



## **BTEC 207 - TECHNIQUES IN IMMUNOCHEMISTRY AND ELISA**

<b>Units Lecture</b>	0.80	<b>Units Lab</b>	0.30	<b>Units Total</b>	1.00
<b>Total Hrs Lecture</b>	12.00	<b>Total Hrs Lab</b>	12.00	<b>Total Course Hrs</b>	24.00

### **COURSE DESCRIPTION**

This advanced course provides skills in the use of antibody reagents as a tool in the biotechnology laboratory. It focuses on the nature and specificity of antibody reagents for the identification and quantification of biological molecules. Students learn how to set up, perform, and analyze techniques utilizing antibodies, such as Westerns and ELISAs.

### **ENROLLMENT RESTRICTIONS**

#### **PREREQUISITES**

None

#### **COREQUISITES**

None

#### **ADVISORIES**

BTEC 110

### **OUTLINE OF COURSE CONTENT**

*The course will address the following topics:*

All topics are addressed in the lecture and applied to laboratory activities.

- I. Lab notebook
  - A. Documentation
  - B. Maintenance.
- II. Laboratory procedures
  - A. Safety
  - B. Hazard awareness.
- III. Antibodies
  - A. Care
  - B. Manipulation
  - C. Storage
  - D. Disposal.
- IV. Western analysis
  - A. Specificity
  - B. Quantity.
- V. ELISA assays
  - A. Set up procedures and variation
  - B. Detection methods
  - C. Specificity
  - D. Quantity.

### **PERFORMANCE OBJECTIVES**

*Upon successful completion of this course, students will be able to do the following:*

- 1). Demonstrate the ability to follow laboratory procedures, including those relating to lab safety and hazard awareness
- 2). Document lab procedures, calculations, measurements, observations, and analyses in a laboratory notebook
- 3). Reliably handle, manipulate, store, and dispose of antibody reagents
- 4). Follow antibody reagent use protocols to recognize and detect specific proteins attached to membranes (Westerns)
- 5). Perform a variety of antibody-based assays (ELISAs) following established written procedures
- 6). Evaluate the outcomes of Western and ELISA assays with respect to specificity and quantity.