

# Winthrop University

DEPARTMENT OF

## Chemistry, Physics, and Geology

Winthrop offers a professionally certified chemistry program approved by the American Chemical Society (ACS) with a biochemistry degree track recognized as the nation's first program accredited by the American Society of Biochemistry and Molecular Biology (ASBMB). Our entire focus is on the pursuit and dissemination of national-caliber undergraduate research through year-round student engagement in science. You'll find our class sizes are small; freshman chemistry classes are 20-36 students, instrumental/organic labs are 6-12 students and biochemistry labs max out with 8-10. This allows faculty to really get to know you and your career goals. This program has led to 57 percent of recent Winthrop chemistry and biochemistry graduates entering fully funded Ph.D. programs, medical/pharmacy/dental/veterinary schools, or master's degree programs.

### Pat Owens, Ph.D.

Chair, Department of Chemistry, Physics and Geology  
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If you're a chemistry or biochemistry major, you'll gain extensive research experience that includes hands-on engagement in department laboratories that are well-equipped with state-of-the-art scientific instrumentation dedicated solely for undergraduate students like you for use in course work and in year-round research projects. Unlike large universities, more than 90 percent of Winthrop chemistry graduates conduct cutting-edge undergraduate research working as much as two full years with faculty mentors who have been awarded research grants totaling more than \$7 million during the past decade. These grants fund student research fellowships that make it possible for most Winthrop chemistry and biochemistry students to spend one or more summers engaged in 8-10 weeks of intensive research. These research experiences make chemistry graduates very competitive for graduate, professional health, and industrial opportunities.

## Quick Facts

# 100

students mentored by  
15 faculty and staff  
make up the Winthrop  
chemistry family

# 90%+

of Winthrop  
chemistry graduates  
conduct cutting-  
edge undergraduate  
research working with  
faculty mentors

# 35

Winthrop chemistry  
students were  
awarded research  
fellowship stipends  
during summer 2015

## Degree Programs

### B.S. in Chemistry (American Chemical

Society-Certified Degrees)

- Biochemistry  
(also ASBMB  
accredited)
- Chemistry-Business
- Chemistry
- Engineering-Physics
- Forensic Chemistry

### Pre-Professional Programs

- Pre-Medical
- Pre-Pharmacy
- Pre-Dental
- Pre-Engineering

“The research

opportunities available

to students are endless.

Faculty are willing to

bring students in their lab as

soon as possible. It's a great  
way to learn.”

- 2009 Winthrop Chemistry Graduate

### Co-Curricular Experiences Open To All Chemistry Majors

- Undergraduate Research
- Study Abroad
- Internships
- Service Learning
- Summer Fellowships

### Extra-Curricular Activities Open To All Chemistry Majors

- Student Affiliates of the American Chemical Society Chapter
- Alpha Chi Sigma Chapter
- National Organization for the Professional Advancement of Black Chemists and Chemical Engineers Chapter

# Freshman Class Schedule

<b>ACAD 101</b>	Introduces first-year students to the concepts, resources, and skills necessary for successful higher learning and facilitates the student's adjustment to the learning academy.
<b>WRIT 101</b>	Introduces students to college-level, thesis-driven, research-based writing.
<b>CHEM 105</b>	An introductory chemistry course for those who intend to major in the sciences.
<b>BIOL 203/204</b>	An overview of biology, including lab, focused on the cell, genetics, evolution, ecology, and animal behavior.
<b>MATH 201</b>	Limits, continuity, and the definition of the derivatives; techniques of differentiation, graphing, maximum/minimum and related rate problems; definite integrals and the fundamental theorem of calculus.

“Good relationships with the faculty, being able to **use the instruments as an undergraduate**, and being able to **do research as an undergraduate** were my most effective and **meaningful learning experiences** at Winthrop.”

- 2011 Winthrop Chemistry Graduate

## Great Opportunities:

Over the past decade, 50 Winthrop chemistry graduates have matriculated into fully-funded doctoral programs that include these top schools:

Boston U	Penn State	USC (5)
Duke (5)	Georgia (2)	VCU (2)
Florida	John Hopkins (2)	Utah
St Jude Hospital	Wake Forest (3)	Iowa
UNC-Chapel Hill	Dartmouth (2)	MUSC
Pittsburgh (2)	Purdue	Harvard
Illinois-Urbana	Notre Dame (5)	UNC-G
Wisconsin	Virginia (3)	
Tennessee	Clemson (3)	

For more information: [www.winthrop.edu/cas/chemistry](http://www.winthrop.edu/cas/chemistry)



*“Research was by far the most interesting thing I did at Winthrop. I learned and retained much more from research than any other class.”*

- 2013 Winthrop Chemistry Graduate

## Potential Careers In Chemistry, Physics, and Geology

Industrial Chemist  
 Research Scientist  
 Regional Sales Manager  
 Medical School  
 Environmental Engineer  
 Pharmaceutical Research Scientist  
 Technical Sales Account Manager  
 College Chemistry Professor  
 Nuclear Chemistry Specialist  
 Physical Therapist  
 Veterinarian  
 Patent or Environmental Lawyer  
 CDC Medicinal Analytical Chemist  
 Field Service Engineer  
 Laboratory Specialist  
 Software Engineer  
 Plastics / Polymer Engineer  
 Quality Assurance Manager  
 Forensic Crime Lab Chemist  
 Petrochemicals Investment Advisor  
 Nurse  
 Sales Engineer  
 Research and Development Manager  
 Materials/Analytical Chemist  
 Pharmacist  
 Environmental Health Research Scientist  
 Chemical Engineer  
 Nuclear Energy Consultant  
 Dentist  
 High School AP Chemistry Teacher  
 Materials Scientist  
 Biotechnology Laboratory Analyst

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