

## MIC 319 Spring 2016 Syllabus

### COURSE OVERVIEW:

Do you remember from MIC301 that immunology is the study of the body's defense system to combat infectious pathogens? Do you also remember from MIC319 that our body has available a broadly reactive first line of defense mechanisms and soldiers (the innate immune system) that immediately take on intruding pathogens?

The MIC 321 immunobiology course will discuss the defense systems kicking in when pathogens overwhelm the innate response system. They are executed by the so-called adaptive immune system. As compared to the innate immune system the adaptive immune system is far more complex. The course is made up of four didactic sections taught by faculty of the Department of Microbiology and Immunology at the Leonard M. Miller School of Medicine. The first two sections following the course introduction each encompass seven lectures followed by an exam. Sections 3 and 4 each encompass five lectures followed by an exam for a total of four exams. The first three sections primarily discuss responses against infectious pathogens while the last section also describes diseases that the adaptive immune system promotes including rejection of transplantation, growth of tumors, allergies and autoimmunity.

### COURSE PREREQUISITES

**MIC301 and MIC319** are prerequisites for MIC321. An equivalent course from domestic or international institutions can satisfy this requirement under select circumstances. Enrollment without formal approval of the prerequisite is not permitted.

### LECTURE DAYS and BONUS POINTS:

We strongly encourage you **to come prepared to the lectures and to participate by studying in advance the assigned textbook pages** (Lecture Schedule & Reading Assignments). We encourage questions and discussions. We believe so strongly in active learning during lectures that we award 20 bonus points to each student that has attended 20 or more lecture days out of the 24 scheduled lecture days during the semester. The 24 lecture days exclude the first lecture on January 12, 2016, and all exams. The attendance bonus points are not awarded on a partial basis and require your **consistent commitment** to attend 20 lectures. We automatically excuse the failure to attend 4 lectures during the semester and **do not excuse missing any additional lectures for any reason** if students want to obtain the bonus points. Note that the 20 extra points correspond to the improvement of your success in MIC 321 by a full grade (see grading). To establish your attendance you must **sign with your full name (initials will not be accepted as proof of attendance)** on an attendance sheet that is passed out during any time of the lecture. It is up to the students to be observant to the circulation of the sign-in sheet. Signing in for anyone else or disrupting the circulation of the sheet is considered misconduct and results in an F grade for the course (see below).

### MISSING AN EXAM

**Missing an exam will be excused only a single time in the semester and only for one of the specific reasons described below.**

Missing an exam due to observance of **religious holy days** is permissible only if both Mr. Williams (riwill@miami.edu) and Dr. Lichtenheld (mlichten@med.miami.edu) are notified by the student in writing by **5 P.M. on Friday, January 22, 2016.**

Missing an exam due to an out of town **interview** for a post baccalaureate job or education opportunity will be excused only if the interview has been scheduled prior to **Friday, January 15.** You are required to provide a copy of your invitation to Mr. Williams and Dr. Lichtenheld by **5**

**P.M. Friday, January 22, 2016.** In addition, you need to provide a copy of the **boarding pass** used on the return to Miami and email it to us within seven days of your interview. Missing an exam for **reasons other than a religious holy day or interview** only will be excused after you provide original documentation from your doctor, a police report, or death certificate of a family member to Mr. Williams within two weeks following the missed class and email a scan of the documentation to Dr. Lichtenheld.

The **makeup exam must be rescheduled within 15 days of the original date** with Mr. Williams at the Coral Gables Campus (riwill@miami.edu).

### EXAM DAY POLICIES

You are **only permitted to receive a single exam** that must be returned at the time of the quiz collection. All exams are numbered to ensure that these instructions are followed. Attempting to obtain or keep an exam or leaving the auditorium with an exam is considered a misconduct. The scores of your quiz will be posted on Blackboard without returning the graded quiz to you. You may request to look over your graded quiz with Mr. Roger Williams (riwill@miami.edu) in the undergraduate office in the Cox building upon making a formal appointment with him.

Out of courtesy to your peers we ask that you **remain seated until all exams have been collected**. If you are interested in the correct answers, you may stay for 5 minutes following the collection of all quizzes when we spread out correctly solved exams over the first two rows of the auditorium.

### 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 or course attendance, unauthorized possession of examination papers or course materials (whether originally authorized or not), will receive an **“F”, no exception**.

