

CHEMISTRY AND BIOCHEMISTRY

College of Arts and Sciences

435 Science Building
336-334-5714
<http://chem.uncg.edu>

Mitchell Croatt, *Department Head*
Jerry Walsh, *Director of Undergraduate Studies*
Liam M. Duffy, *Graduate Program Director*

Undergraduate Programs

The Department of Chemistry and Biochemistry offers five undergraduate programs: the Bachelor of Science in Chemistry, the Bachelor of Science in Biochemistry, the Bachelor of Science in Chemistry with a Concentration in Biochemistry, the Bachelor of Science in Chemistry with a Concentration in Research, and the Bachelor of Arts in Chemistry. A licensure program to prepare students to teach high school chemistry is offered. The Master of Science in Chemistry, Master of Science in Chemistry with Biochemistry Concentration, and Ph.D. in Chemistry and Biochemistry are offered at the graduate level (see the *University Catalog*). Students who follow the program leading to the Bachelor of Science in Chemistry degree are certified to the American Chemical Society as having met its rigorous requirements for undergraduate professional training in chemistry.

The Department's biochemistry programs (B.S. in Biochemistry and B.S. in Chemistry with Concentration in Biochemistry) provide students with excellent preparation for graduate work in biochemistry and related life sciences, as well as for employment in chemical and biotechnological industries. These programs are also attractive to students planning careers in the medical, dental, or pharmaceutical professions.

The department emphasizes the opportunity for students to engage in undergraduate research. Many of our majors do so, principally in their junior and senior years, and this provides excellent training for those who intend to continue their studies at the graduate level.

Graduate Programs

UNC Greensboro has a tradition of excellence in advanced training for careers in the chemical and biochemical sciences. Our faculty is committed to providing one-on-one learning opportunities for all our students in the laboratory, and this dedication to quality graduate education translates into very high success rates for our graduates as they pursue careers in science. Our Department has a strong research emphasis on Medicinal Biochemistry, and our students engage in a diverse array of research projects related to that theme. For example, students work to develop or synthesize new drug candidates, identify and study mechanism of action of natural products, or explore the chemical properties of human drug metabolizing systems. In support of these efforts, our department is home to the Medicinal Chemistry Collaborative (MC²) directed by Dr. Nadja Cech and Dr. Nicholas Oberlies. The mission of this center is to broaden the impact of natural products and drug discovery research on the UNC Greensboro campus, and to facilitate university-industry relationships with local pharmaceutical and biotechnology companies.

The Department has a well-established Master's level program that offers an M.S. in Chemistry within which a Concentration in Biochemistry can be chosen. These are very well-rounded terminal degree programs. In addition to course-work in core areas of Chemistry or Biochemistry, each program emphasizes training in research by requiring a significant research project with a Master's thesis under the supervision of a professor. Students also receive experience in professional presentation through the seminar program and attendance at professional meetings to present research results.

Our Ph.D. program in Chemistry and Biochemistry is unique in the state of North Carolina. Target-based rational drug design, with its emphasis on biochemical and molecular biological receptors, is now central to the development of new and more effective pharmaceuticals. The Ph.D. program offers students an innovative curriculum and research environment that emphasizes fundamental biochemical interactions and mechanisms guiding drug design and development. Students who complete the program will have a strong biochemical perspective on drug design, discovery, and function, and will have specialization in any of several disciplines which connect biochemical interactions with pharmaceutical development: computational chemistry, bioanalytical chemistry, biophysical chemistry, natural product isolation, molecular biology and enzymology, or drug synthesis.

Professor

Nadja B. Cech, *Professor and Distinguished Professor*^G
Norman H. L. Chiu^G
Mitch P Croatt, *Marie Foscue Rourk Distinguished Professor*^G
Alice E. Haddy^G
Nicholas H Oberlies, *Professor and Patricia A. Sullivan Distinguished Professor*^G
Ethan Will Taylor^G
Jerry L. Walsh^G
Qibin Zhang^G

Associate Professor

Kimberly S Petersen^G
Jason J. Reddick^G

Assistant Professor

Jonathan Rodi Chekan^G
Liam M. Duffy^G
Shabnam Hematian^G
Maia Popova^G

Senior Lecturer

Dennis A. Burnes
Daniel P Christen
Spencer A Russell

Lecturer

Teresa Sue Barber
Taylor Levi Mabe
Pradyumna Kumar Pradhan
Travis R Russell

^G Graduate-level faculty

- Biochemistry, B.S. (<https://catalog.uncg.edu/arts-sciences/chemistry-biochemistry/biochemistry-bs/>)
- Chemistry, B.A. (<https://catalog.uncg.edu/arts-sciences/chemistry-biochemistry/chemistry-ba/>)

- Chemistry, B.S. (<https://catalog.uncg.edu/arts-sciences/chemistry-biochemistry/chemistry-bs/>)
- Chemistry Undergraduate Minor (<https://catalog.uncg.edu/arts-sciences/chemistry-biochemistry/chemistry-minor/>)
- Chemistry, M.S. (<https://catalog.uncg.edu/arts-sciences/chemistry-biochemistry/chemistry-ms/>)
- Chemistry and Biochemistry, Ph.D. (<https://catalog.uncg.edu/arts-sciences/chemistry-biochemistry/chemistry-biochemistry-phd/>)