BIOSCIENCES

Bioscience is a broad branch of the sciences concerned with living organisms, from micro-organisms to plant life and animals. Within this science are a number of smaller branches focused on specific issues pertaining to living organisms.

Popular majors / partial list of majors available

BIOTECHNOLOGY

Biotechnology is a field of applied biology which uses living organisms, such as plants, animals and microorganisms to make or modify products or processes for specific use. Some of its more commonly known terms are genetic engineering, artificial selection and hybridization. Biotechnology is widely used in medicine, engineering and agriculture fields to bring about improvements in food and medicines, treatments for diseases and even waste removal. There is also the emergence of "Industrial Biotechnology" with a growing market of products using bio-based materials and production techniques in industrial applications.

Companies such as Toyota, Dow Chemical, Procter & Gamble, DuPont and Cargill are in various R&D stages, all vying to be ahead in this new branch of technology.

BIOINFORMATICS

Bioinformatics derives knowledge from computer analysis of biological data. It is highly interdisciplinary, using techniques and concepts from informatics, statistics, mathematics, chemistry, biochemistry, physics and linguistics. Thanks to massive yearly funding, America is the best place to obtain a degree in this study.

BIOCHEMISTRY

Biochemistry is the application of chemistry to the study of biological processes at the cellular and molecular level. Biochemists study the mechanisms of brain function, cellular multiplication and differentiation, communication within and between cells and organs, and the chemical bases of inheritance and disease.

BIOMEDICAL SCIENCE

Biomedical Science is the study of health and assessing and analyzing methods of treating diseases. This major is suitable for students with a strong interest in biology and chemistry as well as an interest in the development of medical issues, either in research, health monitoring or treatment of a disease.

MICROBIOLOGY

In recent years, the field of microbiology has had a major impact upon virtually all other scientific disciplines. Subjects of study include bacterial genetics, anatomy and reproduction. Instructions cover such topics as cell biology, microbial genetics and laboratory methods.

MOLECULAR BIOLOGY

Molecular Biology is the basic science that seeks an understanding of life processes, the properties and functions of molecules that make up living cells, and how biomolecules operate and interact to drive the complex and diverse behaviors of living systems. The scope ranges from evolution and development to the regulation of gene expression.

Employment opportunities

- Research, Quality Control, Clinical Research, Information Systems, Manufacturing or Production & Marketing or Sales
- Employment in Universities, Research Laboratories, Government Sector, Pharmaceuticals or Bio-Related Firms
- Biocatalysts Discoverer Assistant, Laboratory Assistant Manager, Medical Writer, Research & Development, QA Development & Auditing, Positions in Public Health, Assistant or Technician in Pharmacology, Biochemistry, Biotechnology, Cellular Biology, Microbiology, Research, Developmental Biology, Molecular Biology, Epidemiology, Mycology, Research Virology, Genetics, Pathology & Toxicology
- Crime Laboratories, Specialized Private Laboratories, Law Enforcement Agencies, Forensic Laboratories, Research Scientist, Medical Laboratories, Medical Examiner Offices, Hospitals, or Private Firms & Universities

Popular universities for Biosciences

- **US Universities**
  - Illinois Institute of Technology
  - Iowa State University
  - Kansas State University
  - Michigan State University
  - Montana State University
  - Ohio State University
  - Oklahoma State University
  - Rutgers, the State University of New Jersey
  - University at Buffalo
  - University of Missouri-Columbia
  - University of Nebraska-Lincoln
  - University of Oklahoma-Norman
  - University of Wisconsin-Madison

- **Canadian Universities**
  - University of Manitoba
  - University of Saskatchewan
  - University of Windsor
  - Trent University
  - University of Lethbridge
  - Memorial University of Newfoundland

Sample curriculum for Year 1 & 2

- Calculus with Analytic Geometry 1
- Calculus with Analytic Geometry 2
- Cell Biology, Lab
- English Composition 1
- English Composition 2
- Essentials of Public Speaking
- Fine Arts Electives
- Genetics 1, Lab
- Genetics 2, Lab
- General Biochemistry 1, Lab
- General Biochemistry 2, Lab
- General Chemistry 1, Lab
- General Chemistry 2, Lab
- General Immunology, Lab
- General Microbiology, Lab
- General Physics 1, Lab
- General Physics 2, Lab
- Humanities Electives
- Introduction to Computer & Information Processing
- Non-Science General Electives
- Organic Chemistry 1, Lab
- Organic Chemistry 2, Lab
- Principles of Biology 1, Lab
- Principles of Biology 2, Lab
- Social Sciences Electives

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