**MIC 205A Spring 2015**

Class time: TuTh 8am-9:15am

Location: Phys-Atmos Sci, Rm 201

Honors supplemental meeting Wed 1:00pm -2:00pm in VSM129

Instructor:

John Scott Wilbur, Ph.D.

Assistant Professor of Practice

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520-621-0828

Office hours: 1:00-2:00 pm MTThF

**Text and Online material required for this course**

Microbiology an introduction 11th ed. by Tortora, Fuke and Case

Modified Mastering Microbiology to work with D2L

For Student Technical Support, visit [http://247pearsoned.custhelp.com](http://247pearsoned.custhelp.com/) or call (800) 677-6337

**Course Description:** *Microbiology 205 is a survey course that emphasizes bacteria, viruses, and fungi, their structure, growth and metabolism; control of microorganisms; immunology; and human microbial diseases. This course is designed to serve as an introduction to microbiology.*

**Course Objectives:** *You will be challenged to understand microorganisms and know how to protect yourself against them; to understand the process of infectious disease, make connections, share your knowledge and teach others.*

Upon completion of this course, the student will be able to:

1. Demonstrate an understanding of microorganisms and the roles they play in the human environment.
2. Prepare specimens for direct microscopic examination.
3. Transfer and culture microorganisms using proper techniques.
4. Separate mixtures of microbes and perform various biochemical tests.
5. Apply principles underlying methods of sterilization, disinfection, and chemotherapy.

My goal is that everyone leaves my class with a good understanding of the microbial world. With that in mind I have devised the following plan is improve your performance this class and retention of the information presented.

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This figure represents the overlapping nature of the assignments outlined below.

**Time commitment for this class**

Ever person is different and will require different levels of time commitment to succeed in this class. As a bench mark I would assume that you will be spending between 6-12 hours a week doing the reading, homework, studying and preparing for this class. There is too much information covered in this class for you to only study the night before the exams. The best way to get a good grade is to make a study schedule and stick to it throughout the semester.

**Reading and homework – varied points per assignment (100 points towards your total grade)**

For each lecture I have assigned some reading from the textbook. I expect you to have a comprehension level of understanding of the reading before class.

You will be assigned homework within the Modified Mastering Microbiology website (see link and instructions in D2L). You are expected to complete this homework by the deadline (10:00 pm the day before class). It may take you between 30-90 minutes to complete the homework after reading the text so do not wait until the last minute (See the section on late work below). The purpose of these assignments is to help you improve you understanding of the material. I encourage you to work with others but copying others work ultimately hurts you and the education you are paying for.

**Late homework —** I do not accept late work. You need to budget you time so you are able to turn in you assignments. If you are trying to submit an assignment at 9:59 and your computer lags causing the assignment to be late it will not be accepted. Plan accordingly.

**“The List” – part of homework points**

I have come up with a minimal list of 97 medically and economically important microorganisms. When you leave my class I think it is important that you have been exposed to each of these organism. With this in mind I have devised the following assignment. For each class I will assign you 3-4 microbes to research. You are to determine the type of microbe and how it fits into human society. I think the best place to start this would be to read appropriate section of the textbook, search Pubmed, Google/yahoo, Wikipedia and Microbewiki. This research is to be done before the class these organisms have been assigned. I suggest you write a short report (3-4 sentences) for yourself on each organism to help you study.

Each MM homework assignment will have questions about organisms from “The List”. I will have in class clicker questions about organism from ““The List””. The end of the week quizzes will have questions about organism from “The List”. The exams will have questions about organism from “The List”.

Here are two examples of adequate reports.

*Escherichia coli* – Gram negative bacteria. Shape/arrangement- short rod/random. Often part of normal human microbiom. Disease is dependent on strain and can be mild (intestinal cramping, or UTI), moderate (diarrhea) or severe (bloody diarrhea, HUS and renal failure).