### Grading

The class is graded exclusively on the cumulative performance of the four exams. Each exam question corresponds to a single point. **Exams 1 and 2** are comprised of a total of 60 questions (40 multiple choice questions with four options and 20 true/false questions). **Exams 3 and 4** are comprised of 40 questions (30 multiple choice questions and 10 true/false question). Therefore, the cumulative points obtainable in the class are 220 points and include 200 points for the four exams and 20 extra points for lecture attendance.

Grades for MIC321 are not curved and instead are obtained according to preestablished bins.

GRADE	POINTS
A+	≥ 194
A	≥ 186
A-	≥ 180
B+	≥ 174
B	≥ 166
B-	≥ 160
C+	≥ 154
C	≥ 146

C-	≥ 140
D+	≥ 134
D	≥ 126
D-	≥ 120
F	≤ 119

The grades above are guaranteed, even if 100% of all students would end up with an A. If unexpectedly less than 20% of the students achieve an A grade (A-, A and A+), the class will be graded “easier” at the discretion of Dr. Lichtenheld whereby the bin sizes will remain identical for all grades (exactly as in the grades described above).

<b>MIC 321 Immunobiology Schedule Spring 2016</b>	
TUESDAY	THURSDAY
January	
12: Dr. Lichtenheld – Course Introduction incl. key differences of innate and adaptive immunity (11,12, 21 and 23)	14: Dr. Khan – <b>B-cell Overview</b> Antibody structure and diversity (82, 91,92), B lymphocyte development (150, 151), diversity and function after antigen encounter (231-233, 237) germinal center (239-240) and immunodeficiencies
19: Dr. Khan – Antibody <b>structure and diversity</b> (82 – 97)	21: Dr. Khan– Refining antibody <b>specificity</b> and dedicate functions (98-105)
26: Dr. Khan – B lymphocyte <b>development</b> and repertoire selection (150-168)	28: Dr. Khan – B lymphocyte and antibody in <b>immune response</b> (231-261)
February	
2: Dr. Khan – <b>IgE</b> -mediated immunity and allergy (401-426)	4: Dr. Khan – Inherited <b>immunodeficiency</b> diseases (375-384); Ask the Professor Exam Prep
9: <b>Exam 1 (60 questions by Dr. Khan)</b>	11: Dr. Lichtenheld – <b>T-cell Overview</b> Compare antibody and TCR structure (114), recognition (121,122, 133), effector function (218-220) and development (178)
16: Dr. Lichtenheld – <b>T-cell development</b> , diversity and selection (113-119; 177-196)	18: Dr. Lichtenheld – <b>Antigen processing and presentation</b> (120-134)
23: Dr. Lichtenheld – <b>MHC</b> and its mechanism to generate diversity (135-145)	25: Dr. Lichtenheld – <b>T-cell activation</b> (199-218)
March	

1: Dr. Lichtenheld – <b>T-cell effector functions and memory</b> (218-228, 301-307)	3: Dr. Lichtenheld – <b>Inborn T-cell immunodeficiencies</b> (375 – 385); Ask the Professor Exam Prep
<i>Spring Break</i>	
15: <b>Exam 2</b> (60 questions by Dr. Lichtenheld)	17: Dr. Bayer – <b>NK Cells</b> (pg329-347)
22: Dr. Bayer - <b><math>\gamma\delta</math> T cells and <math>\alpha\beta</math> T cell restriction</b> (pg347-361). <b>Mucosal sites</b> (pg 267-275, up to section 10-6)	24: Dr. Bayer- <b>Mucosal Sites</b> (pg275-291)
29: Dr. Bayer – <b>Autoimmunity</b> (pg473-492, up to section 16-12)	31: Dr. Bayer– <b>Autoimmunity</b> (pg 492-505); Ask the Professor Exam Prep
April	
5: <b>Exam 3</b> (40 questions by Dr. Bayer)	7: Dr. Jurecic – <b>Vaccines</b> (308-326)
12: Dr. Jurecic – <b>HIV</b> (386-394)	14: Dr. Jurecic – <b>Immune Evasion</b> (365-375)
19: Dr. Jurecic – <b>Transplantation</b> (433-469)	21: Dr. Jurecic – <b>Cancer</b> (509-530); Ask the Professor Exam Prep
April 27 to May 4: <b>Final</b> (40 questions by Dr. Jurecic)	