

RHODES COLLEGE

The Department of Chemistry

Would you enjoy creating a new system for detecting Improvised Explosive Devices? How about researching fungi on a project so important that you present your team's work before prestigious professional societies? If these opportunities appeal to you, then explore the Rhodes College Department of Chemistry. The department's nine full-time faculty members work with around 40 majors each year, involving them in critical scientific research projects. The result? For Rachel Hickey '11, it was a Ph.D. program in biomedical sciences. For John Musgrove '10, it was medical school. Others have chosen dentistry or pharmacology. Whatever direction your career plans aim, a degree from Rhodes provides the scholarly foundation to take you there.



Academic Programs

Chemistry
Biochemistry
Molecular Biology
Neuroscience
Environmental Science

Course Work

Foundations of Chemistry
Organic Chemistry I and II
Analytical Chemistry
Senior Seminar

Cognate Coursework

Calculus I and II
Physics



Chemistry majors have the option to complete extra credit hours of research to graduate with certification by the American Chemical Society.

What the Students Say

"In my Organic Chemistry II lab, we created banana oil, the substance they use to flavor Laffy Taffy. It's experiences like this, like getting to see all of your learning at work in these reactions, that make being a chemistry major so rewarding. Plus, the professors are some of the most helpful I've ever had. I had a professor sit with me for three hours, well beyond his office hours, just because he wanted to be sure I understood the material."

— Aaron Banks '15, Chemistry major/Physics minor

Faculty Profile

Darlene Loprete, Ph.D., chair of the Department of Chemistry, also leads research on the mechanisms responsible for the growth and development of cell walls in fungi. Her findings are vital for discovering new ways to use, control or inhibit fungal growth that impacts health, medicine and the economy. To support the interdisciplinary goal of the liberal arts education, Loprete dreams of integrating more of the sciences into the overall curriculum.



Research Opportunitites

The research opportunities for chemistry students are vast, and about 50% of chemistry majors participate in some form of academic research during their careers at Rhodes. Past fellowships have included the selective St. Jude Summer Plus program, where students complete intensive research with a faculty member at St. Jude Children's Research Hospital for a summer and the following academic year. Other students do research at the University of Tennessee Health Science Center and the University of Memphis. "A few years ago, we had a student do research at the Mayo Clinic," says Dr. Darlene Loprete. "The opportunities for research go far beyond Memphis." Others complete on-campus research. Dr. Mauricio Cafiero consistently has between 2-5 students working with him on his research in Computational Chemistry.



Ashley Tufton '13

As a first-year student, New Orleans native Ashley Tufton took a variety of classes, including introductory Chemistry. While she enjoyed International Studies, History and Religious Studies, she simply "liked Chemistry the best. The professors were so nice and it's a smaller department so you get to know them one on one."

Ashley conducts research with Professor Mauricio Cafiero, who "has been very helpful in introducing me to new fields of study, like Computational Chemistry, which is what I research." She studies a method for chemotherapeutic drugs to be delivered into the body.

She has presented at the American Chemical Society conference, which usually hosts anywhere from 10,000 to 15,000 scientists and works in the library and as the teaching assistant for the Chemistry and Archaeology lab.

All chemistry labs have teaching assistants (TAs)—positions filled by junior and senior chemistry majors. TAs are an integral part of the department, and are able to engage in the learning of younger students. In addition, many junior and senior majors are tutors for introductory level chemistry courses.

Notable Alumni

Tony Capizzani '95, M.D.

Along with performing trauma and acute care surgeries at the Cleveland Clinic, Capizzani is an assistant professor at two medical schools—Cleveland Clinic Lerner College of Medicine and Case Western Reserve University School of Medicine.

Sid Strickland '68, Ph.D.

As an administrator at The Rockefeller University in New York, Strickland oversees all the educational activities at the university. As a professor and researcher, he and his team concentrate on neurodegenerative diseases.

By the Numbers

9 full-time faculty • **40** current majors • **50%** of majors conduct research • **17** chemistry majors studied abroad • **40-45%** enter medical school • **20%** enter dentistry • **15-20%** enter Ph.D. programs • **15%** pursue a masters degree or complete non-doctoral research training

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