

B.A. Degree in Chemistry

Emphasis in Mathematical 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
Chem	150	Gen Chem I (lab)	4	4IL
Math	261	Calculus I ¹	4	
Math	260	Computer Calculus	1	
ENGL	101	English Composition ²	4	1B
CMST	100	Speech Communication ²	3	1A
Total Credits			16	

SPRING				DC
Chem	210	Gen Chem II (lab)	4	
Math	262	Calculus II	4	
Phil	110	Practical Reasoning ²	3	2
Hlth	122	Personal Health/Wellness	1	
Electives ³			3	
Total Credits			15	

FALL		SOPHOMORE YEAR	
Chem	350	Organic Chem I	3
Chem	355	Organic Chem Lab I	1
Math	323	Multivariable Vector Calc.	4
Electives ³			7
Total Credits			15

SPRING			
Chem	360	Organic Chem II	3
Chem	365	Organic Chem Lab II	1
Chem	380	Analytical Chem (lab)	4
Electives ³			7
Total Credits			15

FALL		JUNIOR YEAR	
Chem	300	Inorganic Chem I ⁵	3
PHYS	200	Physics I ⁴	4
Electives ³			8
Total Credits			15

SPRING		JUNIOR YEAR	
Math	234	Probability and Statistics	4
PHYS	201	Physics II	4
Electives ³			7
Total Credits			15

FALL		SENIOR YEAR	
Chem	450	Physical Chem I ⁵	3
Chem	455	Physical Chem Lab I ⁵	1
Electives ³			11
Total Credits			30

SPRING		SENIOR YEAR	
Chem	498	Chemistry Seminar	1
ENGL	387	Tech Report Writing	4
Electives ³			10
Total Credits			30

¹ ACT math scores or a mathematics placement exam is needed to inform whether a student can begin directly in calculus or a different math class.

² These are standard Dragon Core courses, but others can be taken in their place.

³ In considering electives, keep in mind that elective courses must cover Dragon Core requirements, as well as restricted electives in the areas of math and chemistry.

⁴ Calculus I (Math 261) is a prerequisite for Physics 200/201.

⁵ Inorganic Chemistry I and Physical Chemistry I are both offered every fall, but Inorganic Chemistry II and Physical Chemistry II are only offered during alternating springs. (Inorganic Chem II in odd-numbered years, Physical Chemistry II in even-numbered years).

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Curriculum Planning

Dragon Core Checksheet			
Foundation Four			
		Grade	Credits
1A	Oral Communication	_____	W?
1B	Written Communication (W)	_____	
2	Critical Thinking	_____	
3	Mathematics/Symbolic	_____	
Inner Cluster Electives & Middle Cluster – Competency Areas 3-7, seven courses total			
		Grade	Credits
3	Mathematical/Symbolic Systems (optional)		
	3I or 3M	_____	
4	Natural Sciences (One Lab Class Required)		
	4I or 4M	_____	
5	History and the Social Sciences		
	5I or 5M	_____	
6	Humanities		
	6I or 6M	_____	
7	Human Diversity		
	7I or 7M	_____	
Outer Cluster – Competency Areas 8-10, three courses total			
		Grade	Credits
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)	ENGL 387	_____	
W 5 (any W course, 200-400 level)		_____	

	Credits	When Offered	Credits	Grade
Core Requirements	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	18 credits			
	9 ≥ 300			
CHEM 365	Organic Chem Lab II	Sp	1	
CHEM 450	Physical Chem I	F	3	
CHEM 455	Physical Chem Lab I	F	1	
MATH 260	Computer Calc	F/Sp	1	
MATH 261	Calculus I	F/Sp	4	
MATH 262	Calculus II	F/Sp	4	
MATH 323	Multivar./Vector Calculus	F/Sp	4	
Restricted Electives	13 credits			
	13 ≥ 300			
CHEM	CHEM Elective		4	
MATH	MATH Electives		6	
CHEM/PHYS/ BIOL/MATH/ CSIS	Elective		3	
Related Requirements	12 credits			
	4 ≥ 300			
ENGL 387	Tech Report Writing	F/Sp	4	
PHYS 200/200L	General Physics I	F	4	
PHYS 201/201L	General Physics II	Sp	4	