BSC 6421 Immunological Techniques for Cancer Research

Course Prerequisites: N/A

001, Credit Hours 2

College of Arts & Sciences, CMMB

I. Welcome!

II. University Course Description

This course will provide foundational knowledge of modern techniques utilized in cancer immunology research. In-class discussion will be supplemented with tours, interactive assignments, and papers from the recent literature.

Topics include:

- flow cytometry
- in vitro and in vivo immunological techniques
- animal modeling
- microscopy
- proteomics and cell biology techniques

III. Course Purpose

This course will expose graduate students to modern molecular, cellular, and immunological principles and techniques utilized in cancer immunology research. The course will include presentations by faculty and staff with relevant technological expertise. In-class discussion will be supplemented with tours, interactive assignments, and papers from the recent literature. Theory and practice of core technology services will also be described.

IV. Course Objectives

The objective of the course is to provide students with fundamental and practical knowledge of the advanced techniques utilized in cancer immunology research. Students should become knowledgeable on the currently available techniques and the advantages and limitations of each technique. Students should also develop an understanding of the resources and potential collaborations outside of their research laboratory.

V. Student Learning Outcomes

Students will demonstrate an ability to explain the benefits and limitations or the various techniques used in cancer and cancer immunology research. Students will demonstrate an ability to explain how to utilize various immunological, cellular, and molecular techniques for their studies. Students will demonstrate an
ability to explain how to utilize animal and tissue techniques for their studies. Students will demonstrate an ability to design and conduct a flow cytometry experiment.