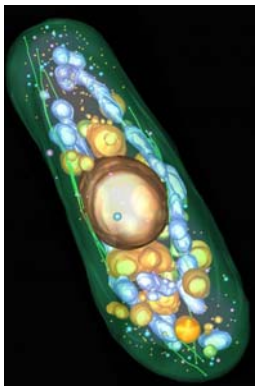
# Pathway to Science Careers:

## Biological Sciences

**Biological scientists** study living organisms and their relationship to the environment. They perform research to gain a better understanding of fundamental life processes or apply that understanding to developing new products or processes. Most specialize in one area of biology, such as zoology or microbiology. Many biological scientists work in research and development. Some conduct basic research to advance our knowledge of living organisms, including bacteria and other infectious agents. Basic biological research enhances our understanding so that we can develop solutions to human health problems and improve the natural environment. These biological scientists mostly work in government, university, or private industry laboratories, often exploring new areas of research. Many expand on specialized research they started in graduate school.

| Biological Sciences Related Occupations: | | |
|---|---|---|
| Agronomist | Biochemist | Biophysicist |
| Biostatistician | Biotechnologist | Botanist |
| Crop Physiologist | Dentist | Ecologist |
| Embryologist | Entomologist | Environ. Health Educator |
| Environ. Impact Analyst | Fisheries Biologist | Flavor Chemist |
| Food & Drug Inspector | Forester | Geneticist |
| Horticulturist | Hospital Administrator | Industrial Hygienist |
| Laboratory Technician | Marine Biologist | Medical Doctor |
| Medical Illustrator | Medical Record Technician | Medical Social Worker |
| Medical Technician | Microbiologist | Mycologist |
| Natural Resources Manager | Pathologist | Parasitologist |
| Patent Specialist | Pharmacologist | Pest Control Inspector |
| Pharmaceutical Sales Rep. | Plant Geneticist | Physical Therapist |
| Physician Assistant | Quality Control Specialist | Plant Quarantine Specialist |
| Public Health Assistant | Technical Writer | Research Assistant |
| Scientific Librarian | Wildlife Biologist | Toxicologist |
| Veterinarian | | Zoologist |



Below is a list of **recommended** (but not required) lower division courses that may be taken at Santa Ana College to fulfill the 60 units requirement to transfer to ***California State University Fullerton***. In taking these courses, one would be better prepared to fulfill major upper-division requirements upon transferring.

| | *SAC Lower Division Core Courses:* | *CSUF Lower Division Core Equivalents:* |
|---|---|---|
| ♦ | Biol 211 Cellular/Molecular Biology (5) | Biol 172 Cellular Basis of Life (5) |
| ♦ | Biol 212 Animal Diversity/Ecology (5) | Biol 171 Evolution/Biodiversity **AND** Biol 274 Physiology/Ecology (5) |
| ♦ | Biol 214 Plant Diversity/Evolution (5) | Biol 171 Evolution/Biodiversity **AND** Biol 274 Physiology/Ecology (5) |

| | *SAC Lower Division Supporting Courses:* | *CSUF Lower Division Supporting Equivalents:* |
|---|---|---|
| ♦ | Chem 219 General (5) | Chem 120A General (5) |
| ♦ | Chem 229 General/Qualitative Analysis (5) | Chem 120B General (5) |
| | Chem 249 Organic Chemistry I (5; No upper division units) | Chem 301A Organic **AND** Chem 302A Organic Lab (4) |
| | Chem 259 Organic Chemistry II (5; No upper division units) | Chem 301B Organic **AND** Chem 302B Organic Lab (4) |
| | Phys 279 College Physics I **OR** Phys 210 Principles of Physics I (4) | Phys 211 Elem Physics I **AND** Phys 211L Elem Physics I Lab (4) |
| | Phys 289 College Physics II **OR** Phys 211 Principles of Physics II (4) | Phys 212 Elem Physics II **AND** Phys 212L Elem Physics II Lab (4) |
| | Math 150 Calculus **OR** Math 180 Analytical Geom/Calculus (4) | Math 130 Short Course Calculus **OR** Mah 150A Calculus (4) |

♦ Fulfill requirements for the Biological Science Associate in Science degree at Santa Ana College

For more information on transferring into a science, technology, engineering, or mathematics program at Cal State Fullerton, please contact Tammy Camacho at (714) 564-6884 or camacho_tammy@sac.edu OR Gina Garcia at (714) 278-3769 or ginagarcia@fullerton.edu.

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