

**MIC 319**  
**INNATE IMMUNITY FALL 2014**  
**Tuesdays, Thursdays 6:25 – 7:40**  
**Learning Center 170**

Date	Day		Instructor
<b>Block 1 - OVERVIEW</b>			
Aug 26	Tues	Introduction to innate immunity	BA
Aug 28	Thurs	Physical and chemical barriers in innate immunity	BA
Sept 2	Tues	Microbial danger signals detected	BA
Sept 4	Thurs	First line of defense: phagocytosis and killing by resident macrophages	BA
Sept 9	Tue	The course of acute inflammation	BA
Sept 11	Thurs	Bridge to adaptive immunity	BA
<b>Sept 16</b>	<b>Tue</b>	<b>Exam 1</b>	<b>BA</b>
<b>Block 2 - EXTRACELLULAR BACTERIA</b>			
Sept 18	Thurs	Principles of killing microbes; recognition of extracellular bacteria in solution	EP
Sept 23	Tues	Molecular effector systems I: Activation of complement and killing of extracellular bacteria: MAC-polyC9, lysozyme	EP
Sept 25	Thurs	Additional anti-bacterial effects of complement activation: opsonization, chemotaxis, protection of host cells from Complement attack	EP
Sept 30	Tues	Collectins and Pentraxins; recruitment of professional phagocytes	EP
Oct 2	Thurs	Cellular PRR, TLR, NOD, NLR, cytokines and chemokines	EP
Oct 7	Tues	Bacterial resistance to complement and host defense peptides: Strep. Bacterial resistance to innate immunity, Staph	EP
<b>Oct 9</b>	<b>Thurs</b>	<b>Exam 2</b>	<b>EP</b>
<b>Block 3 - VIRUSES</b>			
Oct 14	Tues	Mechanisms of viral replication and pathogenesis	EM
Oct 21	Tues	Mechanisms of intrinsic cell immunity: apoptosis, autophagy and restriction factors	EM
Oct 23	Thurs	Cellular mechanisms of local warning and defense system: the inflammatory response and natural killer cells	EM
Oct 28	Tues	Role of cytokines: induction of interferon by viral infection and interferon anti-viral responses	EM
Oct 30	Thurs	Innate immune responses to pathogenic RNA viruses (HIV, Flu, Ebola) and its role in protection and pathogenesis	EM
Nov 4	Tues	Innate immune response to pathogenic DNA viruses (herpes-, pox-, and adenoviruses) and its role in protection and pathogenesis	EM
<b>Nov 6</b>	<b>Thurs</b>	<b>Exam 3</b>	<b>EM</b>
<b>Block 4 - INTRACELLULAR BACTERIA</b>			
Nov 11	Tues	The traditional view of intracellular killing of bacteria by phagocytes; phagocytosis, ROS, NO, Lysosome	EP
Nov 13	Thurs	Discovery of Perforin-2 and its function; phagocytes express Perforin-2 constitutively; phagocytes cannot kill bacteria when Perforin-2 is deficient	EP
Nov 18	Tues	All tissue forming cells can express Perforin-2 when induced by IFN or PRR. All tissue forming cells kill bacteria; Perforin-2 deficiency is associated with lethal susceptibility to pathogenic bacteria	EP
Nov 20	Thurs	Perforin-2 is responsible for inflammation; Perforin-2 in Crohn's disease and colitis; Perforin-2 in septicemia; Perforin-2 in wound healing	EP
Dec 2	Tues	Molecular effector systems and Perforin-2 in Auto/xenophagy	EP
Dec 4	Thurs	Mechanisms of microbial evasion from Perforin-2	EP
<b>Dec 9</b>	<b>Tues</b>	<b>Exam 4</b>	<b>EP</b>

## **MIC 319 Course Instructors**

Becky Adkins, Ph.D. (Professor; 305-243-5560; radkins@med.miami.edu)

Eckhard Podack, M.D. Ph.D. (Professor and Chair; 305-243-6694; epodack@med.miami.edu)

Enrique Mesri, Ph.D. (Associate Professor; 305-243-5659; emesri@med.miami.edu)

Course Administrative Director: for issues relating to blackboard, errors with grade entry...

Roger Williams, M.S. Ed. [riwill@miami.edu](mailto:riwill@miami.edu)

## **Class Attendance**

A substantial part of this course is based upon classroom participation. Regular and punctual attendance is therefore required. Absences for University approved reasons must be discussed with Roger and Dr. Adkins in advance. Absences due to illness will require verification. Poor attendance may affect your final grade. Class Attendance will be taken periodically; this information will be used when calculating your final grade. It is recommended that students attend class.

## **Grading System**

Examinations will be based upon lecture material, PowerPoints and handouts (if any). On the day of the exam you are to proceed to a row and take the top exam in the stack and proceed to the end of the row. All study materials and electronic devices should be put away and/or silenced before entering the room. As the exam is Scantron and since there are multiple forms of the exam please follow the instructions on the cover of the exam to fill out your Scantron, we will not be responsible for errors you make filling out your Scantron. Each exam is weighted as follows:

Exam #1	25%
Exam #2	25%
Exam #3	25%
Exam #4	25%

## **Honors Students**

All those students that are in the honors (Insert honors requirement here)

## **Grading Scale**

A	90 - 100
B	80 - 89
C	70 - 79
D	60 - 69
F	0 - 59

## **Exams**

Exams will be held on the scheduled days. Students will not be allowed to take makeup lab exams/quizzes unless there is adequate documentation from their doctor, a police report or death certificate of a family member. Any makeup exams given will be conducted at the discretion of Dr. Adkins.

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