



## Biology (BIOL)

### **BIOL 611. Botany. 3 Credits.**

Current and prospective teachers will broaden and deepen their understanding of plants. A general botany course covering plant form, structure, physiology and reproduction with an evolutionary focus on plant diversity through time.

**Typically Offered:** Spring, odd years.

### **BIOL 615. Genetics. 3 Credits.**

Current and prospective teachers will deepen their understanding of genetics concepts to better engage high school students in the problem-solving and application of genetics. This course will cover the structure and function of DNA and Mendelian genetics. Course work includes discussion on concepts in linkage, mutation, mechanisms of heredity, genetic mapping, molecular genetics, population genetics, current issues, and research in genetics.

**Typically Offered:** Summer, odd years.

### **BIOL 640. Environmental Contaminants. 3 Credits.**

Current and prospective teachers will broaden and deepen their understanding of aquatic common contaminants in the environment. An introduction to the major groups of environmental contaminants and their effects on ecosystems and human health. Students will learn about sources of contaminants, their persistence in the environment, and the pathways of contaminants into waterways, organisms, and the atmosphere. Efforts or methods to prevent or mitigate contamination will also be covered. Students will research specific contaminants and present case studies related to environmental contamination.

**Typically Offered:** Fall, odd years.

### **BIOL 641. Cell Biology. 3 Credits.**

Current and prospective teachers will broaden and deepen their understanding of how the cell works. A study of processes common to life at the cellular level including biochemical and structural organization, membrane function, motility, signal transduction, growth, division, and genetic regulation of the cellular function.

**Typically Offered:** Spring, even years.

### **BIOL 647. Aquatic Entomology. 3 Credits.**

Current and prospective teachers will broaden and deepen their understanding of aquatic entomology. The study of the diversity of aquatic insects and invertebrates focusing on their identification and importance in aquatic ecosystems.

**Typically Offered:** Fall, even years.

### **BIOL 659. Evolution. 3 Credits.**

Current and prospective teachers will broaden and deepen their understanding of evolutionary theory. Evolution is the process by which species change over time through descent with modification. This course will focus on understanding the key biological concepts of heritability of traits, variation, and adaptation through selection and evolutionary change at all scales.

**Typically Offered:** Summer, even years.