

## BIOLOGICAL SCIENCE

## BS

### College of Natural Science

#### 161 Cell and Molecular Biology

Fall, Spring, Summer. 3(3-0) Interdepartmental with Biochemistry and Molecular Biology and Microbiology and Molecular Genetics. Administered by Biological Science. P: (CEM 141 or concurrently) or (CEM 151 or concurrently) or (LB 171 or concurrently) or (CEM 181H or concurrently) SA: BS 111, BS 149H Not open to students with credit in BS 181H or LB 145.

Macromolecular synthesis. Energy metabolism. Molecular aspects of development. Molecular genetics.

#### 162 Organismal and Population Biology

Fall, Spring, Summer. 3(3-0) Interdepartmental with Plant Biology and Zoology. Administered by Biological Science. P: BS 161 or BS 181H or LB 145 SA: BS 110, BS 148H Not open to students with credit in BS 182H or LB 144.

Biological diversity and organismal biology. Principles of evolution, transmission genetics, population biology, community structure, ecology.

#### 171 Cell and Molecular Biology Laboratory

Fall, Spring, Summer. 2(1-3) Interdepartmental with Biochemistry and Molecular Biology and Microbiology and Molecular Genetics. Administered by Biological Science. P: (BS 161 or concurrently) or (BS 181H or concurrently) SA: BS 111L, BS 159H Not open to students with credit in BS 191H or LB 145.

Principles and applications of common techniques used in cell and molecular biology.

#### 172 Organismal and Population Biology Laboratory

Fall, Spring, Summer. 2(1-3) Interdepartmental with Plant Biology and Zoology. Administered by Biological Science. P: (BS 162 or concurrently) or (BS 182H or concurrently) SA: BS 110, BS 158H Not open to students with credit in BS 192H or LB 144.

Nature and process of organismal biology including experimental design, statistical methods, hypothesis testing in genetics, ecology, and evolution.

#### 181H Honors Cell and Molecular Biology

Spring. 3(3-0) Interdepartmental with Biochemistry and Molecular Biology and Lyman Briggs and Microbiology and Molecular Genetics. Administered by Biological Science. P: (CEM 141 or concurrently) or (CEM 151 or concurrently) or (CEM 181H or concurrently) or (LB 171 or concurrently) SA: BS 149H, BS 111 Not open to students with credit in BS 161 or LB 145.

Physicochemical and molecular organization of cells as the unifying framework for genetics, evolution, and the social relevance of biology.

#### 182H Honors Organismal and Population

##### Biology

Fall. 3(3-0) Interdepartmental with Lyman Briggs and Plant Biology and Zoology. Administered by Biological Science. P: BS 181H SA: BS 148H, BS 110 Not open to students with credit in BS 162 or LB 144.

Diversity and basic properties of organisms, with emphasis on genetic principles, ecological interactions, and the evolutionary process. Historical approach to knowledge discovery.

#### 191H Honors Cell and Molecular Biology

##### Laboratory

Spring. 2(1-3) Interdepartmental with Biochemistry and Molecular Biology and Lyman Briggs and Microbiology and Molecular Genetics. Administered by Biological Science. P: BS 181H or concurrently SA: BS 159H, BS 111L Not open to students with credit in BS 171 or LB 145.

Basic techniques of cellular and molecular biology including experimental design and hypothesis formulation; biochemistry, molecular biology and genetics.

#### 192H Honors Organismal and Population

##### Biology Laboratory

Fall. 2(1-3) Interdepartmental with Lyman Briggs and Plant Biology and Zoology. Administered by Biological Science. P: BS 182H or concurrently SA: BS 158H, BS 110 Not open to students with credit in BS 172 or LB 144.

Nature and process of organismal biology, including experimental design and statistical methods, hypothesis testing, genetics, ecology, and evolution.