



# COLLEGE OF MARIN

## BIOLOGY

Programs in Life Sciences (or Biology) are designed to provide an understanding of the living world through general or specialized study of plant and animal life. Some scientists conduct basic research to increase the knowledge of living organisms, while those in applied research use this knowledge to develop new medicines, increase crop yields and improve the environment.

### C.O.M.

#### Suggested Transfer Preparation

BIOL 115      BIOL 116  
 CHEM 131      CHEM 132  
 CHEM 231      CHEM 232  
 PHYS 108A & 108B

Transfer students are strongly advised to meet with a Counselor and complete as many preparatory course as possible before transferring. refer to the following links for articulation agreement updates, revisions and general information.

[www.assist.org](http://www.assist.org)  
[UCTransfer.org](http://UCTransfer.org)

### COLLEGE OF MARIN

Transfer & Career Center  
 835 College Avenue  
 Kentfield, CA 94904  
 (415) 485-9671

Transfer/Counseling Advisory Committee:

Theodora Fung, Bruce Furuya, Letta Hlavachek, Bessie Ng-Jung,  
 Alexandra Magallanes Rivera, Jim Sweeney, Karen Robinson,  
 Emy Bagtas

### CAREER OPPORTUNITIES

Agricultural Inspectors	Medical laboratory Assistant
Agricultural Scientists	Medical Laboratory Technician
Biochemists	Microbiologist
Bioinformatics Scientists	MIS Administrator
Biologists	Network Administrator
Biotechnical Researchers	Optometrist
Blood Bank Specialists	Paleontologist
Cardiologists	Pathologist
Chemists	Pharmaceutical Sales Rep.
Curators	Physician
Database Managers	Psychiatrist
Dentists	Radiologist
Electron Microscopists	Science Technician
Engineering and Science Managers	Taxidermist
Entomologists	Secondary School Teacher
Environmental Analysts	University/College Teacher
Epidemiologists	Veterinarian
Fish and Wildlife Specialist	Zoologist
Genetic Engineers	
Histotechnologists	
Internists	
Marine Biologists	
Mathematics and Science Teachers	
Medical Technologists	

For more extensive information on career opportunities, go the Transfer & Career Center and create your EUREKA account

### EXAMPLES OF EMPLOYERS

Government Agencies	Park Districts
Pharmaceutical Companies	Crime/Forensic Labs
Museums	Clinics/Hospitals
Zoos & Aquariums	Biotechnology Companies
Private Research Foundations	Manufacturers
Colleges & Universities	Laboratories
Conservation Societies	

# Typical Coursework associated with the study of Biology

Skills acquired in a biology major fall into four categories: investigative, research-based, quantitative, and analytical. Students with biology majors develop the ability to formulate concepts allowing them to solve practical problems and to find better ways of meeting world needs. Within the study of Biology the student will draw from many areas of concentration including: Anatomy, Botany, Developmental Biology, Entomology, Marine Biology, Molecular Biology, Physiology, Biochemistry, Cell Biology, Ecology, Genetics, Microbiology, Neurobiology, and Zoology. Study is usually conducted in a laboratory, lecture hall or in the field.

## California Universities offering Biology Degrees

### California State University:

Refer to the following link for locations, web addresses and general information: [www.csumentor.edu](http://www.csumentor.edu)

