

Suggested Study Plan For B.S. Biochemistry Major (with MAC)

See ACS Certification Option*

MXM = Minerva; CIC = College Requirement; CW = College Writing

Freshman Year	
<u>Fall</u>	<u>Credits</u>
CHE 111, 112 General Chemistry I & Lab (MDA) ^{F,S,Su}	3+1
FYE 101 Succeed at the G (Chem/Biochem Section) ^F (MFND)	3
BIO 111 Principles of Biology I & Lab ^{F,S,Su}	3+1
Any Course in Written Communication (MWC) (Ex. ENG 101)	3
	/14

Freshman Year	
<u>Spring</u>	<u>Credits</u>
CHE 114, 115 General Chemistry II & Lab (MNTS) ^{F,S,Su}	3+1
BIO 112 Principles of Biology II & Lab ^{F,S,Su}	3+1
MAT 190 PreCalculus (MQR) ^{F,S,Su}	4
Any Course in Oral Communications (MOC)	3
Foreign Language (CIC1)	3 /17

Sophomore Year	
<u>Fall</u>	<u>Credits</u>
CHE 342 Inorganic Chemistry ^F	3
CHE 351 ^{F,S,Su} ,353 ^F Organic Chem I & Lab	4+1
MAT 196 Calculus A (MQR) ^{F,S,Su}	4
Foreign Language (CIC2)	3
	/15

Sophomore Year	
<u>Spring</u>	<u>Credits</u>
CHE 352 Organic Chemistry II ^{F,S,Su}	3
CHE355 Inter Organic Chem Lab ^S	2
PHY 211 General Physics I & Lab ^{F,S,Su}	4
MAT 296 Calculus B	4
Foreign Language (CIC3)	3 /16

Junior Year	
<u>Fall</u>	<u>Credits</u>
CHE 331, 333 Quantitative Analysis & Lab (CW) ^F	3+1
CHE 456 Biochemistry I ^F	3
Any Course in Health & Wellness (MHW)	3
PHY 212 General Physics II & Lab ^{F,S,Su}	4
Foreign Language (CIC4)	3 /17

Junior Year	
<u>Spring</u>	<u>Credits</u>
CHE 457, 458 Biochemistry II & Lab ^S (CW)	3+1
Any Course in Diversity & Equity (MDEQ)	3
Any Course in Global & Intercultural Engagement (MGIL)	3
BIO 355 or 392 Cell Biology or Genetics & BIO 375 Lab ^{F,S}	5
	/15

Senior Year	
<u>Fall</u>	<u>Credits</u>
CHE 401 Chemistry Seminar ^{F,S}	P/NP
CHE 406 Intro. Physical Chemistry ^F	4
CHE 407 Intro. Physical Chemistry Lab ^F	1
Adv. Biochemistry Elective	3
Any Course in Social & Behavioral Science (CIC)	3
Any Course in CT Humanities/Fine Arts (MHFA)	3 /14

Senior Year	
<u>Spring</u>	<u>Credits</u>
CHE 402 Chemistry Seminar ^{F,S}	1
Adv. Biology Elective	3
Any Course in Humanities (CIC) (Two courses)	3+3
Any Course in CT Social/ Behavioral Science (MSBS)	3
	/13

*Students completing the BS Biochemistry degree are close to completing the requirements necessary to have the degree certified by the American Chemical Society. By completing a) the Adv Biochem Elective (excluding BIO494) and either two credits of research or two other advanced labs OR b) 4 credits of undergraduate research, the degree will be certified.

Major Requirements

CHE 111*, 112*, 114, 115, 331, 333, 342, 351, 352, 353, 355, 401 (audit), 402, 406, 407, 456, 457, 458

Related Area Requirements

1. MAT 196*, 296
2. BIO 111 and 112, and either BIO 355 or BIO 392, BIO 375 Lab
3. PHY 211, 212 or 291, 292
4. Advanced Biochemistry Elective or Independent Study (2-3 hours): CHE 431, 436, 442, 453, 455, 470B, 481, or BIO 494, or one of the following independent study courses: CHE 491, 492; BIO 499; KIN 475; NTR 427; PHY 495
5. Advanced Biological Science Elective (3-4 hours) one or more of the following: 277, 424, 464, 477, 479, 481, 494 (strongly recommended if not used as Advanced Biochemistry elective), 478, 485, 495, 482; PHY 443

IT IS EXTREMELY IMPORTANT TO CONSULT FREQUENTLY WITH YOUR ADVISOR TO ARRANGE PROPER SCHEDULING OF COURSES AND TO LEARN ABOUT ANY CURRICULAR OR SCHEDULING CHANGES FOR REQUIRED COURSES.

FOOTNOTES FOR B.S. BIOCHEMISTRY STUDY PLAN

1. All BS Biochemistry majors must complete mathematics at least through MAT 296 Calculus B. Depending upon the individual mathematics background*, some students may start with MAT 190 rather than MAT 196. MAT 190 is a one-semester precalculus course for science majors. Some students may take MAT 181 Foundations of Calculus along with MAT 196. Majors are strongly advised to elect additional advanced mathematics courses. A Calculus Readiness Diagnostic Test should be taken. (*See <https://mathstats.uncg.edu/undergraduate/placement/calculus-diagnostic-test/>)
2. The requirement is Foreign Language through the Intermediate (204) level. If the student is able to begin Foreign Language at the intermediate level in the Freshman Year, a second year of language may not be required. Students who are native speakers of a second language may be exempted from the Foreign Language requirement. (See <https://llc.uncg.edu/students/foreign-language-faqs/>)
3. The sequence listed here for meeting the Minerva Academic Requirements (MAC) and College additional requirements (CIC) (identified by capital letters in parentheses) is a suggestion only and may be arranged to fit each student's particular situation. Note: Two College Writing courses must be completed.
4. Only major requirement and related area requirement courses at or below the 300-level in which grades of C- or better are earned will be counted toward the major. Students must earn a C- or better in prerequisite major requirement and related area requirement courses before advancing to subsequent courses. Students must have an overall GPA of at least 2.0 in CHE courses at UNC Greensboro.
5. All students must complete either BIO 355 Cell Biology or BIO 392 Genetics. BIO 375 Cell Biology and Genetics Lab is also required.
6. The Advanced Biochemistry requirement may be satisfied by completion of CHE 431, 436, 442, 453, 455, 470B, 481, BIO 494, or 3-4 credits Independent Study: CHE 491 or CHE 491-492 (3 credits in one semester or spread over several semesters). As an alternative to CHE 491-492, students may arrange to conduct independent study with selected faculty in the following departments: Biology; Nutrition; Physics & Astronomy; Kinesiology (see advisor for additional information).
7. It is not necessary to wait until the senior year to begin the Advanced Biology Elective requirement. Select 3-4 credits from the following courses: BIO 277 (Human Physiology with lab), BIO 494 (Introduction to Biotechnology; strongly recommended if not used as Advanced Biochemistry Elective), BIO 424 (Plant Physiology and Biotechnology), BIO 464 (Developmental Biology with lab), BIO 478 (Hormones in Action), BIO 479 (Neurobiology with lab), BIO 481 (Microbiology with lab), BIO 482 (Molecular Biological Approaches in Research), BIO 485 (Virology), BIO 495 (Advanced Genetics), PHY 443 (Biophysics).