



**PCB6231:**  
**Immunology and Cancer Immunotherapy**  
**(Cancer Biology II)**

CRN#: \*\*\*\*\*, Section 001, 4 Credit Hours  
CAS / Molecular Biosciences

## **COURSE DESCRIPTION**

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### **I. University Course Description**

This course focuses on cancer immunology with an introduction to cancer immunotherapy. The basics of immune development and function in the context of tumor immunology will be presented in lectures and through discussion of relevant current literature. The course will also introduce current general principles of immunotherapy. Topics include:

- Myeloid Cells
- Toll-Like Receptors
- Antigen Presentation
- B Cells
- T Cells
- Natural Killer Cells and Innate Lymphoid cells
- Tolerance
- Complement
- Tumor Immunity and the microenvironment
- Immune Suppression
- Vaccine Strategies

### **II. Course Purpose**

This course provides an understanding of immune system fundamentals and the changes that develop in cancer patients. The course also introduces cancer immunotherapy principles.

### **III. Course Objectives**

The objectives are to develop an in-depth understanding of the development, function and regulation of the immune system with an emphasis on tumor immunology. This course is aimed at graduate students in Immunology, Cancer Biology or those in related disciplines who wish to obtain an advanced perspective on immunologic knowledge and current research.

### **IV. Student Learning Outcomes**

At the conclusion of the course students will demonstrate the ability to discuss in-depth the central immune system components and pathways. Students also will demonstrate the ability to discuss how the presence of cancer alters the immune response at the cellular and tumor microenvironment levels.