

Course Subject and Title	Cr.	Min. Grade	*GE, UU or UM	**Sem. Offered	Prerequisites, (Corequisite)	Scheduling Notes
Years 1-2 (Same as BS Degree)						
CHEM 1111 / 1111L General Chemistry I & Lab	5	C-	GE 5	F	MATH 1143 or 1147	usually taken... Fall 1
CHEM 1112 / 1112L General Chemistry II & Lab	4	C-		S	CHEM 1111 / 1111L	Spring 1
CHEM 3301 / 3303 Organic Chemistry I & Lab	4	C-	UM	F	CHEM 1112 / 1112L	Fall 2
CHEM 3302 / 3303 Organic Chemistry II & Lab	4	C-	UM	S	CHEM 3301 / 3303	Spring 2
CHEM 2232 / 2234 Quantitative Analysis & Lab	4	C-		S	CHEM 1112 / 1112L	Spring 2
MATH 1170	4	C-	GE 3	F, S	MATH 1144 or 1147	Fall 1
MATH 1175	4	C-		F, S	MATH 1170	Spring 1
PHYS 1111 / 1113	4	C-		F	MATH 1143 or 1147	Fall 2
PHYS 1112 / 1114	4	C-		S	PHYS 1111 / 1113	Spring 2
BIOL 1101 / 1101L Biology I & Lab	4	C-	GE 5	F, S	MATH 1108	Fall 1
BIOL 1102 / 1102L Biology II & Lab	4			F, S	BIOL 1101	Spring 1
BIOL 2233/2233L Principles of Microbiology & Lab	4	C-		F, S	BIOL 1101, CHEM 1111	Fall 2
BIOL 3358 Genetics	3	C-	UM	F, S	BIOL 2233	Spring 2
3 Gen Ed Courses, Objectives 1, 1, & 2	9		GE			
1 Gen Ed Course, Ed Objectives 4, 6, 7, 8, or 9	3		GE			
Total	64					

Semester Five (Fall of Junior Year)						
CHEM 2211 / 2213 Inorganic Chemistry I & Lab	4	C-	ME	F	CHEM 3301 and CHEM 3303 or permission	
CHEM 3331 Instrumental Analysis	2	C-	UME	F	CHEM 2232 and CHEM 2234 or permission	
CHEM 3341 Topics in Physical Chemistry I	3	C-	UM	F	CHEM 1112, 1112L, MATH 1170, and PHYS 1112 or permission	
Gen Ed Objective 4/6/7/8/9	3		GE			
Approved BIOL Elective	4	C-	UME			
Total	16					

Semester Six (Spring of Junior Year)						
CHEM 3334 Instrumental Analysis Lab	2	C-	UME	S	CHEM 2232, CHEM 2234, CHEM 3331 or permission	
CHEM 3342 / Topics in Physical Chemistry II	3	C-	UM	S	CHEM 3351, CHEM 4451	
CHEM 4407 or 5507 Inorganic Chemistry II	2	C-	UME	S	CHEM 2211; CHEM 3342 or 3352 or permission	odd years
CHEM 4482 Independent Problems	2	C-	UME	S		
Gen Ed Objective 4/6/7/8/9	3					
Total	12					

Semester Seven (Fall of Senior Year)						
CHEM 4445 or 5545 Biochemistry I	3	C-	UM	F	BIOL 1101 & CHEM 3302	
Approved BIOL Elective	4		UME			
2 Gen Ed Courses, Objectives 4/6/7/8/9	6		GE			
CHEM 6671 Advanced Organic Chemistry	3	B-		F	CHEM 3302	odd years
OR CHEM 6630 Advanced Analytical Chemistry					CHEM 3334 or permission	even years
Total	16 [†]				[†] 12 undergraduate credits are required for full time status	

Semester Eight (Spring of Senior Year)						
CHEM 4447 or 5547 Biochemistry II	3		UM	S	CHEM 4445	
CHEM 4438 Experimental Biochemistry	1		UM	S		
BIOL 4444 / 4444L Molecular Biology & Lab	4		UM	S	BIOL 3358, CHEM 3301	
CHEM 4498 Seminar	1		UM	F, S	CHEM 4445 or CHEM 4481 or 4482 or 4485 or permission	
Gen Ed Objective 4/6/7/8/9	3		GE			
CHEM 6609 Advanced Inorganic Chemistry	3	B-		S	CHEM 4407 or CHEM 5507 or permission	even years
OR CHEM 6655 Advanced Physical Chemistry					CHEM 3352 or permission	odd years
Total	15 [†]				[†] 12 undergraduate credits are required for full time status	

Semester Nine (Fall of Graduate Year)						
CHEM 6630 Advanced Analytical Chemistry	3	B-		F	CHEM 3334 or permission	even years
OR CHEM 6671 Advanced Organic Chemistry					CHEM 3302	odd years
CHEM 6635 Masters Research	6	B-		F, S	CHEM 4485 or permission	
CHEM 6601 Seminar	1	B-		F		
Total	10					

Semester Ten (Spring of Graduate Year)						
CHEM 6655 Advanced Physical Chemistry	3	B-		S	CHEM 3352 or permission	odd years
OR CHEM 6609 Advanced Inorganic Chemistry					CHEM 4407 or CHEM 5507 or permission	even years
CHEM 6635 Masters Research	6	B-		F, S	CHEM 4485 or permission	
CHEM 6601 Seminar	1	B-		F		
Total	10					

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

**See Course Schedule section of Course Policies page in the e-catalog (or input F, S, Su, etc.)

OR 66XX Lectures are offered in alternating years

[†]To retain financial aid eligibility, students may need to take additional electives to reach 12 undergraduate credits.

