objective 5: BIOL 1101 & BIOL 1101L	4	C-	GE	F, S, Su	MATH 1108 or appropriate test score	
Semester Total	16					
Second Semester						
GE Objective 1: ENGL 1102	3	C-	GE	F, S, Su	ENGL 1101 or equivalent	
BIOL 1102 & 1102L Biology II and Biology II Lab	4	C-		F, S	BIOL 1101 & 1101L	
CHEM 1112 & 1112L General Chemistry II and General Chemistry II Lab	4	C-		F, S, Su	CHEM 1111 & 1111L, MATH 1143 or equivalent	
MATH 1175 Calculus II	4	C-		F, S, Su	MATH 1170.	
Semester Total	15					
Third Semester						
GE Objective 2: COMM 1101	3	C-	GE	F, S, Su		
BIOL 2235 & 2235L General Microbiology and General Microbiology Lab ¹	4			F, S	BIOL 1101, BIOL 1102, CHEM 1112	
CHEM 3301 & CHEM 3303 Organic Chemistry I and Organic Chemistry Laboratory I	4	C-	UM	F, S	CHEM 1112 & 1112L or permission of instructor	
PHYS 1111 & PHYS 1113 General Physics I and General Physics I Laboratory ²	4	C-		F, S	MATH 1142 or MATH 1147 or appropriate test score	
Semester Total	15					
Fourth Semester						
BIOL 3358 Genetics	3	C-	UM	F, S	BIOL 2235 or BIOL 2206	
CHEM 2232 & CHEM 2234 Quantitative Analysis and Quantitative Analysis Laboratory	4	C-		S	CHEM 1112/L, MATH 1160 or 1170	
CHEM 3302 & CHEM 3304 Organic Chemistry II and Organic Chemistry Laboratory II	4	C-		S	CHEM 3301 & 3303	

PHYS 1112 & PHYS 1114 General Physics II and General Physics II Laboratory ²	4	C-		F	PHYS 1111 & 1113	
Semester Total	15					
Fifth Semester						
GE Objective 6	3		GE	F, S, Su		
BIOL 4445 Biochemistry I or CHEM 4445 Biochemistry I	3		UM	F	BIOL 1101 and CHEM 3302.	
CHEM 3341 Topics in Physical Chemistry I ³	3	C-	UM	F	CHEM 1112 & 1112L, PHYS 1112 or 2211, MATH 1160 or 1175	
BIOL electives from approved list	4	C-		F, S	See Course Description	
CHEM electives from approved list	4	C-		F, S	See Course Description	
Semester Total	17					
Sixth Semester						
GE Objective 4	3		GE	F, S		
BIOL 4437 Experimental Biochemistry or CHEM 4438 Experimental Biochemistry	1	C-	UM	S	BIOL 4432 or CHEM 4445	
BIOL 4447 Biochemistry II or CHEM 4447 Biochemistry II	3	C-		S	BIOL/CHEM 4445	
CHEM 3342 Topics in Physical Chemistry II ³	3	C-	UM	S	CHEM 3341	
BIOL electives from approved list	4	C-	UM	F, S	See Course Description	
Semester Total	14					
Seventh Semester						
GE Objective 6	3		GE	F, S, Su		
GE Objective 7 or 8	3		GE	F, S, Su		
BIOL 4444 & 4444L Cell and Molecular Biology and Cell and Molecular Biology Lab	4	C-	UM	F	BIOL 3358 & CHEM 3302	
CHEM electives from approved list	4	C-		F, S	See Course Description	
Semester Total	14					
Eighth Semester						
GE Objective 4	3		GE	F, S, Su		
GE Objective 9	3		GE			
BIOL 4498 Seminar in Biochemistry or CHEM 4498 Seminar in Biochemistry	1	C-	UM	F, S		Senior standing or permission of instructor
BIOL or CHEM elective from approved list	4	C-		F, S	See Course Description	
Free Elective	3					
Semester Total	14					
Total	120					

* GE = General Education Objective, UU = Upper Division University, UM = Upper Division Major

** See Course Scheduling section of the Course Policies (<http://coursecat.isu.edu/undergraduate/academicinformation/coursepolicies/>) page in the Undergraduate Catalog.

¹ BIOL 2206 and BIOL 2207 can be taken instead of BIOL 2235 and BIOL 2235L

² PHYS 2211, PHYS 2212, PHYS 2213, and PHYS 2214 may be taken instead of PHYS 1111, PHYS 1112, PHYS 1113, and PHYS 1114

³ CHEM 3351 and CHEM 3352 can be taken instead of CHEM 3341 and CHEM 3342

MAP Credit Summary	Credits
Major	77
General Education	40
Electives to reach 120 credits	3
Total	120