

Course Objectives Students will be able to explain the genetic and biochemical basis of antigen specificity, tolerance and memory in adaptive immune responses. Students will also learn how innate immune responses relate to adaptive immune responses and be able to explain the role of immune system components in medical applications such as transplantation, vaccination, allergy and autoimmunity.

Required Text Janeway's *Immunobiology*, Murphy, Travers, and Walport, 2012, 8th edition, Garland Science. Supplemental readings also will be provided on T Square.

Course Format Students will be expected to read and answer questions online about the readings before coming to class (online quizzes contribute to the grade). In class, students will work in groups to apply what they learned in the reading to complex, current problems in immunology.

Learning Catalytics Much of the in-class participation and online quizzes will be administered via Learning Catalytics. Students must purchase an individual subscription (\$12 per semester) at: https://learningcatalytics.com/student_sign_up - if you are enrolled in other courses that also use Learning Catalytics in Spring 2015, just one subscription will serve multiple courses for the semester.

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. Make-up exams are not given regardless of whether an absence is excused or not. That why there is 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 three equally-weighted tests (25% each), plus a final exam (25%), covering material presented in lecture and the reading assignments. The lowest test grade will be dropped. Tests will not be curved. The final 25% of the grade will be distributed as follows: 5% Term Project (instructions will be posted on T square), 10% online quizzes, 10% in-class participation (activities/group work). Your conduct in this course is expected to conform to the GT Student Honor Code (www.honor.gatech.edu). I urge you to consult this for a full definition of your rights and responsibilities. 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.

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DAY	DATE	Textbook Reading	TOPIC	Presenter
TUE	Jan 6	1	Intro to Immunology	Choi
TH	Jan 8	1	Intro to Immunology II	Choi
TUE	Jan 13	2-1 to 2-5	Innate Immunity I	Choi
TH	Jan 15	3	Innate Immunity II	Choi
TUE	Jan 20	4	Ig structure/ Ag-Ab interactions	Leavey
TH	Jan 22	4	TCR ligand/CD4 and CD8/Intro to MHC	Leavey
TUE	Jan 27		EXAM 1	
TH	Jan 29	5	Ig gene rearrangement	Choi
TUE	Feb 3	5	TCR gene rearrangement	Choi
TH	Feb 5	5	Somatic Hypermutation/Ig isotypes	Choi
TUE	Feb 10	6	Ag Presentation	Leavey
TH	Feb 12	6	MHC	Leavey
TUE	Feb 17	7	Signaling I	Leavey
TH	Feb 19	7	Signaling II	Leavey
TUE	Feb 24		EXAM 2	
TH	Feb 26	8	B and T cell development	Leavey
TUE	Mar 3	8	Positive and Negative Selection	Leavey
TH	Mar 5	9	T cell activation	Choi
TUE	Mar 10	9	CTL and Helper T cells	Choi
TH	Mar 12	10	B cell Activation/ Antibodies	Choi
TUE	Mar 17		SPRING BREAK	
TH	Mar 19		SPRING BREAK	
TUE	Mar 24	11	Immune Response Dynamics	Leavey
TH	Mar 26	11	Immune Response Dynamics	Leavey
TUE	Mar 31		EXAM 3	
TH	Apr 2		GUEST LECTURE	
TUE	Apr 7	12	Mucosal Immunity*	Choi
TH	Apr 9	13	Immunodeficiency *	Choi
TUE	Apr 14	14	Allergy	Leavey
TH	Apr 16	15	Autoimmunity and Transplantation	Leavey
TUE	Apr 21	16	Manipulation of the Immune Response	Leavey
TH	Apr 23		REVIEW	
TH	April 30		Final Exam 2:50	

Dates are subject to change*