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School of Pharmacy

**Immunology and Microbiology
SYLLABUS
PHAR 542
Fall, 2012**

This syllabus is not to be construed as a contract with the student and may be subject to change.*

***The faculty reserves the right to change the course syllabus, effective upon the student receiving written notification (e-mail) and verbal notification during regular class hours.**

Course Faculty:

Muhammad Amjad, Ph.D.

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Office hours: Tues, Weds, and Thurs 9:00 am – 11:00 am

Susan Jackman, Ph.D.

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Eric Blough, Ph.D. (Course director)

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Office hours: Tues, Thurs 3:30-4:30

Lecture Schedule:

Tuesday and Friday: 1 :30 – 3 :20

Required Textbooks

Basic Immunology

Abul K. Abbas and Andrew H. Lichtman

3rd edition updated edition 2011

Saunders Elsevier; ISBN 978-1-4160-5569-3

“Clicker”

TurningTechnologies ResponseCard RF LCD; Part number:RCRF-03

Suggested Textbooks

Medical Microbiology

Patrick Murray, Ken Rosenthal, Micahel Pfaller 6th edition 2008

ISBN-13: 978-0-323-05470-6

ISBN-10: 0-323-05470-6

Clinical Microbiology Made Ridiculously Simple

Mark Gladwin, 4th edition, 2007
 Medmaster
 ISBN-10: 094078081X; ISBN-13: 9780940780811

Course Description

Topics covered include an introduction to the classification, morphology and physiology of microorganisms, primarily organisms that can cause human pathology, such as bacteria, viruses, fungi, protozoans, parasites, and worms; the body's immune response and mechanisms of defense at the cellular and humoral (molecular) level will also be covered in the context of pathogenic organisms, tissue transplants, and autoimmune disease.

Course Objectives

Number	Objective	Linkage to MUSOP Abilities	How assessed
1	Describe general principles of microbial taxonomy and physiology	10	Exams, quizzes, and active learning activities
2	Be able to define principles of infectious diseases	10	Exams, quizzes, and active learning activities
3	Be able to define the general principles of host-parasite relationships	10	Exams, quizzes, and active learning activities
4	Be able to define the pathogenic organisms of man	10	Exams, quizzes, and active learning activities
5	Be able to describe the inflammatory responses to infectious agents	10	Exams, quizzes, and active learning activities
6	Describe human immunity and immune responses	10	Exams, quizzes, and active learning activities
7	Describe principles of antigen-antibody relationships	10	Exams, quizzes, and active learning activities
8	Describe antibody synthesis, development, function, and immunopathology	10	Exams, quizzes, and active learning activities

Course Schedule Fall 2012

Wk	Day	Date	Day	Topic	Notes	Instructor
1	1	Aug 21	Tues	Introduction, Principles of Medical Microbiology, Bacteriology		Dr. Amjad
	2	Aug 24	Fri	Bacteriology, Case study		Dr. Amjad
2	3	Aug 28	Tues	Bacteriology, Case study	Quiz 1	Dr. Amjad
	4	Aug 31	Fri	Bacteriology, Virology, Case study		Dr. Amjad
3	5	Sep 4	Tues	Exam #1 (D1-D4) Virology, Case study		Dr. Amjad
	6	Sep 7	Fri	Mycology, Paristology, Case study		Dr. Amjad
4	7	Sep 11	Tues	Paristology		Dr. Amjad
	8	Sep 14	Fri	Exam #2 (D5-D7)		Dr. Amjad
5	9	Sep 18	Tues	Introduction to the Immune System Cells and Tissues, Antigens		Dr. Jackman
	10	Sep 21	Fri	Immunoglobulin Structure & Function, Complement		Dr. Jackman
6	11	Sep 25	Tues	Cytokines Innate Immunity	Quiz 2	Dr. Jackman
	12	Sep 28	Fri	Exam #3 (D9-D11) Major Histocompatibility Complex		Dr. Jackman
7	13	Oct 2	Tues	Antigen Presentation to T Lymphocytes, T Cell Receptor		Dr. Jackman
	14	Oct 5	Fri	Lymphocyte Maturation		Dr. Jackman
8	15	Oct 9	Tues	Student Group Worksheet - T cell recognition of antigen and Lymphocyte Maturation; Group quiz activity		Dr. Jackman
	16	Oct 12	Fri	Exam #4 (D12-D15) T Cell Mediated Immunity		Dr. Jackman
9	17	Oct 16	Tues	T Cell Mediated Immunity continued Antibody Mediated Immunity		Dr. Jackman
	18	Oct 19	Fri	Antibody Mediated Immunity continued Regulation of Adaptive Immunity Mucosal Immune Responses	Quiz 3	Dr. Jackman
10	19	Oct 23	Tue	Exam #5 (L16-L18) Immunity to Microbes		Dr. Jackman
	20	Oct 26	Fri	Immunity to Microbes continued Clinical Use of Antibody		Dr. Jackman
11	21	Oct 30	Tues	Antibody in Lab Tests Student Groups– Microbial immunity case		Dr. Jackman

