

ACS-Certified Biochemistry Major Requirements (69 hours)

Chemistry Foundation: General, Analytical, Biochemistry, Inorganic, Organic, Physical (38 hours)			
Course Name	Credit Hours	Offered	Prereqs
CHM 108: General Chemistry I with lab	3-2-4	Fall, Spring	
CHM 109: General Chemistry II with lab	3-3-4	Spring	CHM 108
CHM 221: Organic Chemistry I with lab	3-3-4	Fall	CHM 108
CHM 222: Organic Chemistry II with lab	3-3-4	Spring	CHM 221 or 223
CHM 305I: Inorganic Chemistry with lab	3-3-4	Spring	CHM 109, CHM 222 or CHM 224, RHW 102
CHM 315: Analytical Chemistry with lab	3-3-4	Fall	CHM 109
CHM 331I: Physical Chemistry Foundations with lab	3-3-4	Fall	CHM 109, year physics, MAT 201 (MAT 203 helpful), RHW 102
CHM 341: Biochemistry I	3-0-3	Fall	CHM 109, CHM 222 or CHM 224
CHM 342: Biochemistry II	3-0-3	Spring	CHM 341
CHM 343I: Experimental Biochemistry	1-4-3	Fall, Spring	CHM 341, RHW 102
CHM 390: Seminar	1-0-1	Fall, Spring	Jr/Sr Standing

Note: CHM 305, CHM 315, and CHM 331 provide two chemistry electives required for a biochemistry major and round out the ACS foundation. CHM 305, CHM 331, and CHM 343 satisfy Berry's Writing Across the Curriculum requirement.

Supporting Cognate Coursework (24 hours)	Credit Hours	Offered	Prereqs
MAT 201: Calculus I	4-0-4	Fall/Spring	C or better in MAT 120 or consent of instructor
MAT 203: Multivariable Calculus	4-0-4	Fall/Spring	C or better in MAT 201
PHY 211: General Physics I with Calculus with lab	3-2-4	Fall	Coreq: MAT 201
PHY 212: General Physics II with Calculus with lab	3-2-4	Spring	Coreq: MAT 203
BIO 111: Principles of Cell Biology	3-2-4	Fall/Spring	
Choose one: BIO 300: Cell Biology	3-2-4	Fall	BIO 111
BIO 301: Microbiology	2-4-4	Fall/Spring	BIO 111
BIO 304: Genetics	3-3-4	Spring	BIO 111

Note: ACS-certified majors must take MAT 203 (as opposed to MAT 111).

Note: Students must complete 1 year of physics. Calculus-based physics is strongly recommended by the ACS.

Additional In-depth Courses Required for ACS Certification (7 hours)			
Both CHM 222 and CHM 342 (listed above) count as in-depth coursework towards ACS-certification. Students seeking ACS approval must also choose one course from the first group below, and complete at least 3 credit hours of research. If a lecture-only course is chosen below (CHM 475 or CHM 443) the student must complete 4 credit hours of CHM 494 to meet the ACS laboratory hours requirement.			
Course Name	Credit Hours	Offered	Prereqs
CHM 332: Physical Chemistry II Applications w/lab; or	3-3-4	Spring even	CHM 331
CHM 411: Instrumental Analysis with lab; or	3-3-4	Spring odd	CHM 222, CHM 315
CHM 421: Advanced Organic with lab; or	3-3-4	Spring odd	CHM 222
CHM 443I: Advanced Biochemistry; or	3-0-3	Spring odd	CHM 342, RHW 102
CHM 475I: Medicinal Chemistry	3-0-3	Spring even	CHM 341, RHW 102
CHM 494: Undergraduate Research	3 or 4 credit hours	Fall, Spring	Consent of instructor

Note: Students only need an additional 11-13 hours of coursework beyond the standard biochemistry major requirements to earn ACS certification. Note: Before Fall 2021, undergraduate research was done under CHM 498 (Directed Study).