

# CAMPBELL UNIVERSITY



College of Arts and Sciences

## Biology

### Pre-Professional Track

1-800-334-4111 [www.campbell.edu](http://www.campbell.edu)

*For more information about the program contact:*

The Administrative Assistant

800-334-4111, ext. 1730 • 910-893-1730

[biology@campbell.edu](mailto:biology@campbell.edu)

## The Campbell Program

The Pre-Professional program is a concentration — or track — within the Biology Major. Our objective is to prepare our undergraduates for admission to post-graduate professional degree programs, such as M.D., D.V.M., D.D.S., D.O., P.A., Physical Therapy and M.S./Ph.D. graduate programs. Our courses are also designed for those interested in related healthcare careers in teaching, government and private industry.

Within the Biology Major, we present the biological sciences from the perspective of purpose and faith. Our program is substantial: approximately 150 biology majors pursue the Pre-Professional track, taking nine required courses and choosing from more than 10 electives.

## The Campbell Approach and Resources

We strive to present a balance between the theoretical and the practical by spending equal amounts of time in lecture and lab. Labs typically range from 15–26 students. You'll also be encouraged to do independent research under faculty direction or to do a voluntary internship with a health-related organization.

We have extensive resources, including up-to-date molecular techniques labs. You'll also find:

- Three analog video microscopes; three digital video microscopes
- Multimedia classrooms and laboratories;
- 24 wireless laptop computers, printers, and course related software;
- Eight mobile UV/Vis spectroscopy workstations;
- Two mobile digital multimedia presentations stations;
- LI-COR 4300 DNA Analysis System;
- 12 canoes;
- Five laminar flow hoods, two CO<sub>2</sub> incubators, 3 PCR thermocyclers, four inverted phase contrast scopes.

## The Campbell Faculty

Our faculty's strong academic credentials are complemented by vast teaching expertise in a wide variety of subjects. Our research interests are also diverse, encompassing: cell-to-cell communications through signal transduction, molecular genetics, population dynamics and ecology, limnology horticulture, plant tissue culture and bioengineering, taxonomy, canine and ruminant digestive physiology and immunity to infectious diseases.

As importantly, you'll find we are approachable, friendly and regularly available for "walk-in" discussions. If you're on the Pre-Professional track, you'll have an advisor who is an active member of the Health Professional

Advisors of North Carolina. And you'll be encouraged to get to know your professors and fellow majors outside class through the Walker Biology Club and Pre-Medical/Allied Health Honor Society.

## The Campbell Student

The health sciences are an intensely competitive field. We're looking for serious, highly motivated students, who want to be successful in attaining their goals. Generally speaking our students are well-grounded in trigonometry, biology, chemistry and physics before arriving at college.

To be competitive in applying for health professional schools, you should expect to maintain an overall college GPA of 3.25 or better. The most competitive entrance requirements are in Physical Therapy and Veterinary Medicine; a record of straight "A's" is sometimes required in these fields.

About 10% of our graduates immediately pursue post graduate studies. Our acceptance rate among those highly qualified students who apply to medical school is 80 percent. Ultimately, most of our students find excellent positions in industry or health service labs.

## The Campbell Advantage

Our program provides an exceptionally solid foundation for future success, whether you ultimately work toward a professional degree in medicine or enter the work force. Today's biological scientist needs capabilities extending beyond the lab and classroom. For example, they must be well-grounded in ethics, research, writing, and technology. We're convinced Campbell is uniquely qualified to give you the foundation on which to build your specialization, because...

- We combine a core curriculum with a vast array of biology-related courses and resources...
- We have a faculty committed to outstanding teaching and helping you achieve your goals, and...
- We are a university dedicated to quality liberal arts education, free enterprise, and our Christian Mission.

The Pre-Professional concentration at Campbell. It's the education you need... the education you want... the education for your life.

## Biological Sciences

### Requirements for a Major in Biology

A major in biology may be obtained within a general curriculum or one which follows specific guidelines for physicians assisting, teacher certification, pre-physical therapy, or pre-professional (preparation for graduate or professional schools) studies. The student majoring in biology must complete a minimum of 39 hours in biology, and these must include credit for BIOL 111, 201, 202, 203, 205, 327 or 542, 342, 430 or 437, and 451 or 452.

Students are encouraged to complete more than the minimum number of hours in biology.

