

MIC 321 Fall 2013

COURSE OVERVIEW:

Do you remember from MIC301 that immunology is the study of the body's defense system to combat infectious attacks? This course begins with a history of immunological discoveries to remind you of some of the basic concepts and appreciate their relations to disease. The goal of the remaining six biweekly sections is to provide an understanding of the more complex underlying molecular and cellular aspects. This includes responses against non-infectious self and non-self antigens, i.e., autoimmunity, transplantation and tumor responses as will be discussed in the final section.

The lecture style of this class is interactive. We promote active and conceptual thinking skills as well as teamwork to prepare you for today's "real world" tasks after your graduation. We are requiring that you bring an i>clicker to class and mandate the use of i>clickers.

To facilitate steady progress, each biweekly segment of MIC321 incorporates a quiz. The course will not have a final but questions in later quizzes assume that you are familiar with earlier concepts. Each quiz is preceded by a discussion of questions prepared by assigned honors students to get everyone well prepared and clarify any last question.

COURSE PREREQUISITES and STRUCTURE:

A prerequisite for MIC321 is MIC301. An equivalent course from domestic or international institutions may satisfy this requirement under selected circumstances (please contact Roger Williams, the administrative director, for further information). Enrollment without approval of the prerequisite is not permitted.

The course is made up of seven didactic sections taught by faculty of the Department of Microbiology and Immunology and the Department of Pediatrics at the Leonard M. Miller School of Medicine.

LECTURE DAYS:

We strongly encourage you to **come prepared to the lectures and participate by studying in advance the assigned textbook pages** (Lecture Schedule & Reading Assignments). We encourage questions and discussions with the faculty and students. Therefore, use of i>clickers is mandated. Failure to bring or use an i>clicker may be counted as absence and, as such, will result in loss of Bonus Points (see below).

ORGANIZATION OF QUIZ DAYS:

Each section concludes with a unique day. **For the first event, honor students will perform an "immunology theater" to remind everyone of the most critical concepts of the innate and adaptive immune response. The other sections conclude with multiple-choice questions constructed by the honor students in preparation for the subsequent quiz. These questions will be made available to all students 24 hours prior to the quiz.** The class is encouraged to enter into a dialogue with the presenting students to solve the problem. Afterwards, the written quiz will be taken.

Out of courtesy to your peers we ask that you **remain seated until all quizzes have been collected.** If you are interested in the correct answers, we ask you to stay for 5 minutes following the collection of all quizzes when the lecturer will go over the correct answers. You are **only permitted to receive a single quiz** that must be returned at the time of the quiz collection. All quizzes are numbered to ensure that these instructions are followed. The scores of your quiz will be posted on Blackboard without returning to you the graded quiz. You may request to look over your graded quiz with Roger Williams, the administrative director.

QUIZ SCORES AND GRADES:

There are seven quizzes, each made up of 25 multiple-choice questions. The five best scores of the first six quizzes will count toward your cumulative score along with the score from the **mandatory quiz 7**. Therefore, the maximum number of total points you can obtain from the quizzes is 150 points (6 x 25 points)!

In addition to the 150 points from the quiz, **you are eligible to receive up to 7 bonus points for regular attendance.** Attendance is monitored by circulating a signature sheet during class. Fraudulent signing for others than yourself is a violation of the honor code and will be result in dismissal from the course and notification of the dean's office. Because we support attendance with bonus points, your absence from a lecture will not be excusable for any reason and you will loose the bonus point. Note that absence from lectures is different from missing a quiz (see below). The bonus points are provided as follows

0 absence	=	7 bonus points
1 absence	=	6 bonus points
2 absences	=	5 bonus points
3 absences	=	4 bonus points
4 absences	=	3 bonus points
5 absences	=	2 bonus points
6 absences	=	1 bonus points
> 6 absences	=	0 bonus points

Students are NOT graded on a curve but as follows:

Honors students:

≥140 pts = A-	≥145 pts = A	≥150 pts = A+
≥125 pts = B-	≥130 pts = B	≥135 pts = B+
≥110 pts = C-	≥115 pts = C	≥120 pts = C+
≥95 pts = D-	≥100 pts = D	≥105 pts = D+
89 pts or less	= F	

Note that honor students are at risk to loose 6 points from their accumulated points for each time their group fails to prepare meaningful questions (as decided by the lecturer). See Honor Students Assignment Tab!

Regular students:

≥135 pts = A-	≥140 pts = A	≥145 pts = A+
≥120 pts = B-	≥125 pts = B	≥130 pts = B+
≥105 pts = C-	≥110 pts = C	≥115 pts = C+
≥90 pts = D-	≥95 pts = D	≥100 pts = D+
89 pts or less	= F	

MISSING A QUIZ

Missing a quiz due to due to observance of **religious holy days** is permissible only if both the academic and administrative course director are notified by the student in writing by **5 P.M. on Friday, September 2, 2013.**

Missing a quiz due to an **interview** for a post baccalaureate job or education opportunity will be excused only if the interview has been scheduled prior to the first day of the MIC321 class (August 30, 2013). You are required to provide a copy of your invitation to both the academic and administrative course director by 5 P.M. on Friday, September 2, 2013. In addition, you need to provide a copy of the stub for your airplane seat used on the return to Miami and email it to us within seven days of your interview.