Human papillomavirus (HPV) – dsDNA none-enveloped virus. Infections are usually asymptomatic but can cause genital warts and in some cases cancer.

**Quizzes – 10 points per quiz (110 points total)**

Following most Thursday lecture, a quiz will become available on D2L. You will have until Sunday at 10:00 pm to complete the quiz. The quizzes will cover material covered in the text, “The List” and lectures for that week.

**In class clicker activities and attendance. -**

I expect each student to attend every class (see exceptions) and to be prepared to take part in class activates. You will need a registered devices to submit answers to in class questions.

CLASS WILL START AT 8:00 am and last until 9:15 am. Please be settled and ready to go at the start of the period, participate in the discussion and stay until 9:15 pm. If you cannot do this for any non-legitimate reasons, it is on you to find out what happened and what we covered. You should expect every class to have a clicker question in the first 5 minutes.

All holidays or special events observed by organized religions will be honored for those students who show affiliation with that particular religion. Absences pre-approved by the UA Dean of Students Office will also be honored.

**Supplemental instruction – 5 points per attendance (only once per week counts - 70 points total)**

This class has a team of 3 supplemental instructors. They will be facilitating 9 sessions a week (see schedule on D2L). I encourage you to attend 3 per week but **I will require you to attend one per week to get the 5 points**.

**Ted talks and Radio labs etc.**

At the some lectures I will paste the URL for a video or audio file I would like you to watch/listen to before the next class. These are lectures or other media presentations related to something discussed in class that day. The information covered in these assignments will be on quizzes and in exams, so please take the time to enjoy and understand them.

**Examination and Final 100 points each (500 points total)**

There will be 4 exams and a comprehensive final. All 5 exams will count towards your final grade. There will be no makeup exams. If you have a dean’s or medical excuse to miss one of the exam, your score on the final exam will be counted for the missed exam(s).

**Grading scale —The time to earn the grade you desire in this course starts the first day of class and stretches throughout the semester.**

**Use of electronic devices policy**

You are free to use electronic devices in the context of the class (eg. take notes or look up some information on the web). Any use of electronic devices for any other purpose is quite rude and I may ask you to leave for that class period. You are not free to take calls or text during my lectures. If for some reason you find the need to communicate with the outside world during my class please do that outside of the classroom. Again I may ask you to leave if you cannot respect myself and your peers enough to give us your full attention.

**Withdrawals and Incompletes**

See the below website for withdrawal dates and guidelines.

http://www.registrar.arizona.edu/schedules/dates.htm

Do NOT assume that if you just stop attending class you will be administratively dropped! Failure to follow these procedures will result in an "E" on your transcript. An incomplete will be given only when most of the work in the course has been completed and the remainder can be completed without retaking the course. An incomplete agreed upon by you and I will be accompanied by a written agreement signed by both of us listing what work must be completed and a final due date.

**Code of Academic Integrity**

Students are encouraged to share intellectual views and freely discuss the principles and applications of the course work. However, examinations and individual assignments must be written independently. This course operates under the UA Code of Academic Integrity (http://deanofstudents.arizona.edu/codeofacademicintegrity). All forms of academic dishonesty are prohibited, including (but not limited to): cheating, fabrication, academic dishonesty, plagiarism, modifying any academic work to obtain additional credit without approval of instructor, or attempting to carry out any of the above. Using a classmate’s **clicker** for quizzes, homework, or attendance, using a clicker to register for attendance without being present in the classroom, and using a clicker for attendance and immediately leaving the classroom for the remainder of the class session all constitute academic dishonesty. Committing any of the above will result in sanctions being imposed on the student's scores or grade up to and including the assignment of an "E". ABOR policy 5-308 prohibits threats of physical harm to any member of the University community, including to one’s self; see http://deanofstudents.arizona.edu/codeofacademicintegrity

**Plagiarism –**

It is not OK to take credit for other peoples work. See the Univeristy of Arizona

policies against plagiarism, etc., within Student Code of Academic Integrity:

http://deanofstudents.arizona.edu/codeofacademicintegrity

**My class is a safe environment.**

I will not tolerate any type of stifling or threatening behavior within my class room. I reserve the right to ask anyone to leave due to threatening or disrupting behavior. This is a place of learning and I will not accept any activity that interferes with other peoples learning.

