BIOMEDICAL SCIENCES MAJOR

With a major in biomedical sciences, you will study the sciences from a human perspective to develop a solid foundation for a career in the health professions. The 33 credits in the major (in blue below) include three required courses (in anatomy, physiology, and biochemistry), courses selected from three different content areas (Anatomy and Systems, Cell and Molecular, and Disease and Pathology) and major electives. The flexible design of this major allows you to tailor your degree to match your long-term interests.

### Freshman Year
- **General Biology 1**
- **General Chemistry 1**
- **MCC Foundations in Rhetoric**
- **MCC Foundations in Theology**
- **General Elective**
- **Contemporary Issues in Biomedical Sciences**

### Sophomore Year
- **Clinical Human Anatomy**
- **Survey of Organic Chemistry or Organic Chemistry 1**
- **Biological Investigation**
- **General Elective or MATH elective (pre-professional track)**
- **MCC Foundations in Methods of Inquiry**
- **Biochemistry**
- **Organic Chemistry 2 (pre-professional track)**
- **Statistics**
- **General Elective or Principles of Sociology (pre-prof. track)**
- **MCC Discovery – Social Sciences**

### Junior Year
- **Human Physiology**
- **Anatomy and Systems Content Area**
- **Health and Society Cognate**
- **MCC Discovery – Humanities**
- **General Elective or Physics 1 (pre-professional track)**
- **Diseases and Pathology Content Area**
- **Cell and Molecular Content Area**
- **General Elective or Physics 2 (pre-professional track)**
- **MCC Discovery – Natural Science and Math**
- **General Elective**

### Senior Year
- **Cell and Molecular Content Area**
- **Cell and Molecular Content Area**
- **BISC Elective**
- **Medical Ethics**
- **MCC Discovery – Elective**
- **General Elective**
- **Diseases and Pathology Content Area**
- **BISC Elective**
- **MCC Culminating Course**
- **General Elective**
- **General Elective**

**MCC = Marquette Core Curriculum (required of all students at MU)**

### Why Biomedical Sciences (BISC) at Marquette University?
- You will find the biomedical sciences major a natural fit if you plan on attending medical school or other health-related graduate programs. Our graduates are accepted to medical schools at rates that well exceed the national average. Once there, virtually all of our grads cite the ease of transition and academic advantage provided by their strong background in the biomedical sciences.
- Participate in cutting edge research. Whether through the summer research program, independent study, or a paid position, work with internationally respected researchers tackling some of society’s most pressing medical problems.

(see other side)

[www.marquette.edu/biomedical-sciences](http://www.marquette.edu/biomedical-sciences)
• **Accelerated degree tracks** for professional and graduate programs at MU:
  
  o A major in biomedical sciences is the starting point for admission to the **Physician Assistant Studies program** at Marquette University. Students admitted to the BISC/PA track during their undergraduate career can complete their undergraduate and master degrees in as little as 5 years.

  o Students admitted to the **Pre-Dental Scholars** program (either as an incoming freshman or in their first year at MU) will begin their dental studies in their senior year, completing both their undergraduate and doctoral degrees in a total of 7 years (as opposed to the typical 8 years).

  o Students admitted to the **Doctor of Physical Therapy** program, either as an incoming freshman (direct admit) or as an internal transfer applicant, begin their DPT studies in their senior year, completing both their undergraduate and doctoral degrees in 6 years.

  o A major in biomedical sciences is one starting point for admission to the **STEM MBA program** at Marquette University. Students admitted to the BISC/STEM MBA track for their junior year complete both their undergraduate and master degrees in a total of 5 years.

  o A major in biomedical sciences is the starting point for admission to the **Early Assurance PharmD program**, which is offered in conjunction with the Medical College of Wisconsin. Students admitted to the BISC/PharmD track during their undergraduate career may be eligible to matriculate to MCW’s School of Pharmacy in their senior year, completing both their undergraduate and doctoral degrees in 6 years.

**What can I do with a major in Biomedical Sciences?**

• You will take courses as an undergraduate that most other research institutions limit to their graduate students, providing you with the intellectual tools and scientific proficiency you’ll need to **gain a competitive advantage** and be successful in graduate and professional programs.

• With 20+ credits of general electives, you can **combine this major with other areas of study**, such as business administration, marketing, Spanish, communication studies, and psychology. Your scientific expertise will give you an edge in professional arenas such as marketing, advertising, computer science, journalism, medical translation, medical/health industry, pharmaceutical sales/research, etc.

• Whether you plan to attend graduate school or enter the work force after graduation, you can tailor your major to match your long-term goals/interests through your course options within the three content areas and BISC major electives. Course options include:
  
  o Advanced Human Anatomy
  o Head and neck anatomy
  o Introduction to dentistry
  o Medical genetics
  o Public health
  o Forensic science
  o Independent Study - Complete a focused research project with a faculty member in the biomedical sciences department.

  Faculty areas of research include:
  
  • The study of brain mechanisms involved in drug craving and relapse in addicts; hormones secreted with exposure to stressful stimuli and how they can lead to illness
  • Proteins that reveal how alcohol acts on the central nervous system at the molecular level
  • The body’s regulations of food intake and energy metabolism
  • Mechanisms of neurodegeneration involved in stroke, Parkinson’s disease and Alzheimer’s disease.

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