B.S. IN CHEMISTRY WITH A CONCENTRATION IN ADVANCED CHEMISTRY (AMERICAN CHEMICAL SOCIETY CERTIFIED PROGRAM) (CE.ACS.BS)

Code	Title	Credits
Major Requirements/Chemistry (54 credits) [1, 2]		
CE-111	General Chemistry I	3
CE-111L	General Chemistry Laboratory I	1
CE-112	General Chemistry II	3
CE-112L	General Chemistry Laboratory II	1
CE-221	Analytical Chemistry I Quantitative Analysis	3
CE-221L	Analytical Chemistry I Laboratory Quantitative Analysis	1
CE-241	Organic Chemistry I	3
CE-241L	Organic Chemistry Laboratory I	2
CE-242	Organic Chemistry II	3
CE-242L	Organic Chemistry Laboratory II	2
CE-311	Chemical Literature	1
CE-322	Analytical Chemistry II Instrumental Analysis	3
CE-322L	Analytical Chemistry II Laboratory Instrumental Analysis	2
CE-331	Biochemistry I	3
CE-331L	Biochemistry I Laboratory	1
CE-341	Physical Chemistry I	3
CE-341L	Physical Chemistry I Laboratory	1
CE-342	Physical Chemistry II	3
CE-342L	Physical Chemistry II Laboratory	1
CE-401	Advanced Inorganic Chemistry	3
CE-401L	Advanced Inorganic Chemistry Laboratory	1
CE-410	Seminar	1
(Satisfies Reasoned Oral Discourse in General Education)		
CE-350	Research in Chemistry	3
(Chemistry courses satisfy Natural Science (NS) in General Education)		
Select two courses from the following list:		6
CE-325	NMR Spectroscopy	
CE-332	Biochemistry II	
CE-405	Methods of Inorganic Chemistry	
CE-452	Advanced Organic Chemistry	
CE-475	Computational Chemistry and Molecular Modeling	
CE-486	Medicinal Chemistry	
CE-460	Electrochemical Methods	
Interdisciplinary Requirements (18 credits)		
MA-125	Calculus with Analytic Geometry I	4
MA-126	Calculus with Analytic Geometry II	4
(MA-125 or MA-126 satisfies Mathematics in General Education)		
PH-211	General Physics with Calculus I	4
PH-211L	General Physics with Calculus Laboratory I	1
PH-212	General Physics with Calculus II	4
PH-212L	General Physics with Calculus Laboratory II	1
Free Electives (15 credits) [2]		
Select up to 15 Free Elective credits [2]		15
General Education Requirements (33 credits) [3]		
Complete 33 credits as outlined on the General Education table. [3]		33
Total Credits		**120**

1

Students who major in this concentration cannot also major in the Biochemistry concentration.

2

Please consult with your advisor regarding the required number of free elective credits that must be completed.

3

The General Education curriculum requires the completion of 45 credits. However, students may be able to share credits from within their major or interdisciplinary requirements. Please consult with your advisor to determine which General Education *(*http://catalog.monmouth.edu/undergraduate-catalog/academic-programs-support-services-regulations/general-education-requirements/*) courses must be completed*

Notes

- 54 credits must be completed at the 200 level or higher.

B.S. in Chemistry with a Concentration in Advanced Chemistry (American Chemical Society Approved Program) Sequence Chart

First Year

Fall	Credits	Spring	Credits
CE-111 General Chemistry I	3	CE-112 General Chemistry II	3
CE-111L General Chemistry Laboratory I	1	CE-112L General Chemistry Laboratory II	1
IT-102 Information Technology for Scientists	3	MA-126 Calculus with Analytic Geometry II	4
MA-125 Calculus with Analytic Geometry I	4	EN-102 College Composition II	3
EN-101 College Composition I	3	Gen*Ed Historical Perspectives	3
Semester Credits	**14**	**Semester Credits**	**14**

Second Year

Fall	Credits	Spring	Credits
CE-241 Organic Chemistry I	3	CE-242 Organic Chemistry II	3
CE-241L Organic Chemistry Laboratory I	2	CE-242L Organic Chemistry Laboratory II	2
PH-211 General Physics with Calculus I	4	CE-221 Analytical Chemistry I Quantitative Analysis	3
PH-211L General Physics with Calculus Laboratory I	1	CE-221L Analytical Chemistry I Laboratory Quantitative Analysis	1
Gen*Ed Social Science	3	PH-212 General Physics with Calculus II	4

Gen*Ed Aesthetics		3	PH-212L General Physics with Calculus Laboratory II		1
Semester Credits		**16**	**Semester Credits**		**14**
Third Year					
Fall	**Credits**		**Spring**	**Credits**	
CE-331 Biochemistry I		3	CE-342 Physical Chemistry II		3
CE-331L Biochemistry I Laboratory		1	CE-342L Physical Chemistry II Laboratory		1
CE-341 Physical Chemistry I		3	CE-350 Research in Chemistry		3
CE-341L Physical Chemistry I Laboratory		1	CE-410 Seminar		1
CE-401 Advanced Inorganic Chemistry		3	Gen*Ed Cultural Diversity or Global Understanding		3
CE-401L Advanced Inorganic Chemistry Laboratory		1	Gen*Ed Literature		3
CE-311 Chemical Literature		1	Free Electives		3
Gen*Ed Historical or Social Science Persp.		3			
Semester Credits		**16**	**Semester Credits**		**17**
Fourth Year					
Fall	**Credits**		**Spring**	**Credits**	
CE-322 Analytical Chemistry II Instrumental Analysis		3	Chemistry Elective (see curriculum chart)		3
CE-322L Analytical Chemistry II Laboratory Instrumental Analysis		2	Gen*Ed Interdisciplinary Perspectives		3
Chemistry Elective (see Curriculum chart)		3	Free Electives		9
Gen*Ed World Language		3			
Free Electives		3			
Semester Credits		**14**	**Semester Credits**		**15**

Total Credits 120