

BIOL 4570  
BIOL 6570

Immunology and Immunochemistry, Spring 2007  
Graduate Immunology, Spring 2007

**Course Objectives** To explore the intricacies of the mammalian immune system, primarily via mechanisms responsible for specificity, tolerance and memory in the adaptive immune response. Three model systems will be explored: autoimmunity, transplantation and vaccine development.

**Required Text** *Immunobiology*, Janeway, Travers, Walport and Shlomchik, 2005, 6<sup>th</sup> edition, Garland Science. Supplemental readings also will be provided on WebCT.

**Course Format** This course integrates traditional lecture with many in-class individual and group activities. Participation in these activities is mandatory and contributes to your quizzes/assignments grade.

**Syllabus Material** Most presentation material for each lecture, in Powerpoint or PDF format, will be available on the course's WebCT site. Students should download the material and print it out before class.

**Attendance** Attendance is mandatory. Students are allowed 2 dropped quiz/assignment grades to account for unavoidable absences. In addition, one dropped exam grade is allowed. This is to allow for unavoidable absences. I do not give make-up exams regardless of whether an absence is excused or not. That why I allow a dropped exam grade. Absences from lecture exams or quizzes will result in a grade of zero for that exam or quiz.

**Grade Distribution** There will be four equally-weighted exams (20% each), plus a comprehensive final exam (20%), covering material presented in lecture and the reading assignments. The lowest exam/final exam grade will be dropped. Exams will be mostly multiple choice, with a few short-answer questions. Exams will not be curved. Quizzes and assignments will contribute 20%; the two lowest quiz/assignments will be dropped. Extra credit, up to 5% of the course grade, can be reading 3 primary research articles on a relevant topic, and writing a one page summary of the findings and turning in the papers and the summaries by the dates indicated on the calendar. Your conduct in this course is expected to conform to the GT Student Honor Code ([www.honor.gatech.edu](http://www.honor.gatech.edu)). I urge you to consult this for a full definition of your rights and responsibilities. In particular, no cheating on quizzes or exams, and no collaboration or plagiarism on the term papers. Final grades will be assigned according to the following scale: 90-100% A, 80-89 B, 70-79 C, 60-69 D, below 60 F.

**Additional Assignments for Grad Students** Each graduate student will be expected to give a 20-25 minute presentation on a research paper relevant to the topic being discussed during the semester. Also, graduate students are required to complete a term paper of at least 10 pages with at least 10 references on a topic to be approved by Dr. Leavey. A schedule of presentations and detailed term paper instructions will be distributed in class and posted on WebCT. Grad grades will be determined as follows: 4 highest exam grades – 15% each (60 points total), quizzes/assignments(10 points), in-class presentations (15 points), term papers (15 points)

**Instructors** Dr. Jennifer Leavey Office: A104 Cherry Emerson, Phone: 404-385-7229  
jennifer.leavey@biology.gatech.edu  
Dr. Nael A. McCarty Office: 223 Cherry Emerson, Phone: 404-385-2955  
nael.mccarty@biology.gatech.edu

Planned office hours: McCarty: Mon. 1-2 pm; Thurs. 2-3. Leavey: Tues/Thurs 9-11, 2-4.  
Also available at other times, just e-mail us to arrange.

DAY	DATE	Chap	LECTURE TOPIC	Lecturer
MON	Jan 8	1	Intro to Immunology	JK
WED	Jan 10	1	Intro to Immunology II	JK
FRI	Jan 12		Vaccines, Transplants and Autoimmunity	JK
MON	Jan 15		<b>OFFICIAL SCHOOL HOLIDAY</b>	
WED	Jan 17	2	Innate Immunity I - Complement	JK
FRI	Jan 19	2	Innate Immunity II - Complement	JK
MON	Jan 22	2	Innate Immunity III - Inflammation	JK
WED	Jan 24		Inflammation in Cystic Fibrosis– EC # 1 Due	NM
FRI	Jan 26		<b>EXAM 1</b>	JK
MON	Jan 29	3	Ig structure/ Ag-Ab interactions	
WED	Jan 31	3	TCR ligand/CD4 and CD8	JK
FRI	Feb 2	3	Intro to MHC	JK
MON	Feb 5	4	Ig gene rearrangement	JK
WED	Feb 7	4	Ig TCR gene rearrangement	JK
FRI	Feb 9	4	Ig isotypes	JK
MON	Feb 12	5	Ag Presentation	JK
WED	Feb 14	5	Ag Presentation	JK
FRI	Feb 16	5	MHC	JK
MON	Feb 19	5	Guest Lecture, S. Mark Tompkins - EC # 2 Due	Guest
WED	Feb 21		<b>EXAM 2</b>	
FRI	Feb 23	6	Signaling I	NM
MON	Feb 26	6	Signaling II	NM
WED	Feb 28	6	Signaling III	NM
FRI	Mar 2 DD	7	B and T cell development	JK
MON	Mar 5	7	Positive and Negative Selection I	JK
WED	Mar 7	7	Positive and Negative Selection II	JK
FRI	Mar 9	7	Homeostasis	JK
MON	Mar 12	7	TBA	JK
WED	Mar 14		Guest Lecture, Gil Kersh – EC # 3 Due	Guest
FRI	Mar 16		<b>EXAM 3</b>	
	<b>Mar 19-23</b>		<b>SPRING BREAK</b>	JK
MON	Mar 26	8	T cell activation I	JK
WED	Mar 28	8	T cell activation II	JK
FRI	Mar 30	8	CTL	JK
MON	Apr 2	8	Helper T cells	JK
WED	Apr 4	9	B cell activation	JK
FRI	Apr 6	9	Isotype function/Fc Receptors	JK
MON	Apr 9	10	Infectious disease/Immune Evasion	JK
WED	Apr 11	10	Adaptive responses to infection	JK
FRI	Apr 13	10	Mucosal Immunity	JK
MON	Apr 16	10	Immunological Memory	JK
WED	Apr 18		Guest Lecture, Aron Lukacher – EC #4 Due	Guest
FRI	Apr 20		<b>EXAM 4</b>	
MON	Apr 23	15	Evolution of the Immune System	JK
WED	Apr 26	15	Evolution of the Immune System	JK
FRI	Apr 27		Review Session	JK
MON	Apr 30		<b>FINAL EXAM (2:50 - 5:40 pm) – EC # 5 Due</b>	

\*\*\*Dates are subject to change\*\*\*\*