

NEUROSCIENCE AND BEHAVIOR 2009-10



UNIVERSITY OF CALIFORNIA, SANTA CRUZ

THE NEUROSCIENCE AND BEHAVIOR MAJORS

The neuroscience and behavior majors provide students with rigorous preparation for graduate studies and research. The brain and determinants of behavior are studied at all levels, from biological molecules to individual nerve cells to functioning organisms to social behavior. The majors emphasize the interrelationship between the two fields, building on a common core of general and biological science course work.

STUDY AND RESEARCH OPPORTUNITIES

- ◆ B.A., B.S.
- ◆ Pathways in behavior and molecular neuroscience
- ◆ Hands-on laboratory and field courses and opportunities for independent research

HIGH SCHOOL PREPARATION

In addition to the courses required for UC admission, high school students who intend to major in biology should take high school courses in biology, chemistry, advanced mathematics (precalculus), and physics.

TRANSFER PREPARATION

The faculty encourage applications from transfer students in the biological sciences. Students and their college advisers are strongly recommended to examine the degree requirements for the student's intended major: undergrad.pbsci.ucsc.edu/programs/mcdb. Students should satisfy as many introductory requirements as possible prior to transfer. Courses offered at the student's institution should be compared to the UC Santa Cruz transfer agreements (found at www.assist.org) and/or course descriptions to ensure that they will qualify for transfer. It is very important for transfer students to complete science prerequisite courses before transfer, especially calculus, general and organic chemistry with labs, and an introductory biology sequence. Students should also take physics, if possible. Prospective transfer students should visit the Physical and Biological Sciences Undergraduate Affairs web site at undergrad.pbsci.ucsc.edu for further information (see the *For More Information* section).

Introductory requirements for the B.A. in neuroscience and behavior are:

- Biology 20A, *Cell and Molecular Biology*; Biology 20B, *Development and Physiology*; Biology 20C, *Ecology and Evolution*
- Chemistry 1A, 1B/M, and 1C/N, *General Chemistry with Laboratory* (three quarters)
- Chemistry 108A/L and 108B/M (two quarters); or 112A/L, 112B/M, and 112C/N, *Organic Chemistry with Laboratory* (three quarters)
- Applied Mathematics and Statistics 7, *Biostatistics*
- Mathematics 11A-B, *Calculus with Applications* (two quarters) or Mathematics 19A-B, *Calculus for Science, Engineering, and Mathematics* (two quarters)
- Physics 6A/L and 6B/M, *Introductory Physics with Laboratory* (two quarters)

In addition to the courses above, the following courses are required for the B.S. program.

- Mathematics: one additional course in calculus, Mathematics 22, *Calculus with Applications*
- Physics: three quarters. Physics 6A/L, 6B/M, and 6C/N, *Introductory Physics with Laboratory*

CAREERS

Animal husbandry	Optometry
Biochemistry	Physiology
Biomedical research	Psychology/ Psychotherapy
Cell biology	Teaching
Child development	Veterinary medicine
Government research	
Marine biology	
Medical technology	<i>These are only samples</i>
Medicine	<i>of the field's many</i>
Mental health	<i>possibilities.</i>

EDUCATION ABROAD OPPORTUNITIES

The UC Education Abroad Program (EAP) offers qualified students unique opportunities to broaden their educational horizons. MCD Biology encourages interested students to participate. Many programs are in English-speaking countries or use English for advanced courses. Many programs offer small classes and extensive laboratory and/or field research experience.

There are excellent programs for biological science students in Costa Rica, Australia, New Zealand, the United Kingdom, Denmark, and Germany, among others. Molecular, cell, and developmental biology majors and premedical students might want to consider the Human Biology Program at the Panum Institute in Denmark. This program is taught in English for advanced students planning careers in medicine or biomedical research.

Students interested in study abroad need to get an early start on their basic science requirements, including general and organic chemistry, math, and introductory biology. Visit the EAP office as soon as possible to begin planning, and seek advice about your academic plan from the Physical and Biological Sciences Undergraduate Affairs adviser and/or faculty adviser.

ACADEMIC ADVISING

Academic advising is available from Physical and Biological Sciences Undergraduate Affairs. Undergraduate Affairs publishes the web site, undergrad.pbsci.ucsc.edu, which contains detailed information about the degree programs, sample schedules, transferring credit, placement exams, faculty research, and opportunities in the Physical and Biological Sciences majors.

FOR MORE INFORMATION

For further information about the neuroscience and behavior majors and upper-division course requirements, see:

reg.ucsc.edu/catalog/html/programs_courses/biolPS.html#MCDB

Information about the neuroscience and behavior majors can be found at: undergrad.pbsci.ucsc.edu/programs/mcdb or by e-mailing biologyadvising@ucsc.edu.

For specific information regarding MCD Biology faculty and research, please visit the department web site at: www.mcd.ucsc.edu.

If you have other questions, contact:

Undergraduate Affairs
Physical and Biological Sciences
387 Thimann Laboratories
University of California, Santa Cruz
1156 High Street
Santa Cruz, California 95064
(831) 459-4143
undergrad.pbsci.ucsc.edu