

B.A. Degree in Chemistry

Emphasis in Biological Chemistry

The following is a sample schedule to help students plan their coursework. These are suggestions and the schedule is flexible. In addition to fulfilling the courses specifically required for this chemistry degree, it is important that students also fulfill Dragon Core requirements and normal graduation requirements (at least 120 total credits, at least 40 upper/division credits [300/400 level], and a GPA of at least 2.0.)

FALL		FRESHMAN YEAR		DC
BIOL	115	Organismal Biology (lab)	4	4IL
Chem	150	Gen Chem I (lab)	4	4IL
ENGL	101	English Composition ¹	4	1B
CMST	100	Speech Communication ¹	3	1A
Hlth	122	Personal Health/Wellness	1	
Total Credits			16	

SPRING				DC
BIOL	111	Cell Biology (lab)	4	
Chem	210	Gen Chem II (lab)	4	
Math	261	Calculus I ²	4	3
Phil	110	Practical Reasoning ¹	3	2
Total Credits			15	

FALL		SOPHOMORE YEAR		
Chem	350	Organic Chem I	3	
Chem	355	Organic Chem Lab I	1	
BIOL	341	Genetics (lab)	4	
PHYS	200	Physics I ⁵	4	4I
		Elective ⁴	3	
Total Credits			15	

SPRING				
Chem	360	Organic Chem II	3	
Chem	365	Organic Chem Lab II	1	
Chem	380	Analytical Chem (lab)	4	
PHYS	201	Physics II ⁵	4	
		Elective ⁴	3	
Total Credits			15	

FALL		JUNIOR YEAR		
		Elective in Biology	4	
Chem	400	Biochemistry I	3	
Chem	405	Biochemistry I Lab	1	
Chem	300	Inorganic Chem I	3	
		Elective	3	
Total Credits			14	

SPRING				
BIOL		Elective in Biology	4	
Chem	410	Biochemistry II	3	
Chem	415	Biochemistry II Lab	1	
Math		Calc II or Statistics ³	4	
		Electives	3	
Total Credits			15	

FALL		SENIOR YEAR		
Chem	450	Physical Chem I	3	
Chem	455	Physical Chem Lab I	1	
		Electives	11	
Total Credits			15	

SPRING				
Chem	498	Chemistry Seminar	1	
ENGL	387	Tech Report Writing	4	
		Electives	10	
Total Credits			15	

¹ These are standard Dragon Core courses, but others can be taken in their place.

² ACS math scores or a mathematics placement exam is needed to inform whether a student should begin directly in calculus or a different math class.

³ Math 234 can be taken in addition to or instead of Calculus II.

⁴ In considering electives, keep in mind that eventually at least 8 credits of Biology in the 300/400 level must be taken, and all of the Dragon Core requirements must be fulfilled.

⁵ If a student has not taken Calculus, Physics 160/161 can be taken instead of Physics 200/201.



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Curriculum Planning

Dragon Core Checksheet			
Foundation Four			
		Grade	Credits W?
1A	Oral Communication	_____	
1B	Written Communication (W)	_____	
2	Critical Thinking	_____	
3	Mathematics/Symbolic	_____	
Inner Cluster Electives & Middle Cluster – Competency Areas 3-7, seven courses total			
		Grade	Credits W?
3	Mathematical/Symbolic Systems (optional)		
	3I or 3M	_____	
4	Natural Sciences (One Lab Class Required)		
	4I or 4M	_____	
	4I or 4M	_____	
5	History and the Social Sciences		
	5I or 5M	_____	
	5I or 5M	_____	
6	Humanities		
	6I or 6M	_____	
	6I or 6M	_____	
7	Human Diversity		
	7I or 7M	_____	
	7I or 7M	_____	
Outer Cluster – Competency Areas 8-10, three courses total			
		Grade	Credits W?
8	Global Perspective	_____	
9	Ethical and Civic Responsibility	_____	
10	People and the Environment	_____	
Total Dragon Core Credits: _____			
(Minimum 14 courses and 42 credits)			
Writing Intensive Requirements			
	W 1 (1B)	_____	
	W 2 (MC or OC)	_____	
	W 3 (MC or OC, 300-400 level)	_____	
	W 4 (Major, 300-400 level)	CHEM 405	
	W 5 (any W course, 200-400 level)	ENGL 387	

Core Requirements		When Offered	Credits	Grade
	23 credits			
	15 ≥300			
CHEM 150/150L	General Chemistry I	F/Sp/Sum	4	
CHEM 210/210L	General Chemistry II	F/Sum	4	
CHEM300	Inorganic Chem I	F	3	
CHEM 350	Organic Chem I	F	3	
CHEM 355	Organic Chem Lab I	F	1	
CHEM 360	Organic Chem II	Sp	3	
CHEM 380/380L	Analytical Chem I	Sp	4	
CHEM 498	Seminar	Sp	1	
Requirements	21 credits			
	17 ≥300			
CHEM 365	Organic Chem Lab II	Sp	1	
CHEM 400	Biochemistry I	F	3	
CHEM 405	Biochemistry Lab I	F	1	
CHEM 410	Biochemistry II	Sp	3	
CHEM 415	Biochemistry Lab II	Sp	1	
CHEM 450	Physical Chem I	F	3	
CHEM 455	Physical Chem Lab I	F	1	
BIOL 111/111L	Cell Biology	Sp	4	
BIOL 341/341L	Genetics	F	4	
Restricted Electives	12 credits			
	8 ≥300			
BIOL	Biology Elective		4	
BIOL ≥300	Biology Elective		4	
BIOL ≥300	Biology Elective		4	
Related Requirements	20 credits			
	4 ≥300			
ENGL 387	Tech Report Writing	F/Sp	4	
MATH 261	Calculus I	F/Sp	4	
MATH 262 or MATH 234	Calculus II or Probability/Statistics	F/Sp	4	
PHYS 200/200L or 160+160L	Physics I	F	4	
PHYS 201/201L or 161+161L	Physics II	Sp	4	