



COLLEGE OF ARTS AND SCIENCES
BIOLOGICAL SCIENCES
1-800-334-4111 • WWW.CAMPBELL.EDU

THE CAMPBELL PROGRAM

The biological sciences are experiencing explosive growth as key issues and breakthroughs bring this fascinating field to the front page and the evening news daily. The impact is expected to continue far into the future and play an increasingly important role in all our lives. Within this context, our goal is to present the biological sciences from the perspective of purpose and faith. We offer courses designed to prepare you for advanced training in professional and graduate schools, as well as a careers in healthcare, teaching, government or private industry. Our program is substantial; Campbell has approximately 200 majors and offers more than three dozen courses in all facets of this field including genetics, microbiology, cell biology, ecology and biotechnology.

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. Labs typically range from 15-26 students. While pursuing your degree, you will also be encouraged to do independent research under faculty direction or a voluntary internship with a health-related organization.

We have extensive resources including modern laboratory equipment and instrumentation. You will also find:

- Three analog video microscopes and three digital video microscopes
- Multimedia classrooms and laboratories
- 24 wireless laptop computer, 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
- 17 ft. research boat with 90 HP outboard motor
- Five laminar flow hoods, two CO₂ incubators, three PCR thermocyclers and four inverted phase-contrast microscopes

THE CAMPBELL FACULTY

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

As importantly, you will find faculty members are approachable, friendly and regularly available for "walk-in" discussions. You will

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biology@campbell.edu

have an adviser who can relate to your career goals. Students are encouraged to get to know professors and fellow majors outside the classroom through the Walker Biology Club and Pre-Medical/Allied Health Honor Society.

THE CAMPBELL STUDENT

We are seeking 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 Campbell. Successful students in our program usually have an SAT score above 1000, a high school unweighted GPA over 3.0 and a real aptitude for science and mathematics.

About one-fourth of our graduates immediately or ultimately seek an advanced degree, or continue to medical school. Another 20% teach while the remainder work in government and private sectors such as healthcare and biotechnology.



BIOLOGICAL SCIENCES: BACHELOR OF SCIENCE

Requirements for a Major in Biology (BS):

39 semester hours of BIOL including BIOL 111, 201, 202, 203, 205, 327, 342, 451 and one of BIOL 430, 437 or 438; MATH 112 or 122, 160; CHEM 111, 113 and 227; PHYS 221, 222 or 251, 252.

*CHEM 228 is an additional requirement in the Pre-Professional curriculum.

Requirements for a Minor in Biology(BS):

BIOL 111 and an additional 16 semester hours in biology courses numbered at the 200-level or above (including a minimum of three courses with a lab).

Requirements for a Minor in Environmental Science(BS):

ENVS 111, 112 and an additional 10 semester hours in cognate courses chosen in consultation with the Environmental Science program adviser.

Requirements for a Major in Biology w/ Teacher Certification:

35 semester hours of BIOL including BIOL 111, 201, 202, 203, 205, 327, 342, 451 and one of BIOL 430, 437 or 438; PSYC 222; SOCI 345; EDUC 221, 223, 230, 330, 331, 430, 432, 440, 441 and 458; SIED 453, 454.

CURRICULUM OUTLINE

Biological Sciences

FRESHMAN YEAR

SEMESTER 1		HRS	SEMESTER 2		HRS
BASIC BIOLOGY	BIOL 111	4	BOTANY	BIOL 202	4
TRIGONOMETRY	MATH 112	3	STATISTICS	MATH 160	3
ENGLISH FUNDAMENTALS	ENGL 100	3	ENGLISH COMP I	ENGL 101	3
WESTERN CIV I	HIST 111	3	WESTERN CIV II	HIST 112	3
FOREIGN LANG	102	3	FOREIGN LANG	201	3
CU WORSHIP	CUW 100	0.5	CU WORSHIP	CUW 100	0.5

SOPHOMORE YEAR

SEMESTER 3		HRS	SEMESTER 4		HRS
ZOOLOGY	BIOL 203	4	CELL & MOL BIOL	BIOL 201	4
GENERAL CHEMISTRY I	CHEM 111	4	GENERAL CHEMISTRY II	CHEM 113	4
INTRO TO BIO RESEARCH	BIOL 205	3	INTRO TO CHRISTIANITY	RELG 125	3
ENGLISH COMP II	ENGL 102	3	ENGLISH LITERATURE	ENGL LIT	3
ART/MUSIC/THEATRE	131	3	ELECTIVE		3
CU WORSHIP	CUW 200	0.5	CU WORSHIP	CUW 200	0.5

JUNIOR YEAR

SEMESTER 5		HRS	SEMESTER 6		HRS
ORGANIC CHEMISTRY I	CHEM 227	4	GENETICS	BIOL 342	4
PHYSICS I	PHYS 221	4	PHYSICS II	PHYS 222	4
LIFETIME WELLNESS	PE 185	2	PE ACTIVITY	PE 111	1
ENGLISH LITERATURE	ENGL LIT	3	RELIGION ELECTIVE	RELG	3
BIOLOGY ELECTIVE	BIOL	3	SOCIAL SCIENCE ELECTIVE		3

SENIOR YEAR

SEMESTER 7		HRS	SEMESTER 8		HRS
SENIOR SEMINAR	BIOL 451	1	ECOLOGY	BIOL 327	4
SOCIAL SCIENCE ELECTIVE		3	BIOCHEMISTRY	BIOL 430	
BIOLOGY ELECTIVE	BIOL	3	OR		4
ELECTIVE		3	ANIMAL PHYSIOLOGY		
ELECTIVE		3	PLANT PHYSIOLOGY	BIOL 437	4
			ELECTIVE		3

TOTAL HOURS 128

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 with at least 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.

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

BIOLOGY ELECTIVES

BIOL 215 Plants for Pleasure & Profit; BIOL 221 Human Anatomy & Physiology; BIOL 224 Vertebrate Natural History; BIOL 226 Ornithology; BIOL 241 Field Botany; BIOL 250 Histology; BIOL 310 Advanced Human Physiology; BIOL 315 Bioinformatics; BIOL 319 Biomedical Ethics; BIOL 320 Developmental Anatomy; BIOL 321 Environmental Toxicology; BIOL 322 Aquatic Ecology; BIOL 333 General Parasitology; BIOL 334 Microbiology; BIOL 335 Immunology; BIOL 336 Medical Microbiology; BIOL 350 Advanced Cell & Molecular Biochemistry; BIOL 351 Creation, Evolution, or Both?; BIOL 441 Biology Research; BIOL 465 Biology Internship; BIOL 508 Molecular Techniques

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.

The Campbell Advantage

Our program provides an exceptionally solid foundation for future success, whether you choose to work toward a professional degree in medicine or immediately enter the work force. Today's biological scientist needs capabilities extending beyond the lab and classroom. They must be well-grounded in ethics, research, writing and technology. We are 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 to helping you achieve your goals.
- We are a university dedicated to quality liberal arts education, free enterprise and our Christian Mission.