CELL 425-01 Principles in Immunology
Spring 2010

time and location TBD

Instructor Information
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Course Information and Learning Objectives

course description: An introduction to the biology of the human immune system with review of relevant research literature.

prerequisites: CELL 301 Cell Biology

general course objectives: This course will introduce the student to all aspects of immunology.

specific learning outcomes: At the completion of this course, students will be able to describe the physiology and molecular biology of the human immune system. The student will also be able to read critically and analyze scientific literature.

Course Materials, Assignments, and Grading Policies

text: Review papers on each topic will be posted online via Blackboard, and no textbook is officially required for this course. Nevertheless, it would be wise for each student to acquire an immunology textbook to assist with class preparation and the final exam, which is open-book. I strongly recommend Abbas and Lichtman, Basic Immunology 3rd edition. It is an inexpensive, readable undergraduate text. For those of you who desire a more advanced, encyclopedic coverage of the topic, there are two excellent textbooks on the market: Janeway’s Immunobiology 7th edition and Roitt’s Essential Immunology 11th edition.

presentations: At some point in the semester, each student will be asked to present a research paper related to the current topic of discussion. The presentations should be well researched, and the students should be prepared to lead class discussions on the quality of the research and the interpretation of the data.

grading: 15% attendance and participation
30% seminar-style presentations
55% open-book final exam

Tentative Schedule

week 1 introduction to immunobiology
2 innate immunity
3 B cells and the genetics of immunoglobulins
4 T cells and the genetics of T cell receptors
5 antigen presentation
6 lymphocytic roles and cytokine signaling
7 the adaptive immune response
8 immune system development and anatomy
9 tolerance and autoimmune diseases
10 prophylaxis and allergies
11 congenital and acquired immunodeficiencies
12 transplant rejection and immunotherapy
13 psychoneuroimmunology
14 immunological laboratory methods

Final Exam
Assigned Reading


