

MONTGOMERY COUNTY COMMUNITY COLLEGE
Department of Math/Science

<u>COURSE TITLE:</u>	BIO 241 - Clinical Microbiology II
<u>COURSE CREDIT:</u>	Four Credits: Lecture - Approximately 4 hours/wk Laboratory - 2 hours/wk
<u>PREREQUISITES:</u>	One semester of college level chemistry (CHE 131 or CHE 151) and have completed BIO 141 (Clinical Microbiology I) with a grade of C or higher. If a prospective student does not have the required prerequisites, consultation with the instructor and the MLT coordinator is required <u>prior</u> to registration.
<u>STUDENTS WITH DISABILITIES:</u>	Students with learning, physical, sensory, and/or psychological disabilities may be eligible for accommodations in this course. Please contact the Disability Services Center (DSC) in College Hall 131 at (215) 641-6575 or visit the College's web site at http://www.mc3.edu/sa/stdisab/stdisab.htm
<u>COURSE SCHEDULE:</u>	Fall 2007: September 5 – December 14 Departmental Micro Exam week of December 17-21 Monday-Wednesday , 1:30-4:35 p.m. Rooms 304 and 305
<u>PROFESSOR:</u>	Ms. Dorothy Pfender , M.T.(ASCP) Ms. Judy Earl , MS, M.T.(ASCP) Phone: 215-641-6446 E-mail: jearl@mc3.edu Office #322, Science Center Office hours: Monday & Wednesday 8:20-8:50 a.m., 12:05-12:35 p.m., or by appointment
<u>REQUIRED TEXT:</u>	Title: <i>Diagnostic Microbiology</i> (BIO 141) Author: Forbes, Sahm, and Weissfeld Edition: Eleventh, 2001 Publisher: Mosby
<u>REQUIRED TEXT:</u>	Title: <i>Microbiology, An Introduction: Brief Edition</i> Author: Tortora, Funke, and Case Edition: Eighth, 2003 (or the complete Ninth Edition is acceptable) Publisher: Pearson Benjamin Cummings Publishing Company, Inc.
<u>TEXT:</u>	Both Textbooks will be used during every class. Please be sure to bring your books with you. You may also want to bring a three-ring binder for your Lab Manual.

COURSE DESCRIPTION:

This is the second part of the course in Medical Microbiology for MLT students. The course introduces Immunology, Mycology, Parasitology, and Virology and includes the immunological basis of diagnostic serology tests.

LEARNING GOALS:

1. To acquire a knowledge and understanding of the difference between health and disease.
2. To become acquainted with the terminology used in Immunology, Mycology, Parasitology, and Virology.
3. To identify the cells and tissues of the immune system; explain their function in specific and non-specific defense of the host.
4. To define and describe Antigens, Antibodies, Immunodeficiency, Immunosuppression, Autoimmune Disease, Infectious Disease, and Hypersensitivity.
5. To acquire a knowledge and understanding of the basic nature and replication mechanisms of fungi, parasites, and viruses.
6. To be able to describe the role of viruses, fungi, and parasites as pathogens, opportunists, and normal flora. Give examples of each.
7. To be able to relate immune responses and serological testing to identify diseases of the host.
8. To be able to identify a limited number of fungi and parasites by laboratory methods.
9. To be able to accurately perform the following laboratory tests: Agglutination, ELISA, FA, Serial Dilutions and Biochemicals.

COURSE REQUIREMENTS:

LECTURE

1. A lecture format will be employed with some open class discussions. Tests and/or exams will be given periodically at the beginning of the class. All tests are announced ahead of time.
2. Students are responsible for all reading assignments in the textbook as well as all lecture material, A-V presentations and supplemental material. Information literacy may contribute to academic success. Lecture outlines will be provided.
3. Attendance at all lectures is mandatory; an excused absence may be granted for serious problems **IF PRIOR** notification is given to the professor. **Five absences (excused or unexcused) will result in a grade of F (59)**. An unexcused absence for an Exam will result in a grade of zero.

