

BIOMEDICAL SCIENCE MAJOR

Department: Biology (<https://catalog.bradley.edu/undergraduate/liberal-arts-sciences/biology/>)

The Department of Biology offers a Biomedical Science Major leading to a baccalaureate degree with the possibility of receiving a concentration in Pre-Med (<https://catalog.bradley.edu/undergraduate/programs/biomedical-science-premed-concentration/>), Veterinary Science (<https://catalog.bradley.edu/undergraduate/programs/biomedical-science-veterinary-science-concentration/>), or Biomedical Science Research and Development (R&D) (<https://catalog.bradley.edu/undergraduate/programs/biomedical-science-research-development-concentration/>). The major is designed to prepare students interested in a career in medicine or other health professions, including dentistry, veterinary medicine, optometry, etc., or support development of professionals for careers in the medical and biotechnology environment.

Undergraduate Course Requirements

All students majoring in Biomedical Science and those students desiring additional focus in one of the department's concentrations must earn a grade of C or better in all required Biomedical Science and Biology courses.

Code	Title	Hours
Required Courses		
BMS 150	Introduction to Biomedical Science	2.0
BMS 320	Environment and Human Health	3.0
BMS 465	Medical Physiology ¹	3.0
BMS 466	Human Anatomy ¹	4.0
BMS 490	Biomedical Science Capstone	1.0
BIO 151	Molecules to Cells	3.0
BIO 152	Molecules to Cells Laboratory	1.0
BIO 250	Organismal Biology	4.0
BIO 251	Ecology, Evolution and Biodiversity	3.0
BIO 252	Ecology, Evolution and Biodiversity Laboratory	1.0
BIO 260	Biological Statistics I	1.0
BIO 261	Biological Statistics II	2.0
BIO 310	Genetics	3.0
BIO 311	Genetics laboratory	1.0
CHM 110	General Chemistry I	3.0
CHM 111	General Chemistry I Lab	1.0
CHM 116	General Chemistry II	3.0
CHM 117	General Chemistry II Laboratory	1.0
CHM 252	Organic Chemistry I	3.0
CHM 253	Organic Chemistry Laboratory I	2.0
CHM 256	Organic Chemistry II	3.0
CHM 257	Organic Chemistry Laboratory II	1.0
MTH 115	Brief Calculus With Applications I	4.0
MTH 116	Brief Calculus With Applications II	3.0
PHY 107	General Physics I	4.0
PHY 108	General Physics II	4.0
SOC 100	The Sociological Perspective	3.0
PSY 101	Principles of Psychology	3.0

An introductory business, economics or entrepreneurship course is highly recommended.

Electives

Select two additional courses from the following elective choices 6.0-8.0 (with a grade of C or better): ²

BIO 312	Developmental Biology
BIO 361	Microanatomy
BIO 406	General Microbiology
BIO 408	Bacterial Pathogenesis
BIO 419	Ethology
BIO 440	Evolution
BIO 464	Cell Biology
BIO 468	Immunology of Host Defense
BIO 482	Endocrinology
BIO 484	Neurophysiology
BIO 503	Molecular Genetics
BIO 505	Topics in Bioethics
BIO 509	Human Genetics
BIO 525	Advanced Physiology
BIO 526	Advanced Pathophysiology
BIO 527	Physiology of Anesthesia
CHM 360	Biochemistry

¹ Students may substitute BIO 323 Comparative Anatomy and BIO 381 Comparative Animal Physiology for BMS 466 Human Anatomy and BMS 465 Medical Physiology respectively.

² Three hours of BIO 485 Research will count for one of these courses and is highly recommended.

At the completion of 90 semester hours, the student must have credit for:

Code	Title	Hours
BIO 151	Molecules to Cells	3.0
BIO 152	Molecules to Cells Laboratory	1.0
BIO 250	Organismal Biology	4.0
BIO 251	Ecology, Evolution and Biodiversity	3.0
BIO 252	Ecology, Evolution and Biodiversity Laboratory	1.0
BIO 260	Biological Statistics I	1.0
BIO 261	Biological Statistics II	2.0
CHM 110	General Chemistry I	3.0
CHM 111	General Chemistry I Lab	1.0
CHM 116	General Chemistry II	3.0
CHM 117	General Chemistry II Laboratory	1.0
CHM 252	Organic Chemistry I	3.0
CHM 253	Organic Chemistry Laboratory I	2.0
Two Semesters of Calculus		8.0

Students not meeting these requirements will not be allowed to enroll in other biology courses until requirements are met. Students with more than 30 semester hours transferring into biology programs from other Bradley majors must have a GPA of 2.50 or greater and must have completed at least one semester each of introductory biology, introductory chemistry, and calculus. Students with 30 or fewer hours will be assessed on a case-by-case basis.

The Biomedical Science major is a stand-alone major for students who are not yet clear what area of medicine they want to specialize. The broad range of content areas and skills provided will serve these students well. However, students who have a career path may wish to choose a concentration. Concentrations in Pre-Med (<https://catalog.bradley.edu/undergraduate/programs/biomedical-science-premed-concentration/>), Veterinary Science (<https://catalog.bradley.edu/undergraduate/programs/biomedical-science-veterinary-science-concentration/>), and Biomedical Research and Development (R&D) (<https://catalog.bradley.edu/undergraduate/programs/biomedical-science-research-development-concentration/>) are available. The requirements for each concentration are described on the linked pages.