Policies against threatening behavior

http://policy.web.arizona.edu/threatening-behavior-students

**Changes to the class schedule**

Information contained in the course syllabus and schedule may be subject to change (with advance notice), as deemed appropriate by the instructor.

**RESOURCES**

YOU, the Student: Learning is not a spectator sport! How do you learn most effectively? Reading? Listening to lectures? Flash cards? Taking notes? Discussing the material with a study group? Writing a paper? In general, people learn most effectively when they do something. In this class, you will be doing a variety of things (because different activities work better for different learners) to help you learn immunology (and also enjoy doing so).

What I expect of you:

* Read the assigned material before each class session.
* Attend class consistently.
* Participate actively in class sessions and team projects—these activities will count as part of your grade. In-class clicker questions may be used not only for attendance, but more importantly to evaluate your understanding of the material—a “wrong” answer will not count against you, but not answering may.
* Spend time outside of class on assignments and studying.
* Take advantage of the supplemental instruction team and activities
* There are tutors in the VSM student lounge. Make use of them they are there to help.
* Work honestly and independently on quizzes, exams and individual assignments.
* Succeed!!

BIO 205 Lecture schedule Spring 2015

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Lecture (Assigned reading)** | **Mastering Microbiology** | **Quiz** |
| January 15 | Scope of Microbiology (Ch.1) | Yes |  |
| 20 | Bacterial Cells (Ch.4) | Yes |  |
| 22 | Bacterial proteins and secretion (p. 216-228) | Yes | #1 |
| 27 | Eukaryotic cells (Ch.4) | Yes |  |
| 29 | Classification of organism (Ch. 10, 11) | Yes | #2 |
| February 3 | Review |  |  |
| 5 | EXAM I |  |  |
| 10 | Microbial Metabolism (Ch. 5) | Yes |  |
| 12 | Microbial growth (Ch.6) | Yes | #3 |
| 17 | Microbial Growth, continued (Ch.8) | Yes |  |
| 19 | Microbial Control – Physical Agents (Ch.7) | Yes | #4 |
| 24 | Microbial Control – Chemical Agents (Ch. 7) | Yes |  |
| 26 | Chemotherapy (Ch.20) | Yes | #5 |
| March 3 | Review |  |  |
| 5 | EXAM II |  |  |
| 10 | Body Defenses (Ch. 16) | Yes |  |
| 12 | Immunology I (Ch.17) | Yes | #6 |
| 17-19 | Spring break |  |  |
| 24 | Immunology II (Ch. 17) | Yes |  |
| 26 | General Mycology (Ch. 12 p. 330-340) | Yes | #7 |
| 31 | Medical Mycology (p. 695-698, 729-730, 758-759) | Yes |  |
| April 2 | Parasites and Worms (Ch. 12, p. 736-744) | Yes | #8 |
| 7 | EXAM III |  |  |
| 9 | Virology I (Ch. 13 & pp. 468-70, 629-630) | Yes |  |
| 14 | Virology II (pp. 596-598, 655-658, 757-758) | Yes |  |
| 16 | Bacteria and Disease (Ch. 14, 15, p720, 747, 648-654) | Yes | #9 |
| 21 | Infections of the Mucus membranes: digestive system (Ch. 25) | Yes |  |
| 23 | Infections of the Mucus membranes: lungs and genital tract (Ch. 25) | Yes | #10 |
| 28 | Epidemiology (Ch. 14) | Yes |  |
| 30 | Vaccines and disease control (Ch. 19) | Yes | #11 |
| May 5 | EXAM IV |  |  |
| May 14 | Comprehensive final 8am-10am |  |  |