

OKLAHOMA BAPTIST UNIVERSITY

IMMUNOLOGY, BIOL 4329

FALL 2010

CATALOG DESCRIPTION

A detailed study of the mechanisms of immunity in man. Students will explore the interactions between cells of the immune system in production of an immune response and the molecules controlling these interactions. Emphasis will be placed on the role of immunology in the pathophysiology of human disease, including topics such as allergy, autoimmune disease, cancer immunity, acquired immunodeficiency disorders (AIDS), vaccine strategies, and transplantation reactions.

COURSE OBJECTIVES

Students will gain an understanding of the various molecular and cellular interactions which elicit and regulate human immune responses. Students will be able to describe the various roles of each type of cell involved in both innate and adaptive immune responses. Students will demonstrate competency in solving clinical cases involving the pathophysiology of human disease using the tools of directed reading and independent bibliographic research. Students will be able to explain the pathophysiology of many immunological diseases including allergy, autoimmune disease, cancer, acquired immunodeficiency disorders (AIDS), and numerous other infectious diseases. Students will become proficient at critically analyzing scientific literature in the field of immunology. Students will gain experience in public speaking through oral and audio/visual presentations.

CLASS DATES

Section A: Mon., Wed., Fri., 9:00 – 9:50pm Bailey Business Cent. Room 104

INSTRUCTOR

Bradley Jett, Ph.D.
Office: WSB 119B
Phone: 405-878-2043
Office Hours: MWF 1 – 3pm; TR 1-2pm
Email: brad.jett@okbu.edu

CREDIT HOURS

3 Credits

TEXTBOOKS TO PURCHASE

“Immunology: A Short Course” 6th Edition, by Coico

PREREQUISITES

Open to Juniors and Seniors. Students should have completed at least two or more courses in Biology and/or Chemistry.

CLASS PARTICIPATION

50 minutes is simply insufficient time to cover every aspect of a chapter in detail. Therefore, it is imperative that you are prepared to discuss the subject matter PRIOR to coming to class. Hopefully, we will then be able to specifically address problems you are having with a given concept, or answer your specific questions. Remember that the best learning experience is that in which we learn from each other. As such, active participation by each student during classroom discussions is both encouraged and expected.

EXAMS

There will be 4 major exams and a comprehensive final exam, all of equal value.

QUIZZES

There will be 4 short quizzes administered at regular intervals throughout the semester.

TOPICS PAPER AND PRESENTATION

Topics Paper: You are expected to search and read the current scientific literature on a current topic in Immunology and summarize it in a succinct manuscript. The Instructor will choose the topic and announce it in class.

- The paper should be 4-6 pages, typed, double-spaced, 12-point font
- The paper must cite at least THREE current (< 2-years old) scientific journal articles. Other sources may be cited, such as reputable internet sites, news articles, etc. Penalties will be assessed if THREE current, scientific journal articles are not used.
- Only papers turned in by the listed deadline will be graded. You are therefore encouraged to develop your ideas early.

Oral Presentation: Your Immunology Topics paper will be presented orally to the class. The use of audio/visual aids (PowerPoint etc.) is expected. Allow approximately 10 minutes for the presentation and 5 minutes for questions. Your presentation will be judged on its content, style, clarity, your knowledge of the subject, and your responses to questions.

LABS

As time permits, we will visit the lab and perform various experiments related to immunology. Such exercises will be announced in class.

GRADES

Grades will be based on the standard scale of percent of total points available: A (100-90%), B (89-80%), C (79-70%), D (69-60%), F (59-0%). Percentages will be based on the following components:

- 4 exams x 100 points each: 400 points
- Final exam at 100 points: 100 points
- 4 quizzes x 10 points each: 40 points
- Immunology Topic paper: 50 points
- Oral Presentation: 10 points
- TOTAL POINTS: 600 points

STUDENTS WITH DISABILITIES

Oklahoma Baptist University complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. Students with disabilities who need special accommodations must self-identify and submit acceptable documentation in the Student Services office located in the Geiger Center, Room 101.

ADDITIONAL IMPORTANT INFORMATION FOR OBU STUDENTS

Please refer to the following link,

http://www.okbu.edu/academics/forms/syllabus_attachment_fall10.pdf for important information regarding class attendance policies academic policies and expectations, tutoring information, library hours, important dates and holidays, inclement weather policies, chapel attendance policies, and more.

CLASS SCHEDULE

DATE	ASSIGNMENT	TOPIC
Aug 27	Introductions	Introduction; Immunology Movie
Aug 30	Chapter 1	Overview of immunity
Sept 1	Chapter 2	Elements of innate immunity
Sept 3	Chapter 2	Elements of acquired immunity
Sept 6	Labor Day Recess	None
Sept 8	Chapter 3 QUIZ 1	Immunogens and antigens
Sept 13	Chapter 4	Antibody structure and function
Sept 15	Chapter 4 (continued)	
Sept 17	Chapter 5	Antigen-antibody interactions, immune assays, and experimental systems
Sept 20	Chapter 5 (continued)	
Sept 22	EXAM 1	
Sept 24	Chapter 6	Antibody genes
Sept 27	Chapter 7	Biology of the B-lymphocyte
Sept 29	Chapter 7 (continued)	
Oct 1	Chapter 8	Biology of the T-lymphocyte
Oct 4	Clinical Case Discussion QUIZ 2	Clinical case history and related materials
Oct 6	Chapter 9	Role of major histocompatibility complex
Oct 8	Chapter 9 (continued)	
Oct 11	Chapter 10	Activation and function of T and B cells
Oct 13	Chapter 10 (continued)	
Oct 15	EXAM 2	
Oct 18	Chapter 11	Cytokines
Oct 20	Chapter 11 (continued)	
Oct 22	Fall Recess	None
Oct 25	Chapter 12	Tolerance and autoimmunity
Oct 27	Chapter 13	Complement
Oct 29	Chapter 13 (continued)	
Nov 1	Chapter 14 QUIZ 3	Type-I Hypersensitivity reactions
Nov 2	Student articles	Student articles
Nov 3	Student articles	Student articles

Nov 5	Chapter 15	Type-II and Type-III Hypersensitivity reactions
Nov 8	Chapter 16	Type-IV Hypersensitivity reactions
Nov 10	EXAM 3	
Nov 12	Chapter 17	Immunodeficiency disorders
Nov 15	Chapter 18	Transplantation
Nov 17	Chapter 19	Tumor immunology
Nov 19	Chapter 20	Resistance and immunization to infectious diseases
Nov 22	Chapter 20 (continued) QUIZ 4	
Nov 24 – Nov 26	Thanksgiving Recess	None
Nov 29	Clinical case discussion	Clinical case history and related materials
Dec 1	TOPICS PAPERS DUE Review Day	
Dec 3	EXAM 4	
Dec 6	Research article	Discussion of research article
Dec 8	Immunology topics paper presentations	None
Dec 10	Immunology topics paper presentations	None

FINAL EXAM: December 14th (Tuesday), 8:00am-10:00am