

BIOCHEMISTRY - BACHELOR OF SCIENCE

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1511G Calculus and Analytic Geometry I and ENGL 1110G Composition I. The contents and order of this roadmap may vary depending on initial student placement in mathematics and English. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change.

First Year

Semester 1		Credits
ENGL 1110G	Composition I ¹	4
MATH 1511G	Calculus and Analytic Geometry I ¹	4
CHEM 1216	General Chemistry I Lecture and Laboratory for CHEM Majors	4
BCHE 140	Introduction to Biochemistry	1
Area IV: Social and Behavioral Science Course ²		3
Credits		16

Semester 2

MATH 1521G or MATH 1521H	Calculus and Analytic Geometry II ¹ or Calculus and Analytic Geometry II Honors	4
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory ¹	4
CHEM 1226	General Chemistry II Lecture and Laboratory for CHEM Majors	4
Area V: Humanities Course ²		3
Credits		15

Second Year

Semester 1

BIOL 305 or GENE 320	Principles of Genetics ¹ or Hereditary and Population Genetics	3
CHEM 313	Organic Chemistry I ¹	3
CHEM 371	Analytical Chemistry	4
Choose from one of the following:		4
PHYS 2110 & 2110L	Mechanics and Experimental Mechanics ¹	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab ¹	
PHYS 2230G & PHYS 2230L	General Physics for Life Science I and Laboratory to General Physics for Life Science I ¹	
PHYS 1310G & PHYS 1310L	Calculus-Based Physics I and Calculus-Based Physics I Lab ¹	
Area VI: Creative and Fine Arts Course ²		3
Credits		17

Semester 2

COMM 1115G	Introduction to Communication	3
ENGL 2210G	Professional and Technical Communication Honors	3
CHEM 314 & CHEM 315	Organic Chemistry II and Organic Chemistry Laboratory ¹	5
Choose from one of the following:		4

PHYS 2140 & 2140L	Electricity and Magnetism and Electricity & Magnetism Laboratory ¹	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab ¹	
PHYS 2240G & PHYS 2240L	General Physics for Life Science II and Laboratory to General Physics for Life Science II ¹	
PHYS 1320G & PHYS 1320L	Calculus-Based Physics II and Calculus-Based Physics II Lab ¹	
Credits		15

Third Year

Semester 1

A ST 311	Statistical Applications ¹	3
BIOL 377	Cell Biology ¹	3
BCHE 395	Biochemistry I ¹	3
CHEM 430	Physical Chemistry: Thermodynamics, Kinetics, Quantum Chemistry, and Spectroscopy	3
Elective Course		3
Credits		15

Semester 2

BCHE 396 H	Biochemistry II Honors, Lecture and Laboratory	0-4
BIOL 311 & 311 L	General Microbiology and General Microbiology Laboratory ¹	5
VWW: Viewing a Wider World Course ³		3
Elective Course		3
Elective Course		3
Credits		18-14

Fourth Year

Semester 1

BCHE 440	Biochemistry Seminar ¹	1
CHEM 471	Advanced Integrated Inorganic and Physical Chemistry Laboratory	3
Elective Course		3
Elective Course		3
Elective Course		2
Credits		12

Semester 2

CHEM 472	Advanced Integrated Instrumental Analysis and Protein Biochemistry Laboratory	3
Select two of the following:		6
BCHE 432	Physical Biochemistry ⁴	
BCHE 451	Special Topics	
CHEM 456	Inorganic Structure and Bonding	
CHEM 451	Special Topics (by petition)	
VWW: Viewing a Wider World Course ³		3
Credits		12

Total Credits 120-116

¹ These courses may have prerequisites and/or co-requisites, and it is the students responsibility for checking and fulfilling all those requirements.

² See the General Education (<https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/>) section of the catalog for a full list of courses.

³ See the Viewing a Wider World (<https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext>) section of the catalog for a full list of courses.

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⁴ The BCHE 432 Physical Biochemistry is highly recommended for all Biochemistry majors.