Biochemistry Accelerated BS/MS

2025-2026 Major Courses		GENERAL EDUCATION OBJECTIVES	
Undergraduate Major Requirements/Recommendations	cr.	Satisfy Objectives 1, 2, 3, 4, 5, 6, (7 or 8), and 9	cr.
CHEM 1111 & CHEM 1111L: General Chemistry I & L	(5)		
CHEM 1112 & CHEM 1112L: General Chemistry II & Lab	4	1. Written English (6 cr.) ENGL 1101	3
CHEM 2211 & CHEM 2213: Inorganic Chemistry I & Lab	4	ENGL 1102	3
CHEM 2232 & CHEM 2234: Quantitative Analysis & Lab	4	2. Spoken English (3 cr.) COMM 1101 or BIOL 1104	3
CHEM 3301 & CHEM 3303: Organic Chemistry I & Lab	4	3. Mathematics (4 cr.) MATH 1170	4
CHEM 3302 & CHEM 3304: Organic Chemistry II & Lab	4		
CHEM 3331 & CHEM 3334: Instrumental Analysis & Lab	4	4. Humanities, Fine Arts, Foreign Lang. (2 courses in 2 categories, 6 cr)	
CHEM 3341 & CHEM 3342: Topics in Physical Chemistry I & II	6		3
CHEM 4407: Inorganic Chemistry II	2		3
CHEM 4481/4482: Independent Problems	2		
CHEM/BIOL 4437/4438/5538: Experimental Biochemistry	1	5. Natural Sciences (9 cr.) BIOL 1101 / 1101L	6
CHEM/BIOL 4445/5545: Biochemistry I	3	CHEM 1111	3
CHEM/BIOL 4447/5547: Biochemistry II	3		
CHEM/BIOL 4498: Seminar in Biochemistry, Microbiology, etc.	1	6. Behavioral and Social Science (2 courses in different prefixes, 6 cr)	
MATH 1170: Calculus I	(4)		3
MATH 1175: Calculus II	4		3
PHYS 1111/1113: General Physics I & General Physics I Lab	4	One Course from EITHER Objective 7 OR 8 (1 course)	
PHYS 1112/1114: General Physics II & General Physics II Lab	4	7. Critical Thinking Recommended: CS 1111	3
BIOL 1101 & BIOL 1101L: Biology I and Lab	(4)	8. Information Literacy	
BIOL 1102 & BIOL 1102L: Biology II and Lab	4	9. Cultural Diversity (1 course)	
BIOL 2233 & BIOL 2233L: Principles of Microbiology and Lab	4		3
BIOL 3358: Genetics	3	General Education Total	40
BIOL 4444 & BIOL 3304L: Molecular Biology and Lab	4		
Core Undergraduate Major Subtotal (excluding General Education)	71		

Recommended BIOL Electives			
BIOL 3301 & 3301L: Advanced Human Anatomy and Physiology I & Lab	4		
BIOL 3302 & 3302L: Advanced Human Anatomy and Physiology II & Lab	4	Undergraduate Credit Summary (including recommendations)	cr.
BIOL 4433 & 4433L: Microbial Physiology & Lab	4	Major	79
BIOL 4434 & 4434L: Microbial Diversity & Lab	4	General Education	40
BIOL 4461: Microbial Genetics	3	Upper Division Free Electives to reach 36 credits	0
BIOL 4473 & 4473L: Applied and Environmental Microbiology & Lab	4	Free electives to reach 120 credits	1
BIOL Electives Minimum Total	8	Undergraduate Total	120

Suggested Courses Eligible for Dual UG/Grad-level Credit	
CHEM 5521: Topics in Laboratory Safety	1
CHEM 5507: Inorganic Chemistry II	2
CHEM 5533: Environmental Chemistry	2
CHEM 5537: Environmental Chemistry Laboratory	1
CHEM 5538: Experimental Biochemistry	1
CHEM 5545: Biochemistry I	3
CHEM 5547: Biochemistry II	3
Maximum Total for Dual UG/Grad Credit	6

66XX Master of Science Requirements/Recommendations			
CHEM 6630: Advanced Analytical Chemistry	3	Overall Master of Science Credit Summary	
CHEM 6671: Advanced Organic Chemistry	3	Dual UG/Grad 44XX/55XX-level credits	6
CHEM 6655: Advanced Physical Chemistry	3	CHEM 66XX lecture courses	12
CHEM 6609: Advances Inorganic Chemistry	3	CHEM 6635: Masters Research	10
CHEM 6635: Masters Research	10	CHEM 6691: Seminar	2
CHEM 6601: Seminar	2	Overall Graduate Total	30