				studies		
	22	Nov 2	Fri	Student Groups– Microbial immunity case studies		Dr. Jackman
12	23	Nov 6	Tues	Student Group Work - Revisiting Vaccines and immunization; Group quiz activity		Dr. Jackman
	24	Nov 9	Fri	Immunodeficiency Acquired Immunodeficiency Syndrome		Dr. Jackman
13	25	Nov 13	Tues	Exam #6 (D19-D24) Immunologic Tolerance and Autoimmunity		Dr. Jackman
	26	Nov 16	Fri	Transplantation		Dr. Jackman
14	27	Nov 20	Tues	Thanksgiving break- No class		
	28	Nov 23	Fri	Thanksgiving break- No class		
15	29	Nov 27	Tues	Tumor Immunity	Quiz 4	Dr. Jackman
	30	Nov 30	Fri	Introduction to Hypersensitivity Type I Hypersensitivity		Dr. Jackman
16	31	Dec 4	Tues	Student Presentations – Hypersensitivity, Autoimmunity	Quiz 5	Dr. Jackman
	32	Dec 7	Fri	Student Presentations – Hypersensitivity, Autoimmunity		Dr. Jackman
				Final Exam during Exam Week		

Course Delivery, Student Evaluations and Grading

Course Delivery

Course delivery methods will include lectures and student presentations with group discussion. Students are also required to be prepared with the appropriate technology needed for the course and each session. You will need a TurningTechnologies Response RF device for in-class polling incorporated into PowerPoint presentations. For Quizzes and Exams you will be required to bring you laptop and have the *Respondus Lockdown Browser* as described below under Test Security section of the syllabus. Student presentations will require the use of your laptop with MS PowerPoint.

Student activities / presentations

Each student will be expected to participate in a number of active learning activities and will also be expected to give presentations to their classmates during the semester. The presentations will be evaluated by the other students in the group. Incomplete or late presentations will receive no credit. The student presentations will be in the form of 4-6 PowerPoint slides and / or a writeup of up to 1 page. These presentations, active learning activities and writeups will account for 10% of the course grade.

Examinations and Quizzes

At least 80% of the questions on examinations and quizzes will come from course handouts. The remaining 20% of the questions will come from material covered in lectures and the student activities.

Five quizzes and seven exams will be given throughout the term. The cumulative score for the five quizzes will account for 15% of the course grade. The cumulative scores for the six examinations will account for 60% of the course grade. There will be a comprehensive final at the end of the course that will account for 15% of the course grade.

Point distribution:

Class participation / active learning	10%
5 quizzes, each quiz will be worth 3%	15%
*6 lecture exams, each exam will be worth 10%	60%
*1 Final exam	<u>15%</u>
Total	100%

Letter grades distribution:	89.5-100% = A
	79.5-89.4% = B
	69.5-79.4% = C
	≤ 69.49% = F

For the purposes of student eligibility under the Second Chance and Remediation Policy, major assessments are indicated with a “*”.

Attendance Policy

Make up exams or quizzes will be given only in cases of extraordinary circumstances due to documented illness (a note from your doctor) or death of a family member. Work schedules, car problems and day care issues are not considered a valid excuse for missing exams.

UNIVERSITY POLICIES

University policies regarding **Academic Dishonesty, Students with Disabilities, University Computing Services’ Acceptable Use, Affirmative Action, and Sexual Harassment** can be found at <http://www.marshall.edu/wpmu/academic-affairs/policies/>.

SCHOOL OF PHARMACY POLICIES

Social Justice Policy Statement

Marshall University is committed to bringing about mutual understanding and respect among all individuals and groups at the University. As part of Marshall University, School of Pharmacy has made a commitment to social justice. Therefore, no one will be discriminated against on the basis of race, gender, ethnicity, age, sexual orientation, religion, social class, or differing viewpoints. Each student will be viewed as a valuable member of this class and as the faculty for the course, I will strive to facilitate an atmosphere/learning environment where mutual understanding and respect are actualized.

ACADEMIC, ETHICAL, AND PROFESSIONAL CONDUCT

Student expectations for academic, ethical, and professional conduct are defined within the school's [Ethical and Professional Conduct Policy](#) and the university's [Academic Dishonesty Policy](#).

Second Chance and Remediation Policy

Second chance and remediation are mechanisms designed to assist students who have struggled within the classroom environment in demonstrating achievement of classroom and curricular learning outcomes. These processes are described in sections 200.001.003 (Second Chance) and 200.001.004 (Remediation) of the [Academic Standards for Grading, Progressions, Dismissal, and Re-admission Policy](#).

Test Security Policy

In order to ensure the security of all examinations, the School of Pharmacy has adopted the following policies:

1. Test Administration

A. Non-electronic testing

- a. Students may not access any electronic equipment during the exam that has not been provided by the faculty, including but not limited to calculators, cell phones, laptops and PDAs.

B. Electronic testing

- a. Only those resources (electronic or otherwise) approved by the instructor may be used or accessed during the testing session.
- b. Students enrolled within courses using electronic testing must download and install the [Respondus Lockdown Browser](#). The installation will require an installation code that must be acquired from Computing Services.

2. Test Review

- A. Students will not be allowed to view any exam without direct supervision of course faculty or site facilitator
- B. Students must review tests within time specified by the course faculty.
- C. Limited numbers of students may be allowed to view the exam at one time depending on office size, space, and faculty preference.
- D. Students will be allowed to review the exam only one time, and time limits may be placed on review as specified by course faculty.
- E. NO notes can be taken by the student while reviewing the test, and students are not allowed to access any electronics while reviewing the tests. NO copies electronic or written!
- F. Individual student printouts for exams are to be retained by the faculty.
- G. Faculty have the right to place further restrictions on test review as deemed necessary.