



College of Computer, Mathematical, and Natural Sciences

Chemistry BA (1905A) Effective Fall 2023

Name _____ UID _____ Date _____

General Education Requirements (37-39 cr.)				
Fundamental Studies				
Requirement	Course	Credits	Grade	Semester
FSAW Academic Writing		3		
FSPW Professional Writing		3		
FSOC Oral Communication		3		
Distributive Studies				
Requirement	Course	Credits	Grade	Semester
DSHS History and Social Sciences		3		
DSHS History and Social Sciences		3		
DSHU Humanities		3		
DSHU Humanities		3		
DSSP Scholarship in Practice (non-major)		3		
DSSP Scholarship in Practice		3		
I-Series (Can overlap with Distributive Studies and/or Diversity)				
Requirement	Course	Credits	Grade	Semester
SCIS Big Question/I-Series		3		
SCIS Big Question/I-Series		3		
Diversity (Can overlap with Distributive Studies and/or I-Series)				
Requirement	Course	Credits	Grade	Semester
DVUP Understanding Plural Societies		3		
DVUP Understanding Plural Societies or DVCC Cultural Competence		1-3		

Benchmark 1 (45 credit) Requirements
(MATH135 and MATH136) or (MATH135 and MATH140) or (MATH140 and MATH141)
CHEM131 or CHEM135 or CHEM146
CHEM132 or CHEM177*
(CHEM231 and CHEM232) or CHEM237
Benchmark 2 (75 credit) Requirements
(MATH135 and MATH136) or (MATH135 and MATH140) or (MATH140 and MATH141)
CHEM131 or CHEM135 or CHEM146
CHEM132 or CHEM177*
(CHEM231 and CHEM232) or CHEM237
(CHEM241 and CHEM242) or CHEM247
CHEM271 or CHEM276
CHEM272 or CHEM277*
PHYS131 or PHYS141 or PHYS161

Gen Ed categories Mathematics (FSMA), Analytic Reasoning (FSAR), Natural Science with lab (DSNL), and Natural Science (DSNS) are satisfied by major requirements.

Lower level chemistry required for CHEM majors (17 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 272*	2			Organic Chem II Lab	CHEM 242	1		
					Gen Chem and Energetics	CHEM 271	2		
					Bioanalytical Lab	CHEM 277*	3		

*Effective Fall 2023 for BA major: All Chemistry BA students must take EITHER CHEM 177 or CHEM277. If neither are taken, an additional (beyond the major requirements) upper level CHEM or BCHM credit beyond the normal major requirements must be taken to make up for the missing credit.

Supporting Courses (12-13 cr.)					Supporting Courses - Choose one physics sequence (7-8 cr.)				
Requirement	Course	Cr	Gr	Sem		Course	Cr	Gr	Sem
100-200 level STEM class from approved list on next page	See list on next page	3-4			OR	Physics I	PHYS 131	4	
Mathematics	MATH 140 + MATH 141 or MATH 135 + MATH 136	8				Physics 1 lecture	PHYS 161	3	
Freshman seminar**		1				Physics 2 lecture	PHYS 260	3	
						Physics 2 lab	PHYS 261	1	

** All incoming freshman starting as Chemistry or Biochemistry majors must take a freshman seminar: UNIV100, UNIV101, GEMS100, HONR100, HLSC100, HEIP100 or HHUM105.

Required Upper Level CHEM Courses (10-13 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		
Biochemistry	BCHM 461 or BCHM 463	3		
Elements of Physical Chemistry I -or- Physical Chemistry 1 + 2	CHEM 480 -or- CHEM 481 + CHEM482 (or BCHM 485)	3 6		

NOTES

Take one (1) Required Upper Level Laboratory (3-4 cr.)				
<i>Title</i>	<i>Course</i>	<i>Cr</i>	<i>Gr</i>	<i>Sem</i>
Biochemical Analysis	BCHM 477	3		
Instrumental Analysis	CHEM 425	4		
Biochemistry Laboratory	BCHM 464	3		
Physical Chemistry Laboratory 1 + 2	CHEM 483 + CHEM 484	4		

Take at least 3 credits from the following list of Upper Level CHEM/BCHM Electives (3 cr.)				
<i>Title</i>	<i>Course</i>	<i>Cr</i>	<i>Gr</i>	<i>Sem</i>
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		
Special Topics	CHEM 498	3		
Biochemistry II	BCHM 462	3		
Biochemistry III	BCHM 465	3		
Other CHEM course(s) contingent on approval from the Undergraduate Director	CHEM 4XX	3		

Take at least 3 credits from the following Lower Level STEM courses (3-4 cr.)				
<i>Title</i>	<i>Course</i>	<i>Cr</i>	<i>Gr</i>	<i>Sem</i>
Animal Science	ANSC 101	3		
Astronomy	ASTR 101 or 120	3		
Atmospheric Science	AOSC 123 or 200	3		
Biology	BSCI 170 or 160	3		
Bioengineering	BIOE 120	3		
Geology	GEOL 123 or 124 or 212	3		
Computer Science	CMSC 131	4		
MATH	MATH 240 or 241 or 246	4		
Engineering	ENES 100 or 102	3		

Additional requirements
<p>A minimum of 120 credits earned and a 2.0 cumulative GPA is needed to meet University graduation requirements.</p> <p>At least 30 credits must be earned at U.Md.</p> <p>15 of the final 30 credits must be earned at the 300-400 level.</p> <p>12 upper level major credits must be earned at U.Md.</p> <p>Major courses require a "C-" or better in each and a 2.0 average GPA.</p> <p>The Limited Enrollment Program requirements are found at lep.umd.edu.</p>

updated 5/19/26