Ancillary requirements include MATH 112 (or 122) and 160; CHEM 111, 113, and 227; and PHYS 221, 222 or 251, 252. CHEM 228 is an additional requirement in the pre-professional curriculum.

### Requirements for a Minor in Biology

Students wishing to minor in biology may do so by completing BIOL 111 and an additional sixteen semester hours (4-four semester hours courses) in biology courses numbered at the 200 level or above.

### Requirements for a Minor in Environmental Science

Students wishing to minor in environmental science may do so by completing ENVS 111, 112 and three other cognate courses from the University (18 total credits minimum).

### Requirements for a Major in Biology with a Pre-Physical Therapy Track

A major in Biology may be obtained which follows specific guidelines for entering post-baccalaureate studies in physical therapy. The student following this track must complete BIO 111, 202, 203, 221, 205, 301, 310, 334,

320, 327 or 527 or 542, 342, 430, or 437, and 451 or 452. Cognate courses in chemistry include 111, 113, 227, and, 228. Cognate courses in psychology include, 222, 369, and 461. CIS 125 is also required. Other course requirements are the same as any biology major. This demanding curriculum totals 136 semester hours. Students with a competitive GPA are well-prepared for the equally demanding graduate programs to which they apply.

### Requirements for a Major in Biology with a Pre-Physicians Assistant Track

A major in Biology may be obtained which follows specific guidelines for entering studies in physician assistant programs. The student following this tract must complete BIOL 111, 201, 202, 203, 205, 221, 310, 320, 327 or 542, 334, 342, 430, 437, and 451 or 452. Cognate courses in chemistry include 111, 113, 227, 228 to complete the chemistry minor. Other course requirements are the same as any biology major. PA programs vary in their requirement for work experience in the medical field. Most applicants range from 2-5 years of experience, including volunteer work, nursing experience, laboratory work and military experience.

## Biology Electives

Biology 215	Horticulture
Biology 221	Human Anatomy & Physiology
Biology 224	Vertebrate Natural History
Biology 226	Ornithology
Biology 241	Field Botany
Biology 301	Cytology/Histology
Biology 310	Advanced Human Physiology
Biology 315	Bioinformatics
Biology 319	Biomedical Ethics
Biology 320	Developmental Anatomy
Biology 321	Environmental Toxicology
Biology 322	Limnology
Biology 335	Immunology
Biology 336	Medical Microbiology
Biology 351	Creation, Evolution, or Both?
Biology 465	Biology Internship
Biology 508	Molecular Techniques

## Curriculum Outline\* Biology, Pre-Professional Track

**CAMPBELL**  
UNIVERSITY

### Freshman Year

SEMESTER 1			SEMESTER 2		
		HRS			HRS
BASIC BIOLOGY	BIOL 111	4	CELL & MOLECULAR BIOLOGY	BIOL 201	4
TRIGONOMETRY	MATH 112	3	STATISTICS	MATH 160	3

### Sophomore Year

SEMESTER 7			SEMESTER 8		
		HRS			HRS
ZOOLOGY	BIOL 203	4	BOTANY	BIOL 202	4
GENERAL CHEMISTRY	CHEM 111	4	GENERAL CHEMISTRY	CHEM 113	4
INTRO TO BIOL RESEARCH	BIOL 205	3			
CALCULUS	MATH 122	4			

### Junior Year

SEMESTER 5			SEMESTER 6		
		HRS			HRS
ORGANIC CHEMISTRY	CHEM 227	4	GENETICS	BIOL 342	4
PHYSICS	PHYS 221	4	ORGANIC CHEMISTRY	CHEM 228	4
			PHYSICS	PHYS 222	4

### Senior Year

SEMESTER 7			SEMESTER 8		
		HRS			HRS
BIOLOGY ELECTIVE	BIOL	4	BIOCHEMISTRY OR	BIOL 430	
BIOLOGY SEMINAR	BIOL 451	1	ANIMAL PHYSIOLOGY	BIOL 437	4
			ECOLOGY	BIOL 327	4

## Interested?

Call us today and ask for your informational materials about Campbell's:

- Academics
- Advantages
- Campus Visits
- Career Services
- Community "Creek" Life
- Financial Aid
- International Admissions
- Outcomes
- Residence Life
- Value

Admissions Office  
Campbell University

1-800-334-4111

International: 01-910-893-1415

[www.campbell.edu](http://www.campbell.edu)

Consider us. Visit us. Call us today.