

**BIOLOGY****BIO 090****Preparatory Biology (0)**

A preparatory course for students with no previous biology or laboratory science experience and for students needing additional background. Especially for prospective health science students. Register with advisement only.

**3 Lecture Hours, 3 Laboratory Hours.**

**BIO 101****Introduction to Anatomy and Physiology (3)**

An introduction to the basic understanding of the anatomy and physiology of human body systems, and anatomic terminology. This semester-long course reviews each of the major body systems. Students will also be introduced to the structures and processes of cells, and various tissue types present in the human body. This course may not be used to substitute for BIO 131/132 for health science students.

**3 Lecture Hours**

**BIO 111****General Biology I (4)**

Principles of evolution and ecology as unifying themes in biology. Evolutionary processes and ecological adaptations illustrated by plant and animal diversity. Cellular life processes. Current environmental problems. The laboratory includes physically demanding field trips. Accommodations can be made for students with disabilities.

**3 Lecture Hours, 3 Laboratory Hours.**

**BIO 112****General Biology II (4)**

Principles of evolution and ecology as unifying themes in biology. The human animal and its systems. Concepts of animal behavior. Classical genetics, current concepts of gene function and human genetics. Organismal growth and development. Current environmental problems. The laboratory includes physically demanding field trips. Accommodations can be made for students with disabilities.

**3 Lecture Hours, 3 Laboratory Hours.**

**BIO 117****Principles of Biology I (4)**

To give science majors a working foundation of biology and to prepare them for transfer to a four-year institution and upper level biology courses. The biological principles covered include, but not limited to, ecology, animal behavior, conservation biology, ecology and zoology. The underlying themes of unity and diversity of living organisms will be used to amalgamate the topics covered. Scientific methodology will be emphasized in both laboratory and lecture using current publications to support discussion as well as developing and executing scientific experimentation.

**3 Lecture Hours, 3 Laboratory Hours;**  
**Prerequisite: High School Regents Biology and Regents Chemistry.**

**BIO 118****Principles of Biology II (4)**

A continuation of Principles of Biology I. To give science majors a working foundation of biology to prepare them for transfer to a four-year institution and upper level biology courses. The biological principles covered include, but not limited to: Molecular Biology, Cellular Structure and Function, and Genetics. The underlying themes of unity and diversity of living organisms will be used to amalgamate the topics covered. Scientific methodology will be emphasized

in both laboratory and lecture using current publications to support discussion as well as developing and executing scientific experimentation.

**3 Lecture Hours, 3 Laboratory Hours;**  
**Prerequisite: BIO 117.**

**BIO 120****Human Sexuality (3)**

Explores information about sexual attitudes, relationships, sexual anatomy, contraception, sexually transmitted disease, sexual physiology and dysfunction. Course aims to make students feel more comfortable thinking and talking about sex and to prepare them to make rational decisions about this important aspect of their lives.

**3 Lecture Hours**

**BIO 121****Basic Nutrition (4)**

This course presents a challenging science-based nutrition core curriculum that reviews the role of nutrition in health promotion/disease prevention, and provides an overview of the interrelationships between diet, therapeutic nutrition, and various acute/chronic medical conditions. With an emphasis on normal anatomy and physiology and the metabolism of nutrients, digestion, absorption, and utilization of food; normal and therapeutic nutrition and various foods, preferences, and customs, as well as dietary guidelines. Topics relating to dietary policies, procedures and regulations will also be covered. Other topics of student interest will be addressed as they arise.

**4 Lecture Hours**

**BIO 131****Human Biology I (4)**

Normal structure (gross and microscopic) and function of the skeletal, muscular and nervous systems. Emphasis on physiology in lectures and on anatomy in laboratory, stressing those aspects which have greatest relevance to the student's curriculum.

**3 Lecture Hours, 2 Laboratory Hours.**

**BIO 132****Human Biology II (4)**

A continuation of BIO 131 Human Biology I covering the circulatory, respiratory, digestive, urinary, reproductive and endocrine systems. Emphasis on physiology in lectures and on anatomy in laboratory, stressing those aspects which have greatest relevance to the student's curriculum.

**3 Lecture Hours, 2 Laboratory Hours;**  
**Prerequisite: BIO 131 Human Biology I or permission of chairperson.**

**BIO 140****Pathophysiology (3)**

Symptoms, syndrome and etiology of pathogenic processes affecting the function and structure of the body.

**3 Lecture Hours; Prerequisite: BIO 132 Human Biology or permission of chairperson.**

**BIO 150****Microbiology (4)**

The biology of the common bacteria and related microorganisms. General microbiology including asepsis, disinfection, sterilization, cultivation, pathogenicity, resistance, identification.

**3 Lecture Hours, 3 Laboratory Hours.**

**BIO 155****DNA and Biotechnology (3)**

This course covers the basics of DNA allowing the student to understand today's rapidly expanding

field of biotechnology. Topics will include: the human genome project, genetic testing, gene therapy, DNA and crime, genetic engineering, agricultural and industrial applications of biotechnology.

**3 Lecture Hours; one semester college biology or permission of instructor.**

**BIO 172-180****Special Topics in Biology (1-3)**

Special courses covering particular topics in the biological sciences beyond the scope of the normal course offerings.

**Permission of Department Chairperson.**

**BIO 200****Ecology: The Everglades (4)**

A scientific yet sensitive look at one of the world's rare and endangered wilderness areas. Everglades ecology is studied through an extensive wilderness camping experience in Everglades National Park, involving a minimum of 90 hours of classroom and field instruction. Offered during the January Intermission.

**3 Lecture Hours, 3 Laboratory Hours;**  
**Prerequisite: one semester college biology or permission of instructor.**

**BIO 202****Biology Seminar (1)**

The course is designed specifically for students interested in pursuing careers in the biological sciences. Students will be asked to critically analyze both current and historical readings, experiments and controversial topics within the field. An emphasis will be placed on showing the special niche of the biological sciences within the context of both the physical and social sciences. A weekend field trip is required.

**1 Lecture Hour; Prerequisites: BIO 117; permission of Department Chairperson.**

**BIO 211****Self-Organizing Systems (4)**

Introduction to the fundamental principles involved in the self-organization of living systems, extending from molecules, to cells, tissues, organisms and social systems. Focus on developing an understanding of emergent properties, based on computational investigations of processes such as diffusion, protein folding and clustering. Analytical procedures for characterizing self-organizing systems. Needed by Engineering Science students transferring to BU in Bioengineering.

**4 Lecture Hours; Prerequisites: MAT 181 Calculus and BIO 111 General Biology I or consent of instructor.**

**BIO 218****Ornithology (2)**

An in-depth study of the world of birds indigenous to the Northeast as well as a look at how humans have affected the survival of many avian populations. The course will cover the anatomy and physiology of birds; their habitats and behavior, including field identification of birds by sight and sounds.

**1 Lecture Hour, 2 Laboratory Hours; Prerequisite: BIO 112 or BIO 200**

**BIO 299****Independent Study (1-3)**

An individual student project in a biological field which is beyond the scope of requirements of the courses offered by the department. Conducted under the direction of a Biology faculty member. Only one independent study course allowed per semester.

**Prerequisites: 4 credits of college level work in biology and approval of Department Chairperson.**