



BIOTECHNOLOGY

Transfer Requirements

The following requirements for the major are subject to change without notice. To assure that this information is current, you should consult with a counselor, or review articulation agreements via the Internet at WWW.ASSIST.ORG.

CAREER OPPORTUNITIES:

The Bachelor of Science in Biotechnology provides students with strong core science concepts and an application-oriented education. Many students are attracted to the practical aspect of the science curricula that includes research, field experiences, internships, and enhanced lab work. Programs might be in departments such as Agriculture, Biological Sciences, Chemistry, Computer Science, and Engineering. Biotechnology includes four major industrial areas, including health care (medical), crop production and agriculture, non food (industrial) uses of crops and other products (e.g. biodegradable plastics, vegetable oil, biofuels), and environmental uses. Some employers of Biotechnology majors include:

- Pharmaceutical companies
- National Science Foundation
- Independent research foundations
- National Institutes of Health
- Food and Drug Administration
- Environmental Protection Agency
- Department of Agriculture
- Hospital and commercial medical laboratories
- Private testing laboratories including forensics
- Public Health departments
- Food processors
- Chemical and petroleum industries
- University laboratories
- Cosmetic industry

Education and training requirements vary greatly, from the technical level to the doctoral-level, depending on the type of position. The industry has grown rapidly, and job growth is expected to increase both nationally and internationally. Graduates of BS degree programs apply successfully to graduate and professional schools in molecular biology, genetics, biochemistry, medicine and plant and animal sciences.

CALIFORNIA STATE UNIVERSITY, NORTHRIDGE

<http://www.csun.edu/biology/clinical.htm>

Biotechnology/BS Biotechnology/Medical Technology:

Biology 101, 102, Chemistry 1A, 1B, Math 190, Physics 2A, 2B

CALIFORNIA POLYTECHNIC UNIVERSITY, POMONA

<http://www.csupomona.edu/~biology/biotechnology/index.html>

Biotechnology: Biology 101, 102, Chemistry 1A, 1B, 7A, 7B, Math 160, 161, Microbiology 33, Psychology 5 or 7, Physics 2A, 2B or 3A, 3B, English 1A, 1C

CALIFORNIA STATE UNIVERSITY, SAN MARCOS

<http://www2.csusm.edu/biotechnology/>

Biotechnology: Chemistry 1A, 1B, 7A, 7B, Math 190, 191, Psychology 5 or Sociology 101, Business 1A, 1B

UNIVERSITY OF CALIFORNIA, DAVIS

http://www.plantsciences.ucdavis.edu/plantsciences/undergrad_studies/biotech_new.htm

Biotechnology: Biology 101, 102 (preferred) or Biology 11, 102, Chemistry 1A, 1B, 7A, 7B, Math 190, 191 or 160, 161, Physics 2A, 2B or 3A, 3B

UNIVERSITY OF CALIFORNIA, RIVERSIDE

<http://www.plantbiology.ucr.edu/prospective.html>

Plant Biology BA/BS: Biology 101 or Biology 8 and 11, 102, Math 190, 191, Physics 3A, 3B or Physics 1A, 1B, and 1C, Chemistry 1A, 1B, 7A, 7B

Areas of Specialty: Plant Cellular, Molecular and Developmental Biology; Plant Genetics, Breeding and Biotechnology; Ecology, Evolution and Systematics; Plant Pathology, Nematology and Pest Management

*Note: IGETC is not accepted for majors that are under the College of Natural and Agricultural Sciences. Students should follow the breadth pattern as outlined under www.assist.org. Students pursuing the BA degree should complete the foreign language breadth requirement prior to transfer (3rd semester/4th quarter proficiency in one language)

UNIVERSITY OF CALIFORNIA SAN DIEGO

<http://be-webapps.ucsd.edu/ug/programs/majors/biotechnology/>

Bioengineering: Biotechnology BS:

Math 190, 191, 220, 270, Physics 1A, 1B, 1C, Biology 101, 102, Chemistry 1A, 1B, 7A, 7B, Computer Science 1 or 10 or 30

STANFORD UNIVERSITY (Recommended courses)

<http://www.stanford.edu/dept/bmc/index.html>

Biomedical Computation (option): Informatics Track:

Biology 101, 102, 103, Chemistry 1A, 1B, 7A, Physics 1A, Math 190, 191, 220, 270 (Statistics: Math 150), Computer Science 30, Computer Science 2 recommended

Helpful web sites:

<http://en.wikipedia.org/wiki/Biotechnology> - Biotechnology from Wikipedia

<http://www.worldwidelearn.com/online-education-guide/science/biotechnology-major.htm> - Guide to College Majors in Biotechnology

www.biotech.org - California Community Colleges Economic and Workforce Development Program

www.bio-link.org - Bio-Link, a National Science Foundation Advanced Technology Education Center

www.biotechinstitute.org - Biotechnology Institute

www.bio.org - Biotechnology Industrial Organization

www.assist.org - for career information and biotechnology career information