

Genetics and Plant Biology Career Snapshot

Genetics and Plant Biology (GPB) combines traditional plant sciences (physiology, biology, anatomy) with more recent biological disciplines (genetics, molecular biology, biochemistry) to study the role of plants in the global environment. The discipline emphasizes the study of plants from the molecular/genetic levels to the organismal level, including applications to biotechnology. Lower division courses provide a foundation in the biological and physical sciences, with many courses accompanied by labs that further hone in on subject matter and teach the latest techniques in genetics and plant biology. Offered by the Department of Plant and Microbial Biology (PMB): <http://pmb.berkeley.edu>

Key Skills

- Sharpen your research skills through classroom, lab, or field work. Gain experience conducting a research project, whether it is one you design independently or one you collaborate on with a faculty member or graduate student. Determination, follow through, organization, and attention to detail are key elements of the investigative process within the biological sciences.
- Learn how to effectively scrutinize, analyze, and interpret data. You increase the likelihood of your success in this field if you are able to think in logical, innovative, and creative ways.
- Strive to communicate clearly and well, through the development of strong writing and speaking skills. It is important for you to present the results of your scientific work to technical and non-technical audiences, because biologists often write grant proposals or reports to secure research project funding. Practice your communication skills by sharing your research in the form of a paper, report, research poster, or public presentation.
- Stay on top of the latest technology and techniques by getting hands-on experience with laboratory equipment and computer software for data analysis or simulations. Your technical skills will prove to be valuable when you are seeking graduate or professional school admission, or your first job.

Career Pathways

Our graduates acquire a solid understanding of biological principles from the molecular/genetic through the organismal levels, and receive strong scientific training that teaches analytic approaches to biological problem solving. The Genetics and Plant Biology degree prepares students well for graduate school in a number of biological fields, and because it mirrors the requirements for medical school and other health professional schools, it is an excellent choice for pre-med students. The degree provides a firm grounding for students who want to follow career paths related to biology, science in general, or technology, such as those that are geared toward technical research in government, academia, or industry, including biotechnology. Graduates can also pursue a variety of careers that reach beyond the scope of the discipline in areas such as health or environmental consulting, science education, or technical writing and editing.

Public and Non-Profit Sector Jobs

- **Non-profit health organizations or institutes:** Work in public health departments, clinics and hospitals, or medical research facilities to manage programs or conduct research aimed at improving health and preventing disease.
- **Various governmental agencies:** With a background in biological and physical sciences, conduct research or consult for federal, state, or local government laboratories, agricultural experiment stations, or regulatory agencies, such as the National Institutes of Health, Department of Agriculture, Department of the Interior, or University of California Cooperative Extension.
- **Teaching and research:** Teach or do research in the biological sciences at colleges and universities, in particular those with professional schools of medicine, veterinary medicine, pharmacy, public health, forestry, or agriculture.
- **Botanical gardens, arboretums, zoos, aquariums:** Work in outdoor settings, natural preserves and parks, or other organizations involved in conservation or ecological sustainability, for various purposes including teaching, biological control, biological survey, taxonomy, or plant and animal care.

Private Sector Jobs

- **Health industry:** Pursue a career as a health professional in medicine, nursing, pharmacy, physical therapy, dentistry, optometry, and other similar fields. Do research for pharmaceutical manufacturers and other independent testing laboratories.
- **Food and agriculture:** Conduct research and development related to humans, animals, or plants for companies investigating genetically modified organisms or crops, or for large producers of seed, livestock, and poultry. Do testing and other research for industries and laboratories involved in the production of food, leather, textiles, and forestry products.
- **Technology industry:** Apply your technical skills to areas of technology, such as software engineering, computer programming, web design, or web engineering.
- **Communications and media:** Work in technical writing or editing for newspapers or publishing companies, including scientific magazines, professional journals, periodicals, textbooks, or biological books. Combine creative skills in art with knowledge in biology to do biological/medical illustrating or photography for health science institutions, research centers, pharmaceutical companies, government, museums, or zoological societies.

Recent Alumni: Where Are They Now?

Courtesy of the UC Berkeley Career Center: <http://career.berkeley.edu/Major/major.stm>

Apple Computer Inc, Computer Scientist
California State Government, Computer Technician
Chiron Corp, Analyst
CNET, Web Engineer
Ernest Gallo Clinic and Research Center, Staff
Research Associate
Kelly Scientific, Research Assistant
National Park Service, Biological Science Technician
PGEC, Lab Assistant
Princeton University, Research Assistant

Soil Ecology and Restoration Group, Project
Manager
University of California, San Francisco, Research
Associate
Viador Inc, Technical Support Engineer
Biochemistry, PhD, University of Wisconsin,
Madison
Genetics, PhD, University of California, Berkeley
Plant Genetics, PhD, University of California,
Davis

Internship & Career Resources

- **CNR Newslines:** The College of Natural Resources Newslines is a moderated listserv that will keep you in the loop about research opportunities, internships, job opportunities, and more. To subscribe to *CNR Newslines*, send an email from your primary email account to **majordomo@listlink.berkeley.edu**. Leave the subject heading blank. In the body of the message, type the following command: **subscribe cnr_newslines**
- **CareerMail:** These Career Center mailing lists target specific career fields and topics, so you can choose whichever ones are ideal for you.
<http://career.berkeley.edu/MailList/MailList.asp>
- **What Can I Do With a Major In...Genetics and Plant Biology?**
<http://career.berkeley.edu/Major/GenPlantBio.stm>
- **CalJobs:** Search this comprehensive database for full-time, part-time, internship, and summer jobs, both on and off campus.
<http://career.berkeley.edu/Jobs/CalJobs.stm>
- **UC Berkeley Career Center**
<http://career.berkeley.edu>