Missing a quiz for **reasons other than religious holy days** can be excused only after you provide original documentation from your doctor, a police report, or death certificate of a family member to the administrative director Roger Williams within two weeks following the quiz.

All **makeup quizzes** will be administered on the single date, time and location (see schedule). You are permitted to make up a maximum of two excused quizzes for the entire semester.

MISCONDUCT

All students involved in misconduct (e.g. provision of any and all fraudulent information including fraudulent doctor notes, cheating, plagiarism, academic dishonesty, unauthorized use of books, notes, aids, electronic sources, assistance from another person with respect to examinations, course assignments, unauthorized possession of examination papers or course materials (whether originally authorized or not), will receive an “**F**”, **no exception**.

REQUIRED MATERIALS

i>clicker and textbook

DATE	LECTURER	TEXTBOOK ASSIGNMENT
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SECTION I: LICHTENHELD

**chapter 1
pages 1-22**

- Aug. 27 Course introduction, historical perspective and basic concepts: Immunity – Thucydides; smallpox – Mary Wortley and Edward Jenner; pathogen attenuation – Louis Pasteur
- Aug. 29 Historical perspective and basic concepts continued: Antibodies – Emil von Behring and Shibasaburo Kitasato; importance of cells (macrophages) – Elie Metchnikoff; the immune system can cause disease (anaphylaxis) – Charles Richet; antibody and complement work together – Jules Bordet; blood groups express tissue antigens – Karl Landsteiner; immunological tolerance to "self" and its generation – Macfarlane Burnet and Peter Medawar; H-2 (MHC) gene loci govern transplant rejection – George Snell and others
- Sept. 3 Historical perspective and basic concepts continued: H-2 (MHC) gene loci also govern T-cell recognition – Rolf Zinkernagel and Peter Doherty; Generation of monoclonal antibodies – Milstein and Kohler; generation of diversity by recombination – Susumu Tonegawa; role of dendritic cells and "danger" for immune activation – Ralph Steinman, Jules Hoffman and Bruce Beutler (Polly Matzinger and Charles Janeway)
- Sept. 5 Innate and Adaptive Theater by honor students, last questions **Quiz I**

SECTION II: JURECIC

**chapter 2
pages 23-48**

- Sept. 10 General feature and components of innate immunity
- Sept. 11 Last day to add course or to drop course without a "W"**
- Sept. 12 Innate immunity continued
- Sept. 17 Solve multiple-choice questions prepared by honor students **Quiz II**

SECTION III: PODACK

**chapters 3+4
pages 49-80**

- Sept. 19 Antigen capture and presentation
- Sept. 24 Antigen capture and presentation continued; principles of antigen recognition
- Sept. 26 Antibody and T-cell receptor structure and recognition

Oct. 1 Solve multiple-choice questions prepared by honor students **Quiz III**

SECTION IV: ANDREANSKY

**chapters 4+5
pages 81-105**

Oct. 3 Repertoire generation and selection

Oct. 7 Academic Alerts

Oct. 8 T-cell activation and differentiation

Oct. 10 T-cell activation and differentiation continued

**Oct. 13 Deadline for Approval of WC Literature by Dr. Lichtenheld
See Writing Credit Tab for Requirements**

Oct. 15 Solve multiple-choice questions prepared by honor students **Quiz IV**

SECTION V: LEVY

**chapters 5+6
pages 105-130**

Oct. 22 Functional Responses of T-lymphocytes

Oct. 24 Effector mechanisms of T cell-mediated immunity

Oct. 29 Effector mechanisms of T cell-mediated immunity continued

Oct. 31 Solve multiple-choice questions prepared by honor students **Quiz V**

Nov. 4 Last day to drop course with a "W"

SECTION VI: KHAN

**chapter 7+8
pages 131-187**

Nov. 5 Isotype switching and affinity maturation

Nov. 7 Effector mechanisms of humoral immunity

Nov. 12 Tolerance and autoimmunity

Nov. 14 Solve multiple-choice questions prepared by honor students **Quiz VI**

SECTION VII: STONE

**chapters 10-12
Pages 189-240**

Nov. 19 Tumor and transplantation immunology

Nov. 21 Hypersensitivity diseases

Nov. 23 – Dec. 1 Thanksgiving Recess

Dec. 3 Immunodeficiencies including AIDS

Dec. 5 Solve multiple-choice questions prepared by honor students

Quiz VII

Dec. 10 Make-Up of Missed Quiz
See Syllabus Tab for Eligibility and Requirements

Hard Copy and E-version are due for WC
See Writing Credit Tab for Requirements