CPSU - San Luis Obispo	Biological Sciences BS/Minor (Concentrations: Molecular Biology; Marine Biology/Fisheries), Biological Sciences MS, Biology Minor, Biotechnology Minor, Microbiology BS
CSPU - Pomona	Applied Biotechnology Studies (Professional Science Master's) MS (Program will accept applications for 08-09.), Biological Sciences MS, Biology BS, Biotechnology BS, Botany BS/Minor, Environmental Biology BS, Microbiology BS/Minor (Option: Medical Technology), Plant Biotechnology Minor
CSU - Bakersfield	Biology BS/MA
CSU - Channel Islands	Biology BA, Biology BS (Emphases: Cell and Molecular Biology; Medical Imaging) Biology Minor, Biotechnology and Bioinformatics Certificate/MS
CSU - Chico	Biological Sciences BS/Minor/MS, Botany MS, Microbiology BS (Option in Clinical Laboratory Science)
CSU - Dominguez Hills	Applied Biotechnology Studies, Biology BA/Minor, Biology BS (Option: Microbiology), Microbiology Minor
CSU - East Bay	Biotechnology Certificate (Graduate), Biological Science BA/MA, Biological Science BS/Minor, Biology (Environmental Science) BS, Biostatistics
CSU - Fresno	Biology BS/Minor (Options: Ecology, Evolutionary and Organismal Biology; Molecular, Cellular and Developmental Biology; Physiology and Anatomy), Biology MS, Biotechnology MS
CSU - Fullerton	Applied Biotechnology Studies, Biological Science BS, Biology MS, Biotechnology Minor
CSU - Humboldt	Biology BS/Minor/MA, Botany BS/Minor
CSU - Long Beach	Biology BS (Option: Physiology), Biology BS/Minor/MS, Biology, Biology Education BS Biology, Cell and Molecular Biology BS, Biology, Ecology BS, Biology, Zoology BS, Biomedical Art Certificate, Biotechnology Certificate (Interdisciplinary), Microbiology BS/Minor/MS
CSU - Los Angeles	Applied Biotechnology Studies, Biology BS/Minor/MS, Biotechnology Certificate Microbiology BS/MS
CSU - Monterey Bay	Biology BS (Concentrations: General Biology; Pre-Medicine; Teacher Preparation)
CSU - Northridge	Biology BA/Minor/MS, Biology BS (Options: Biotechnology/Medical Technology; Cell and Molecular Biology; Environmental Biology; Marine Biology; Microbiology)
CSU - Sacramento	Biological Sciences BA, Biological Sciences BA/BS/Minor (Concentrations: Biological Conservation; Clinical Laboratory Science; Microbiology; Molecular Biology), Biological Sciences MS (Options: Biological Conservation; Molecular and Cellular Biology)
CSU - San Bernardino	Bioinformatics BS, Biology BA/BS/Minor/MS, Biotechnology Certificate
CSU - San Diego	Bioengineering MS, Bioinformatics MS (Professional Science Master's) Biology BS/Minor (Emphases: Bioengineering; Cellular and Molecular Biology; Ecology; Evolution and Systematics; Marine Biology; Zoology), Biology MA/MS/Ph.D., Biotechnology Certificate, Microbiology BA/BS (Emphasis: Clinical Laboratory Science and Public Health), Microbiology MS
CSU - San Francisco	Biology BA/BS/Minor/MS, Biotechnology Certificate, Genetic Engineering Certificate (Graduate)
CSU - San Jose	Biological Science BA/BS/Minor/MA/MS, Biological Science, Preparation for Teaching BA, Biology (Forensic Science) BS, Biotechnology (Professional Science Master's) MS (Accepting application for 07-08.)
CSU - San Marcos	Biological Sciences BS/Minor/MS, Biotechnology (Professional Science Master's) MS, Biotechnology BS
CSU - Sonoma	Biology BA/ BS/Minor/MS
CSU - Stanislaus	Biological Sciences BA/BS/Minor

### University of California:

Refer to the following link for locations, web addresses and general information: [UCTransfer.org](http://UCTransfer.org)

