



College of Computer, Mathematical, and Natural Sciences

Chemistry (19050) Effective Fall 2023

Name _____ UID _____ Date _____

NOTES

General Education Requirements (27-39 cr.)				
Fundamental Studies				
Requirement	Course	Credits	Grade	Semester
AW Academic Writing		3		
PW Professional Writing		3		
OC Oral Communication		3		
Distributive Studies				
Requirement	Course	Credits	Grade	Semester
HS History and Social Sciences		3		
HS History and Social Sciences		3		
HU Humanities		3		
HU Humanities		3		
SP Scholarship in Practice (non-major)		3		
SP Scholarship in Practice		3		
I-Series (Can overlap with Distributive Studies and/or Diversity)				
Requirement	Course	Credits	Grade	Semester
IS I-Series				
IS I-Series				
Diversity (Can overlap with Distributive Studies and/or I-Series)				
Requirement	Course	Credits	Grade	Semester
UP Understanding Plural Societies				
UP Understanding Plural Societies or CC Cultural Competence				

Mathematics (MA), Analytic Reasoning (AR), Natural Science with lab (NL), and Natural Science (NS)
Gen Ed categories are satisfied by major requirements.

Lower Level CHEM required for Biochem majors (18 cr.)					Alternate sequence for internal and external transfers (17 cr.)				
Title	Course	Cr	Gr	Sem	Title	Course	Cr	Gr	Sem
Principles of Gen Chem	CHEM 146	3			Fundamentals of Gen Chem	CHEM 131	3		
Intro to Lab Practices	CHEM 177*	2			Gen Chem I Lab	CHEM 132	1		
Organic Chem I	CHEM 237	4			Organic Chem I	CHEM 231	3		
Organic Chem II	CHEM 247	4			Organic Chem I Lab	CHEM 232	1		
Gen Chem and Energetics	CHEM 276	2			Organic Chem II	CHEM 241	3		
Bioanalytical Lab	CHEM 277**	3			Organic Chem II Lab	CHEM 242	1		
					Gen Chem and Energetics	CHEM 271	2		
					Bioanalytical Lab	CHEM 277**	3		

* All incoming freshmen starting in the Chemistry or Biochemistry major in Fall 2013 or later must take CHEM177. Internal and external transfer students may use CHEM132 to satisfy this requirement.

**Effective Fall 2013: All Chemistry and Biochemistry students must take CHEM277. CHEM 272 plus a substitute course may be used with the approval of the Undergraduate Director of Chemistry and Biochemistry.

Supporting Courses (12-17 cr.)				
Requirement	Course	Cr	Gr	Sem
Molecular and Cellular Biology	BSCI 170	3		
Molecular and Cellular Bio Lab	BSCI 171	1		
Calculus I	MATH 140	4		
Calculus II	MATH 141	4		
Calculus III*	MATH 241*	4		
Freshman seminar**		1		

*Effective 23-24 matriculation year, MATH 241 is required
** All incoming freshman starting as Chemistry or Biochemistry majors must take a freshman seminar: UNIV100, UNIV101, GEMS100, HONR100, HLSC100, HEIP100 or HHUM105

Supporting Courses - Choose one physics sequence (7-8 cr.)									
	Course	Cr	Gr	Sem		Course	Cr	Gr	Sem
Physics I	PHYS 141	4			OR	Physics 1 lecture	PHYS 161	3	
Physics II	PHYS 142	4				Physics 2 lecture	PHYS 260	3	
						Physics 2 lab	PHYS 261	1	

Required Upper Level CHEM Courses (18 cr.)

<i>Title</i>	<i>Course</i>	<i>Cr</i>	<i>Gr</i>	<i>Sem</i>
Professional Issues in CHEM/BCHM	CHEM 395 (Spring only)	1		
Inorganic Chemistry	CHEM 401 (Spring only)	3		
Instrumental Methods	CHEM 425	4		
Physical Chemistry I	CHEM 481	3		
Physical Chemistry Lab I	CHEM 483	2		
Physical Chemistry II	CHEM 482	3		
Physical Chemistry Lab II	CHEM 484	2		

Take at least 6 credits from the following Upper Level Chemistry Electives (6 cr.)

<i>Title</i>	<i>Course</i>	<i>Cr</i>	<i>Gr</i>	<i>Sem</i>
Undergraduate Chemistry Research	CHEM 399*	1-3		
Radiochemistry	CHEM 403	3		
Atmospheric Chemistry	CHEM 433	3		
Advanced Organic Chemistry	CHEM 441	3		
Structure Determination Using Spectroscopic Methods	CHEM 460	3		
Environmental Chemistry	CHEM 474	3		
Biochemistry I or Biochemistry of Physiology	BCHM 461 or BCHM 463	3		
Biochemistry II	BCHM 462	3		
Biochemistry III	BCHM 465	3		

*A maximum of 3 credits of CHEM399 can count towards the 6 upper level Chemistry elective credits.

Note: Certification by the American Chemical Society requires BCHM461 **or** BCHM463.

Additional requirements

A minimum of 120 credits earned and a 2.0 cumulative GPA is needed to meet University graduation requirements.

Major courses require a "C-" or better in each and a 2.0 average GPA.

The Limited Enrollment Program requirements are found at www.lep.umd.edu.