The Cell Biology program\(^1\) teaches the structure, function, and regulation of cells as individual units and as components of larger systems. The program also studies organ systems, tissue structures, and whole bodies together with their cellular and structural components and dynamics. Students will learn about the nature of DNA, how genes are regulated, and how humans and other living organisms are related. The program includes instruction in embryology, neuroanatomy, cell communication and nutrition, the life cycles of the cell, storage and transmission of genetic information, hormone generation, and the role played by cells and molecules in basic life processes such as growth and aging.

The Neuroscience program\(^1\) teaches the study of the nervous system, including the brain, the spinal cord, and networks of sensory nerve cells, or neurons, throughout the body. Neuroscience advances the understanding of human thought, emotion, and behavior. Neuroscientists use tools ranging from computers to special dyes to examine molecules, nerve cells, networks, brain systems, and behavior. From these studies, they learn how the nervous system develops and functions normally and what goes wrong in neurological disorders.\(^4\)

Programs at Montana State University\(^2\) offer an exceedingly strong background for graduate and professional study in the healthcare field. Graduates in this program often continue study to become physicians, physician assistants, scientists, dentists, chiropractors, or occupational therapists. The number and variety of health professions and the demand for these professionals is very strong. Should a student plan to pursue medical school, he/she will have to take the Medical College Admissions Test (MCAT) in the fourth year of undergraduate study or after completion of the program.

A few graduates each year decide to become scientists and apply to graduate school in the fields of neuroscience and computational biology or bioinformatics. It is in these areas that departmental research is very strong, and students who want to become scientists often begin their scientific investigations as undergraduates in faculty laboratories. An internship or research experience will increase the chances of finding a job in this field. Students may also consider related summer work in a laboratory or research institute in order to gain experience. Because this field is ever-changing, further training will be necessary throughout a career.

Characteristics associated with success\(^1\) in this major include a strong aptitude for science, a desire to help improve the physical and emotional well-being of others, an interest in how things work in general and in organisms, and the development in particular.

Occupations in this field require the ability to\(^1\):
- Be a skilled problem solver
- Use laboratory equipment
- Work with computers
- Analyze and interpret data and draw logical conclusions
- Communicate well, both orally and in writing
- Concentrate intensely under pressure
- Have great physical stamina
- Maintain emotional control in stressful situations
- Think logically

Related occupations include\(^1\):
- Anesthesiologist
- Internist
- Obstetrician/Gynecologist
- Pathologist
- Pediatrician
- Allergist
- Physician
- Physician Assistant
- Psychiatrist
- Surgeon
- Chiropractor
- Dentist
- Physical Therapist
- Pharmacist
- Molecular Biologist
- Researcher
- Biologist
- Sports Physician
- Radiologist
- Coroner
- Pharmacologist
- Neurologist
- Oncologist
- Speech & Language Pathologist
MSU graduates (Bachelor’s degree) were hired in the following selected fields:

- Research Assistant/Specialist - Montana State University
- Floor Manager - MSU Bookstore
- Radiology Assistant - Mayo Clinic
- Cancer Researcher - National Cancer Institute
- Dental Assistant - David B. Johnson, D.D.S., CHP Dental, MINT Dental Studio
- Phlebotomist - Bozeman Deaconess Hospital, Billings Clinic
- Research Assistant - Department of Immunology & Infectious Disease, MSU
- In Home Caregiver - Fedelta Home Care
- Health Unit Coordinator - Community Medical Center
- Resident Associate - Bozeman Deaconess Hospital, Division of Experimental Medicine, VMB MSU
- Patient Services Representative - Radia Medical Imaging
- Certified Nurses Assistant - Mountain View Care Center
- Flight Paramedic & Instructor - MSU Great Falls
- Operating Room Aide - Bozeman Deaconess Hospital
- Certified Medical Assistant - Madison Skin and Laser
- Pharmacy Technician - Bozeman Deaconess Hospital
- Assistant Project Coordinator - MSU (AHEC/ORH)
- Fishery Biologist - of Fish & Wildlife
- Pharmacy Tech - Walgreens
- Lab Technician - Meadow Gold Dairy
- QC Analyst - GlaxoSmithKline
- Manager, Head Trainer - Rocky Mountain Strength & Conditioning
- Junior Specialist - UC Davis Mind Institute
- Administrative Assistant - Burkley Risk Administration
- Alliance Properties, Montana State University
- Med Tech Assistant - Spring Meadows
- Wildland Firefighter - National Park Service
- Research Technician - Bacterin International Inc.
- Medical Device Representative - Mystic Medical
- Optometric Technician - Advanced Eye Care
- Materials Science Engineer - M2E Power
- Associate Scientist - GlaxoSmithKline
- Post Baccalaureate Research Fellow - National Institutes of Health
- Paleontologist - America Trilobite Supply, Inc.

Salary averages of survey respondents (# of respondents in parentheses):

- 2012: MT: $37,440 (1)  Out-of-State: Insufficient Data
- 2011: MT: Insufficient Data
- 2010: MT: $22,413 (5)  Out-of-State: $33,333 (3)

In the field for “Medical Scientists” the lowest 10% of salaries for 2012 (comparable to new college graduate starting salaries) was $41,300 annually. The median wages in the nation in 2012 was estimated at $77,000 annually. In 2012 there were 103,100 positions nationally with an expected growth forecast of +13% through 2022. In 2012 there was not enough data to report salaries for the State of Montana. In 2012 there were 70 positions in Montana with an expected growth forecast of +52% through 2022. Job openings in Montana and nationally are due to both growth and net replacement. Please remember when reviewing the salary information that it is the “median,” meaning 50% of reported wages fell below and 50% above the reported wage.

Graduates from this program entered programs of further education at these institutions:

- Montana State University
- University of Montana
- University of Washington
- University of Wyoming
- University of Alaska
- University of Idaho

Other Sources of Information:

- Explore Health Careers.org: www.explorehealthcareers.org
- The American Society for Cell Biology: www.ascb.org
- Society for Neuroscience: www.sfn.org
- Department of Cell Biology & Neuroscience - Montana State University: www.montana.edu/cbn

For more information contact:

Montana State University
177 Strand Union Building
Bozeman, MT 59717
(406) 994-4353
www.montana.edu/careers

1University of Oregon. 2007. Created by “intoCareers”, a unit of the University of Oregon.
2Montana State University Department of Cell Biology and Neuroscience
3Montana State University Career & Internship Services
4O*Net: online.onetcenter.org

Number of graduates/number of respondents: 2009: 64/24, 2010: 64/8; 2011: 3/1; 2012: 3/1