COURSE REQUIREMENTS:
(continued)

LECTURE (continued)

4. Make-up EXAMS for excused absences will be given sometime other than the regular lecture time; one that is mutually agreeable to the student and the professor.
5. Make-up TESTS will not be given; one test may be missed with no penalty. Additional missed tests will result in a score of zero. If no tests are missed, the lowest test grade will be dropped. All tests are the property of the instructor and are to be turned in after reviewing in class. Missing tests will be graded as zero.
6. If you arrive late for a test, you will not be permitted to take the test if any student has already completed the test. If you start the test late you will still need to turn it in at the specified time.
7. Extra credit is not permitted.
8. College policy including the Academic Student Code of Ethics is followed regarding cheating and plagiarism as described in the Code of Ethics in the College Catalog, Student Handbook, or on line at <http://www.mc3.edu/policy/aa/ethics.htm>

Cheating on a test or exam will result in an automatic zero on the test (or exam). Further disciplinary action may be taken including a grade of XF.
9. College policy is followed regarding withdrawal; after Mid-Term, withdrawal is at the professor's discretion. Please note – it is the student's responsibility to deliver the signed form to the Registrar.
10. Students are expected to treat all members of the College community with dignity, respect, fairness, and civility and to behave in a responsible manner as described in the Student Code of Conduct/Civility in the Student Handbook. All cell phones and pagers MUST be turned off before entering the classroom or laboratory. In addition to cell phones, conversations with your peers during the lecture are distracting to others. Failure to observe these rules may result in your dismissal from class.

COURSE REQUIREMENTS:
(continued)

LABORATORY

1. A combined lecture and lab format will be employed; worksheets will be collected.
2. Students should prepare for the laboratory by reading the daily lab assignment **in advance**; make notes of questions you wish to ask during the lecture portion of lab.
3. Since **lab sessions cannot be made up**, five absences (excused or unexcused) will result in an automatic grade of F (59).
4. Several Lab tests will be given. None of the lab tests will be dropped.
5. Technique will be observed by the instructors and includes use of the microscope and other equipment, observation of lab rules, ability to isolate organisms, preparedness including ORGANIZATION of reagents and materials prior to the start of the lab and during the procedure resulting in a correct outcome of the test.
6. Protective lab clothing is required for each lab session. Students without protective clothing may be dismissed from lab and/or lose points for the lab that day.

GRADING POLICY:

Written lecture and lab tests and exams will include all or some of the following: definitions, multiple choice, fill-in-the-blanks, true or false, matching and short essays.

Laboratory Practicals: A written lab practical for immunology will cover theory, technique and interpretation of serological testing. You will be asked to demonstrate your ability to perform certain serological tests as part of the Lab Practical. The mycology and parasitology practical includes microscopic and macroscopic specimens presented for identification, description or discussion of the principle of certain tests, or the actual ID of an organism.

LAB PRACTICAL GRADE:

Technique, preparedness, and observance of laboratory rules will be factored in the grade as observed by both of the instructors.

Assignments may include short presentations or other relevant written papers.

LAB PRACTICAL GRADE:
(continued)

Note: Students must receive a grade of 70 or better in both lecture and lab in order to receive a C or better for the course.

Immunology	
Lecture Tests	20%
Final Exam	15%
Lab Tests	5%
Practical/Final	10%
Mycology, Parasitology, Virology	
Lecture Tests	15%
Paper/Case Study/or Presentation	5%
Final Exam	15%
Lab Tests	5%
Practical	10%
Grade Total	100%

(Lecture=70%, Lab=30%)

GRADE CRITERIA:

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

Revised 8/07

MICROBIOLOGY LECTURE SCHEDULE
BIO 241

2007 – FALL

MON. - WED.

<u>SUBJECT</u>	<u>DAY</u>	<u>DATE</u>
IMMUNOLOGY		
REVIEW Course Syllabus Overview of Immunology	W	9/05
Innate Immunity: The First and Second Lines of Defense Innate Immunity (continued)	M W	9/10 9/12
Complement and Its Roles in the Immune Response Specific Immunity: The Humoral System	M W	9/17 9/19
Development and Classification of Antibodies Antigen and Antibody Reactions; Laboratory Testing	M W	9/24 9/26
Specific Immunity: The Cell Mediated System; Spirochetes Specific Immunity: The Cell Mediated System (continued); Unusual Bacteria	M W	10/1 10/3
Vaccines: Immunity to Infectious Diseases Disorders of the Immune System: Hypersensitivity	M W	10/8 10/10
Disorders of the Immune System: Hypersensitivity (continued) Disorders of the Immune System: Immune Deficiency	M W	10/15 10/17
Disorders of the Immune System: Immune Deficiency (continued) Disorders of the Immune System: Autoimmunity	M W	10/22 10/24
Disorders of the Immune System: Autoimmunity (continued) Written Lab Final	M M	10/29 10/29
Final Exam: Immunology	W	10/31

Textbooks to be used: *Microbiology, An Introduction* by Tortora
Chapters 16-19
Diagnostic Microbiology, Forbes, Sahm, and Weissfeld

Revised 8/07

PART TWO: CLINICAL MICROBIOLOGY

2007– FALL

MON. - WED.

