

Learning Objectives: The objective of this course is to enable students to understand the fundamental principles of immunology and to develop an appreciation of the importance of synthesizing key concepts from a vast amount of experimental data that is rapidly emerging in this field.

Course Overview: The course will focus on the organization of the immune system, evolution of the immune system, and cellular and molecular mechanisms used by the immune system to protect organisms from both self and disease. Case studies will be used as practical application of immunological experimental advances in basic and medical science.

Expectations: Students should have a desire to learn more about the field of immunology and take ownership in their learning experiences. Students are encouraged to share their thoughts in class discussions, ask questions, have fun, and generally contribute to a cooperative learning environment.

Instructor: Ana Zimmerman, Office hours: Wednesday and Fridays 1-3 (Science Building Room 125). Please feel free to set up additional times to meet as well.

Contact: zimmermana@cofc.edu.

Prerequisites:

BIOL111/111L: Introduction to Cell and Molecular Biology

BIOL 112/112L: Evolution, Form and Function of Organisms

BIOL212: Genetics (this course builds on a strong background of genetics concepts and terminology)

Required Text:

Basic Immunology. By Abul Abbas and Andrew Lichtman.

Note Class Discussion about Editions.

Exams:

Three lecture exams and a comprehensive final exam (see syllabus for dates). Exams will cover material from lectures, assigned readings and in class discussions.

Grading:

		A	93-100
Lecture Exam I	100 points	A-	90-92.5
Lecture Exam II	100 points	B+	87-89.5
Lecture Exam III	100 points	B	83-86.5
Final Exam	100 points	B-	80-82.5
		C	73-76.5
TOTAL	400 points	C-	70-72.5
		D	60-69.5
		F	Below 60

Study Groups:

You are strongly encouraged to work with other students to discuss lecture topics, study for exams, and discuss class material. Such interactions with your peers often constitute the most effective manner to master the subject matter.

News and Noteworthy:

Many of the topics covered in this course directly relate to areas of current emphasis including preventive medicine, individual healthcare, gene therapies, and public health. These issues are routinely covered in the media and popular press. It is my hope you will find many instances during the semester to integrate material covered in class to issues

covered elsewhere. If you encounter an interesting story that connects well to course material, please provide me with the source so this information can be shared with the rest of the class.

Finally:

Most importantly, please be assured that I want each and every student to reach the goals they set for themselves. If you find yourself having undue difficulty with any portion of the material in this course please make an appointment with me for additional help.

Tentative Schedule:

Dates		Week	Topic	Text Chapter	Supplemental Readings
Jan		1	Cells and Tissues of the Immune System	1	National Institutes of Health (NIH) booklets on Immunology, Microbes, and Vaccines.
		2	Innate Immunity	2	
		3	Antibody Structure	3 , 4	
Feb		4	MHC structure and antigen presentation	5	
	12 (Wed)	5	Exam I		
			Antigen receptors and accessory molecules		NIH publication "Malaria, fighting an ancient scourge"
		6	Lymphocyte Development, Expression of antigen receptors, (BCR/TCR) Regulation of the Immune Response	6	
		7	Lymphocyte Activation	7	
Mar		8	Cytokines		
		9	Effectors of adaptive immunity	8	HIV Writing Reflection Due
	11	10	Exam II		
			Immunology Movie Night – No Class		
		11	Immunotolerance	9	NIH publication "Allergies"
April			Tumors and Transplants	10	NIH publication "Cancer"
		12	Autoimmunities and Hypersensitivities	11	
		13	Immune Deficiencies	12	Ebola Questions Due
	15		Exam III		
		15			
		16	Final – Your choice either Friday or Monday		Friday April 24. 8-11 am Monday April 27. 8-11 am