

### **BIOL 4115L: Parasitology Laboratory**

#### **1 Credit Hours**

*Prerequisite:* BIOL 4115

Laboratory activities will supplement the lecture material of BIOL 4115.

Students learn about the different methods to collect and isolate parasites in humans and domestic and wild animals. They will also learn how to identify some parasites of medical and veterinary concern.

### **BIOL 4200: Industrial Microbiology**

#### **4 Credit Hours**

*Prerequisite:* BIOL 3340

This course is a detailed survey of advanced microbiological methods used in industry. Students will learn to identify bacterial and fungal microbes found in biosafety and environmental monitoring. In the laboratory, students will learn to validate appropriate methods and prepare sterile media for culturing aerobic and anaerobic microbes. Students will also use quantitative methods to produce fermentation in batch and continuous cultures.

### **BIOL 4242K: Ecological Genetics**

#### **4 Credit Hours**

*Prerequisite:* BIOL 3300 and BIOL 3300L

This course encompasses the fields of ecology and genetics as they apply to population genetics and conservation and management of natural resources. Students will explore the issues pertaining to the measurement and management of genetic diversity in wild and captive populations and will learn to apply evolutionary concepts to populations and population management.

### **BIOL 4300K: Chromosome Preparation and Analysis**

#### **4 Credit Hours**

*Prerequisite:* BIOL 3300

*Corequisite:* BIOL 3327

This extensive preparatory course is designed to give students hands-on experience with the methods used in the preparation of human chromosomes. Collection techniques, culture procedures, harvesting protocol and slide preparation will be followed by analysis and interpretation of karyotypes. Fluorescent in situ hybridization (FISH) will be performed. Array comparative genomic hybridization (aCGH) theory and practice will be discussed. Proper use of various types of microscopes and image capture and analysis by computer will be performed.