



COLLEGE OF ARTS AND SCIENCES

## CHEMISTRY

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For more information about the program contact:

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### THE CAMPBELL PROGRAM

The goal of Campbell's Chemistry program is to provide a sound, challenging major designed to prepare students for professional and graduate schools as well as careers in government and private industry. We believe that students who are broadly trained will be successful in finding employment in their area of interest.

Students in our program are encouraged to select a minor that is inkeeping with their career goals. Some good choices for minors are: Biology, Math, Business or Communication Studies.

### THE CAMPBELL APPROACH

We strive to present a balance between the theoretical and the practical by spending equal amounts of time in lecture and lab. Although lower-level labs average about 18-20 students, most upper-level labs are smaller and are taught by our experienced faculty. This ensures that there is ample opportunity for individual instruction and questions. Our courses and facilities are regularly updated so that we can offer the best education possible. Some of the resources available to students include:

- High-speed Internet access for on-line searches
- Eight visible spectrophotometers, 12 pH meters, and three gas chromatographs to be used in freshman lab and upperlevel courses
- Four high pressure liquid chromatographs and six scanning spectrophotometers
- One fourier transform infrared spectrophotometer, nuclear magnetic resonance spectrometer, and atomic absorption spectroscopy for upper-level courses

### THE CAMPBELL FACULTY

Our four full-time doctorate-level faculty members stay actively involved in their field by attending symposiums and colloquiums around the nation and developing new lab techniques for their courses. They are dedicated to their teaching responsibilities and consider a top-notch education to be extremely important. For this reason, lab related courses change as the students' needs change.

As importantly, you will find faculty members are approachable, friendly and regularly available for "walk-in" discussions. They will be your advisers and instructors. You will have opportunities to meet with them and your fellow majors outside of class by becoming a member of the American Chemical Society-Student Affiliates. Members typically organize trips to large chemical and pharmaceutical companies in the Research Triangle Park.

### THE CAMPBELL STUDENT

We are seeking students who are genuinely interested in science. Successful students in our program usually have an SAT scores above 1100 and a strong aptitude for science and mathematics.

Most of our graduates take positions as lab support in industry (chemical, environmental or pharmaceutical) or they continue their studies in graduate school, pursuing areas of study such as chemistry, biochemistry or toxicology. Recent graduates have taken positions in the Research Triangle Park while others have entered graduate programs in local universities such as Duke and North Carolina State University.

Outstanding Chemistry students may be employed by Campbell to serve as laboratory assistants or instructors. Others may have opportunities to engage in small research projects directed by our faculty.



## CHEMISTRY: BACHELOR OF SCIENCE

### Requirements for a Major in Chemistry (BS)

CHEM 111, 113, 215, 227, 228, 331, 334, 451, 452 and at least four semester hours of CHEM electives (300-level or higher); MATH 160, 122, 223; PHYS 251, 252.

### Requirements for a Minor in Chemistry

At least 22 semester hours of CHEM, including CHEM 111, 113, 215, 227, 228. Remaining hours may be obtained with any 300-level (or higher) CHEM courses.

## CURRICULUM OUTLINE

### Chemistry

#### FRESHMAN YEAR

SEMESTER 1		HRS	SEMESTER 2		HRS	
GENERAL CHEMISTRY I	CHEM 111	4	GENERAL CHEMISTRY II	CHEM 113	4	
CALCULUS I	MATH 122	4	CALCULUS II	MATH 223	4	
ENGLISH FUNDAMENTALS	ENGL 100	3	ENGLISH COMP I	ENGL 101	3	
LIFETIME WELLNESS	PE 185	2	PE ACTIVITY	PE 111	1	
FOREIGN LANG		102	FOREIGN LANG		201	3
CU WORSHIP	CUW 100	0.5	CU WORSHIP	CUW 100	0.5	

#### SOPHOMORE YEAR

SEMESTER 3		HRS	SEMESTER 4		HRS
ORGANIC CHEMISTRY I	CHEM 227	4	ORGANIC CHEMISTRY II	CHEM 228	4
PHYSICS I	PHYS 251	4	PHYSICS II	PHYS 252	4
ENGLISH COMP II	ENGL 102	3	ENGLISH LITERATURE	ENGL LIT	3
WESTERN CIV I	HIST 111	3	WESTERN CIV II	HIST 112	3
STATISTICS	MATH 160	3	INTRO TO CHRISTIANITY	RELG 125	3
CU WORSHIP	CUW 200	0.5	CU WORSHIP	CUW 200	0.5

#### JUNIOR YEAR

SEMESTER 5		HRS	SEMESTER 6		HRS
QUANT ANALYSIS	CHEM 215	4	INORGANIC CHEMISTRY	CHEM 228	4
SOCIAL SCIENCE ELECTIVE		3	SOCIAL SCIENCE ELECTIVE		3
ART/MUSIC/THEATRE		131	RELIGION ELECTIVE	RELG	3
ENGLISH LITERATURE	ENGL LIT	3	ELECTIVE		3
ELECTIVE		3	ELECTIVE		3

#### SENIOR YEAR

SEMESTER 7		HRS	SEMESTER 8		HRS
CHEMISTRY ELECTIVE	CHEM	3	PHYS CHEMISTRY	CHEM 334	4
SENIOR SEMINAR	CHEM 451	1	SENIOR SEMINAR	CHEM 452	1
ELECTIVE		4	ELECTIVE		4
ELECTIVE		3	ELECTIVE		3
ELECTIVE		3			

**TOTAL HOURS 128**

### The Campbell Advantage

The Chemistry program at Campbell is extremely strong due to dedicated professors and ample resources available for student use. If you complete your degree here, you can be justifiably proud of it. You can also be assured you will have...

- Received intense but caring instruction in the fundamentals of your field.
- Enjoyed the camaraderie of a close-knit department.
- Experienced the distinctive benefits of a university committed to a quality liberal arts education and our Christian mission.

*English Comp* – Students with an SAT verbal score below 450 will be enrolled in ENGL 100; 450-699 students will be enrolled in ENGL 101; 700 and above a “B” average in high school students will be enrolled in ENGL 102.

*English Literature* – The ENGL LIT requirement may be satisfied by completing any two of the following literature courses: ENGL 201, 202, 203, 204 or 205, or with a 300-level Foreign LANG LIT.

*Foreign Language* – Students are required to pass a 201-level Foreign LANG.

*Social Science* – Courses may be selected from CRIM, ECON, GEOG, POLS, HIST, PHIL, PSYC and SOCI.

*Elective* – Any course may be used for an elective; however, carefully chosen electives will allow for a minor.

\*Students with strong interests in biotechnology might also consider a degree in Biochemistry, which is co-advised by the Biology and Chemistry departments.

\*Students considering to pursue graduate studies are recommended to take CHEM 430 and MATH 224, 337.

\*300+ courses may be offered only in alternate years.

\*CHEM 430 is cross-listed with BIOL 430.

*The major requirements outlined within this brochure are intended as a guideline, and the curriculum outlines are only a sample. The most recent copy of the University's Undergraduate Studies Bulletin is the official source related to curriculum guidelines. It is the student's responsibility to consult with his/her academic adviser.*