BIOCHEMISTRY, B.S.

The Biochemistry Major (B.S.) is designed to prepare students for graduate education in the biochemical sciences, for medical, dental, or pharmaceutical professions, or for employment in biotechnology, pharmaceutical, and chemical industries. Students who complete the Bachelor of Science in Biochemistry will meet all or most of the academic requirements for admission to medical, dental, veterinary, or pharmacy schools.

The curriculum involves a solid foundation of chemistry and biology courses, along with core and advanced elective courses in biochemistry. Undergraduate research is encouraged, and students may collaborate with participating faculty from a variety of departments (Chemistry, Biology, Nutrition, Physics, and Kinesiology).

This program follows the biochemistry curriculum recommendations of the American Society of Biochemists and Molecular Biologists.

Overall Requirements

- 120 credit hours, to include at least 36 credits at or above the 300 course level.
- Only major requirements 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 requirements 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.

Degree Program Requirements

Code	Title	Credit Hours
University Requirements (https://catalog.uncg.edu/academic-regulations-policies/undergraduate-requirements/undergraduate-degrees-and-degree-requirements/)		
General Education Requirements (MAC) (https://catalog.uncg.edu/academic-regulations-policies/undergraduate-requirements/general-education-program/#generaleducationcorerequirementstext)		
College of Arts and Sciences Additional Requirements (CIC) (https://catalog.uncg.edu/arts-sciences/#additionalundergraduaterequirementstext)		

Major Requirements

Code	Title	Credit Hours
Required		**38**
CHE 111 & CHE 112	General Chemistry I and General Chemistry I Laboratory	
CHE 114 & CHE 115	General Chemistry II and General Chemistry II Laboratory	
CHE 331 & CHE 333	Quantitative Analysis and Quantitative Analysis Laboratory	
CHE 342	Inorganic Chemistry I	
CHE 351	Organic Chemistry I	
CHE 352	Organic Chemistry II	
CHE 353	Organic Laboratory Techniques	
CHE 355	Intermediate Organic Chemistry Lab	
CHE 402	Chemistry Seminar	
CHE 406 & CHE 407	Introductory Physical Chemistry and Introductory Physical Chemistry Laboratory	
CHE 456	Biochemistry I	
CHE 457	Biochemistry II	
CHE 458	Biochemistry Lab	
CHE 401	Chemistry Seminar Introduction *	
Related Area Requirements		**29**
BIO 111 & 111L	Principles of Biology I and Principles of Biology I Laboratory	
BIO 112 & 112L	Principles of Biology II and Principles of Biology II Laboratory	
MAT 196	Calculus A	
MAT 296	Calculus B	
Select one of the following:		
BIO 392 & BIO 375	Genetics and Cell Biology and Genetics Laboratory	
BIO 355 & BIO 375	Cell Biology and Cell Biology and Genetics Laboratory	
Select one of the following:		
PHY 211 & PHY 212	General Physics I and General Physics II	
PHY 291 & PHY 292	General Physics I with Calculus and General Physics II with Calculus	
Advanced Biochemistry, Advanced Biological Science, or Independent Study Electives		**5-7**
Select 5-7 credits of the following: **		
At least 3 credits must be CHE. [1]		
CHE 427	Introduction to Medicinal Chemistry	
CHE 431	Instrumental Analysis	
CHE 436	Computational Chemistry	
CHE 442	Inorganic Chemistry II	
CHE 453	Advanced Organic Chemistry I	
CHE 455	Organometallic Chemistry	
CHE 468	Introduction to Chemical Biology	
CHE 470B	Special Topics in Chemistry: Biochemistry	
CHE 481	Synthetic Techniques **	
CHE 491	Senior Research	
CHE 492	Senior Research	
BIO 277 & 277L	Human Physiology and Human Physiology Laboratory	
BIO 355	Cell Biology [2]	
BIO 392	Genetics [2]	
BIO 424	Plant Physiology and Biotechnology	
BIO 443	Biophysics	
BIO 464 & 464L	Developmental Biology and Developmental Biology Laboratory	
BIO 478	Hormones in Action	
BIO 479 & 479L	Neurobiology and Neurobiology Laboratory	
BIO 481 & 481L	General Microbiology and General Microbiology Laboratory	
BIO 482	Molecular Biological Approaches in Research	

BIO 485	Virology
BIO 494 & 494L	Introduction to Biotechnology and Introduction to Biotechnology Laboratory
BIO 495	Advanced Genetics
BIO 499	Undergraduate Research
PHY 495	Research Experience in Physics

* *The course is taken as an audit.*
** *Requirement is only 5 credits if* CHE 481 *is chosen.*
[1] *Minimum of 2 credits in CHE is required only if* CHE 481 *is chosen.*
[2] *If not used for a Related Area Requirement above.*

Electives

Electives should be sufficient to complete the 120 credit hours required for the degree. Additional advanced courses in Chemistry and Biology are recommended.

Disciplinary Honors in Chemistry and Biochemistry

Requirements

- A minimum of 12 credit hours as defined below.
- UNC Greensboro cumulative GPA of 3.30 or better or, for transfer students, cumulative GPA of 3.30 or better from all prior institutions.

Code	Title	Credit Hours
Required		**3**
HSS 490	Senior Honors Project	
6 credits of Honors course work in the major		**6**
3 credits of Honors course work in the major or another area		**3**

~~Recognition~~

~~Receive a Certificate of Disciplinary Honors in Chemistry and Biochemistry; have that accomplishment, along with the title of the Senior Honors Project, noted on the official transcript; and be recognized at a banquet held at the end of the spring semester.~~

~~Honors Advisor~~

~~Contact Liam Duffy at liam_duffy@uncg.edu for further information and guidance about Honors in Chemistry and Biochemistry. To apply:~~ https://honorscollege.uncg.edu/disciplinary-honors/disciplinary-honors-admissions (https://honorscollege.uncg.edu/disciplinary-honors/disciplinary-honors-admissions/)