

BIOCHEMISTRY

This major is 67 credits • *2018-2019 Catalog Year*

Revised: 09-03-2018

CAREERS & POST-GRADUATE WORK

Recent Heidelberg graduates with this degree are doing ...

- Medical School
- Graduate School, Chemistry
- Graduate School, Genetic Counseling

The Chemistry Department does not allow issue any grade waivers (D waiver).

MAJOR ACADEMIC PLAN (MAP): A SAMPLE 4-YEAR PLAN

This MAP is a guide for students preparing for course selections. This is a suggested schedule. Actual course selections should be made with the advice of your advising specialist or faculty advisor. For course descriptions, pre-requisites, and rotations (e.g., fall or spring only classes, classes taught in alternate years), consult the Heidelberg University Undergraduate Catalog.

FIRST-YEAR FALL

Course	Prerequisites	Hrs	Notes
HEI 101: Advise, Inspire, Mentoring Program		1	Required of all first-year students.
WRI 101: College Writing II		3	
CHM 111: General Chemistry	Placement into MTH 121 or C- or better in MTH 120	4	Mathematics Placement Assessment score determines placement in MTH courses and eligibility for non-MTH Quantitative Literacy (Q) courses.
BIO 123 & 123L: Biology I and Lab		4	
MTH 222: Calculus I	Placement or MTH 121	3	
Total Credits:		15	

FIRST-YEAR SPRING

Course	Prerequisites	Hrs	Notes
HEI 102: Advise, Inspire, Mentoring Program	HEI 101	0	Required of all first-year students.
COM 100: Public Speaking and Engagement		3	
CHM 112: General Chemistry II	Passing grade in CHM 111	4	
MTH 223: Calculus II	MTH 222	3	
General Education/Honors Support Courses		5	
Total Credits:		15	

SECOND-YEAR FALL

Course	Prerequisites	Hrs	Notes
CHM 201: Organic Chemistry	C- or higher in CHM 111 & 112	4	
PHY 101: General Physics	Placement in MTH 121 or C- or better in MTH 120	4	
BIO 223: Genetics	BIO 123	4	

Course	Prerequisites	Hrs	Notes
General Education/Honors Support Courses		3	Consider completing the Foreign Language Requirement : Students not in the Honors Program must complete a foreign language to the 102-level or equivalent. Placement is based on the Foreign Language Assessment and some students may need to begin at the 101-level.
Total Credits:		15	

SECOND-YEAR SPRING

Course	Prerequisites	Hrs	Notes
CHM 202: Organic Chemistry II	C- or higher in CHM 201	4	
CHM 210: Quantitative Analysis	C- or higher in CHM 112	4	
PHY 102: Physics II	C- or higher in PHY 101	4	
BIO 224: Cell & Molecular Biology	BIO 223	4	BIO 224 is a suggested elective for this semester for Pre-Med. BIO 224 is a prerequisite for BIO 403. Can also be taken spring of the third year.
Total Credits:		16	

THIRD-YEAR FALL

Course	Prerequisites	Hrs	Notes
BCH 316 & 316L: Biochemistry & Lab	C- or better in CHM 202 and 210, C- or better in BIO 123/123L	4	Lecture and lab must be taken together.
BIO 363: Anatomy & Physiology I	BIO 123/123L or BIO 110/110L Open to juniors and seniors	4	
General Education/Honors Support Courses		6	
Total Credits:		14	

THIRD-YEAR SPRING

Course	Prerequisites	Hrs	Notes
CHM 307: Physical Chemistry	C- or better in CHM 202, 210, PHY 101, 102, MTH 222	3	
CHM 445: Advanced Laboratory Techniques I	C- or better in BCH 316/316L	3	Spring only
BCH 416: Biochemistry of Metabolism	C- or better in BCH 316	3	
OR BCH 425: Advanced Topics in Biochemistry	OR C- or better in BCM 316; junior or senior standing or permission of instructor		
General Education/Honors Support Courses		6	
Total Credits:		15	

FOURTH-YEAR FALL

Course	Prerequisites	Hrs	Notes
Chemistry or Biology Elective		3	Choose from pick list on final page.
General Education/Honors Support Courses		11	
Total Credits:		15	

FOURTH-YEAR SPRING

Course	Prerequisites	Hrs	Notes
CHM 446: Advanced Laboratory Techniques II	C- or better in CHM 445	1	Spring only
Chemistry or Biology Elective		3	
General Education/Honors Support Courses		9	
Total Credits:		15	

PROGRAM PICK LIST: ELECTIVES

CHOOSE 6 ADDITIONAL CHM OR BCH CREDIT HOURS AT THE 300 OR 400 LEVEL

- CHM 311: Inorganic Chemistry
- CHM 404: Instrumental Analysis
- CHM 407: Physical Chemistry II
- BCH 416: Biochemistry of Metabolism
- CHM 425: Special Topics in Chemistry
- BCH 425: Special Topics in Biochemistry
- BIO 224: Cell & Molecular Biology **OR** BIO 363: Human Anatomy & Physiology
- BIO 318: Human Medical Genetics
- BIO 329: Cancer Genetics
- BIO 364: Human Anatomy & Physiology II