<u>SUBJECT</u>	<u>DAY</u>	<u>DATE</u>
MYCOLOGY		
Overview of Mycology	M	11/5
Yeasts: Identification and Diseases	W	11/7
Molds: Identification and Diseases	M	11/12
Molds: Identification and Diseases (continued)	W	11/14
PARASITOLOGY		
Protozoa: Identification and Diseases	M	11/19
HAPPY THANKSGIVING		11/21 – 11/25
Helminths: Identification and Diseases	M	11/26
VIROLOGY		
Viruses: Identification and Diseases	W	11/28
Viruses: Identification and Diseases (continued)	M	12/3
Complete Virology	W	12/5
Lab Practical	M	12/10
Journal Discussions	W	12/12
Lecture Final Exam (to be announced)		12/17 – 12/18
Textbook to be used:	Bailey and Scott's <i>Diagnostic Microbiology</i> , Forbes, Sahm, and Weissfeld Chapters 52, 53, 54	

THIS SCHEDULE IS SUBJECT TO CHANGE.

Revised 8/07

MICROBIOLOGY LABORATORY SCHEDULE

BIO 241

2007 – FALL

MON. - WED.

<u>LABORATORY</u>	<u>SUBJECT</u>	<u>DAY</u>	<u>DATE</u>
Intro.	Review Lab Procedures in Immunology Review Gram Stains, Streaking, Aseptic Technique	W	9/05
1	Identification of <i>Staphylococcus</i>		
2	Identification of <i>Streptococci</i>	M	9/10
2	Identification of <i>Streptococci</i> (continued)	W	9/12
3A	Identification of <i>Enterobacteriaceae</i>	M	9/17
3B	Identification of <i>Enterobacteriaceae</i> (continued)	W	9/19
4	Antibody Titer By Microdilution Technique	M	9/24
	Test on Labs 1, 2 and 3	W	9/26
6	Syphilis Screening	M	10/1
11	Rubella Screening	W	10/3
10	Mononucleosis Test on Labs 4, 6, 11 and 10	M	10/8
5	<i>Clostridium difficile</i> Toxin A Microplate Assay	W	10/10
7	Enzyme Linked Immunosorbent Assay	M	10/15
12	CRP (C-reactive protein) and RA	W	10/17
8	The Acid Fast Stain	M	10/22
9	Fluorescent AFB Stain	M	10/22
9	Fluorescent Microscopy; Miscellaneous Testing	W	10/24
	Exam Review Test on Labs 5, 7, 8, 9 and 12	W	10/24
	Final Immunology Lab Exam (Written and Practical)	M	10/29
	MYCOLOGY:		
	Environmental Cultures	W	10/31
13	Identification of Yeasts	M	11/5
13	Identification of Yeasts (continued)	W	11/7
14	Identification of Molds Lab test on Yeasts	M	11/12
14	Identification of Molds (continued)	W	11/14
	PARASITOLOGY:		
15	Specimen Preparation and Concentration; Motility-Lab test on Molds	M	11/19
	HAPPY THANKSGIVING	11/21 – 11/25	
15	Identification of Protozoa	M	11/26
15	Identification of Protozoa (continued)	W	11/28
15	Identification of Helminths Lab test on Protozoa	M	12/3
15	Identification of Helminths (continued); LAB REVIEW	W	12/5
	LAB PRACTICAL	M	12/10
Revised 8/07	THIS LAB SCHEDULE IS SUBJECT TO CHANGE BASED UPON AVAILABILITY OF ORGANISMS, REAGENTS, AND SUPPLIES.		

SIGNATURE FORM

I verify, by signing this form, that I have received and read the syllabus for BIO 241; that I understand the attendance and withdrawal policies. I also understand the policy regarding Tests and Exams.

I also verify, by signing this form, that I have successfully completed all prerequisites as detailed in the syllabus.

I, the undersigned, have received a copy of the Laboratory Rules and Guidelines which I have read, understood, and agree to abide by.

NAME: _____

STUDENT ID NUMBER: _____

CLASS DAY and TIME: _____

DATE: _____