UC - Berkeley	Bioengineering BS, Bioengineering MS/Ph.D., Endocrinology MA/Ph.D., Epidemiology MS/Ph.D., Genetics and Plant Biology (Natural Resources) BS, Infectious Diseases and Immunity Ph.D. Integrative Biology BA, Integrative Biology MA/Ph.D., Microbial Biology (Natural Resources) BS, Microbiology MS/Ph.D. (Interdisciplinary), Molecular and Biochemical Nutrition MS/Ph.D., Molecular and Cell Biology BA (Specialization: Biochemistry and Molecular; Cell and Developmental Biology; Genetics and Development; Immunology; Neurobiology), Molecular and Cell Biology MA/Ph.D., Molecular Environmental Biology (Natural Resources) BS, Molecular Toxicology BS/Minor (Natural Resources), Molecular Toxicology Ph.D., Neuroscience Ph.D. (Interdisciplinary), Plant Biology MS/Ph.D.
UC - Davis	Biochemistry and Molecular Biology BS, Biochemistry and Molecular Biology MS/Ph.D. Biological Sciences (Agricultural/Environmental Sciences) BS/Minor, Biological Sciences (Letters and Sciences) AB/BS/Minor, Biophysics Ph.D. (Interdepartmental), Biostatistics MS/Ph.D., Biotechnology BS, Cell and Developmental Biology MS/Ph.D., Cell Biology BSEnvironmental Toxicology BS/Minor, Epidemiology MS/Ph.D., Evolution, Ecology and Biodiversity AB/BS, Fungal Biology and Ecology (Plant Biology) Minor, Genetics BS, Genetics MS/Ph.D., Immunology MS/Ph.D., Microbiology AB/BS Microbiology MS/Ph.D., Molecular, Cellular and Integrative Physiology MS/Ph.D., Natural Science BS, Neurobiology, Physiology and Behavior BS, Neuroscience Minor/MS/Ph.D., Plant Biology BS/Minor/Plant Biology MS/Ph.D., Population Biology Ph.D., Quantitative Biology and Bioinformatics Minor
UC - Irvine	Biochemistry and Molecular Biology BS, Biological Sciences BS/Minor, Biological Sciences MS/Ph.D., Developmental and Cell Biology BS, Ecology and Evolutionary Biology BS, Environmental Toxicology MS/Ph.D., Genetics BS, Microbiology and Immunology BS (New students are not admitted directly to the major.), Neurobiology BS, Plant Biology BS
UC - Los Angeles	Biochemistry and Molecular Biology MS/C.Phil/Ph.D., Biology BS, Biology MA/C.Phil/Ph.D., Biomedical Research Minor, Cellular and Molecular Pathology MS/Ph.D., Computational and Systems Biology, (Pre) BS (Interdisciplinary, formerly Cybernetics) BS, Conservation Biology Minor, Epidemiology MS/Ph.D., Human Genetics MS/Ph.D., Microbiology, Immunology and Molecular Genetics MS/Ph.D., Microbiology, Immunology and Molecular Genetics, (Pre) BS, Molecular and Medical Pharmacology (Medicine) MS/Ph.D., Molecular Biology Ph.D. (Interdepartmental), Molecular Toxicology Ph.D. (Interdepartmental), Molecular, Cell and Developmental Biology BS, Molecular, Cell and Developmental Biology MA/C.Phil/Ph.D., Molecular, Cell, and Integrative Physiology Ph.D., Neurobiology MS/C Phil./Ph.D., Neuroscience BS/Minor (Interdepartmental), Neuroscience Ph.D., Physiological Science BS, Physiological Science MS
UC - Merced	Atomic and Molecular Science and Engineering MS/Ph.D., Biological Sciences BS (Emphases: Human Biology; Integrative Biology; Molecular and Cell Biology, Quantitative and Systems Biology MS/Ph.D.
UC - Riverside	Biochemistry and Molecular Biology MS/Ph.D., Biological Sciences BS (Tracks: Bioinformatics and Genomics; Biology; Cell, Molecular, and Development Biology; Conservation Biology; Environmental Toxicology; Evolution and Ecology; Medical Biology; Microbiology; Plant Biology), Biology BA/BS, Biomedical Sciences MD/Ph.D., Botany and Plant Sciences BA/BS/Minor (Options: Ecology, Evolution, Systematics; Plant Cellular, Molecular; Plant Genetics; Breeding and Biotechnology; Plant Pathology; Nematology, Pest Management), Cell, Molecular, and Developmental Biology MS/Ph.D., Entomology BA/BS/Minor/MS/Ph.D., Environmental Toxicology MS/Ph.D., Evolution, Ecology, and Organismal Biology MS/Ph.D., Genetics, Genomics, and Bioinformatics MS/Ph.D., Microbiology MS/Ph.D., Neuroscience BA/BS/Minor/MS/Ph.D., Plant Biology (Genetics) Ph.D., Plant Biology BA/BS/MS/Ph.D., Plant Pathology MS/Ph.D.
UC - San Diego	Animal Physiology and Neurosciences BS, Biochemistry and Cell Biology BS, Bioengineering (Biotechnology) BS, Bioengineering BS, Bioengineering MS/M Engr./Ph.D., Bioengineering: Bioinformatics BS/Ph.D., Bioengineering: Premedical BS, Bioinformatics Ph.D., Biology MS/Ph.D., Biology with specialization in Bioinformatics BS/Ph.D., Biology, General BS, Biology, Human BS, Biology: Ecology, Behavior and Evolution BS, General Biology Minor, Microbiology BS, Molecular Biology BS, Molecular Pathology Ph.D., Neuroscience Ph.D.
UC - San Francisco	Biochemistry and Molecular Biology Ph.D., Bioengineering Ph.D. (Joint program with UCB), Biological and Medical Informatics MS, Biomedical Sciences Ph.D., Biophysics Ph.D., Cell Biology Ph.D., Genetics Ph.D. (Interdisciplinary), Neuroscience Ph.D., Quantitative Biology, Ph.D. Pathway Option
UC - Santa Barbara	Biochemistry-Molecular Biology BS/MS/Ph.D., Biological Sciences BA/BS, Biology (Creative Studies) BA, Cell and Developmental Biology BS, Microbiology BS, Molecular, Cellular and Developmental Biology MA/Ph.D., Molecular, Cellular, and Developmental Biology MA/Ph.D., Physiology BA/BS
UC - Santa Cruz	Biochemistry and Molecular Biology BS, Bioengineering BS, Bioinformatics BS/Minor/MS/Ph.D., Biology BA/BS/Minor/MA/Ph.D., Ecology and Evolutionary Biology MA/Ph.D., Environmental Toxicology MS/Ph.D. (Interdisciplinary), Marine Biology BS, Molecular, Cellular and Developmental Biology BS/MA/Ph.D., Neuroscience and Behavior BA/BS

### Private Universities:

Refer to the following link for California Independent Colleges and Universities locations and web addresses and general information: [AICCU.edu](http://AICCU.edu)

Holy Names University	Mills College	University of Southern California		
Mount St. Mary's College	Vanguard University	Claremont Mckenna College	John F. Kennedy University	National University
Whittier College	Azusa Pacific University	Concordia University	La Sierra University	New College
Dominican University of California	Loma Linda University	Notre Dame de Namur University	Fresno Pacific University	University of San Francisco