**MIC 419/519**

**Syllabus Fall 2014**

Lecture: Monday/Friday 3:00-5:00 pm M Pacheco ILC, Rm 130

**Course Goals**

Welcome to Immunology! MIC 419/519 is an introductory course for students interested in how the body protects itself from infectious disease. You should have completed General Biology and Organic Chemistry plus at least one other course in Microbiology (MIC 205A is strongly recommended), Genetics, Biochemistry, or Cell Biology. If you have had NONE of these advanced courses, please see me about your readiness to take this course.

Over the next 16 weeks, you will learn what makes up the immune system, how it functions to keep us healthy, and how it can cause allergic and autoimmune disease. We will also explore the ways in which immunology is used for diagnosis, treatment, and prevention of infectious disease and cancer. We will also be working on improving your skills in science writing and understanding of primary literature.

When you finish this course, you should be able to:

* Name and describe the principal organs, cells, and molecules of the immune system and their functions.
* Describe the normal process of immunity to infectious organisms, including the regulatory controls of the immune system.
* Predict the consequences of a deficiency in one particular component of the immune system or a microbe evasion strategy on the immune response.
* Explain how normal immune function can cause disease.
* Select appropriate techniques to measure immunity or the state of the immune system and accurately interpret the results of those tests.
* Use your knowledge of the immune system to understand new information about immunity.
* Work in pairs or in a peer learning team to apply current immunology concepts to solve problems in immunology.
* Evaluate immunology information based on materials and activities from class, assigned reading, and study questions.



The figure above shows how much information is retained for two weeks based on how one interacted with the material. Activities in MIC 419/519 cluster at the bottom of the pyramid: discussion, practice by doing, teaching others/immediate use (applications). These activities will only be effective if you prepare before class by doing the assigned reading and answering the case questions or doing your assigned part of the vaccine proposal.

**Grades in the course will be based on several assessments with the relative weighting shown below:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Activity** | **Points** | **Total** | **Grades** |
|

|  |
| --- |
| ***Exams*** Three exams and one cumulative final for a total of 4 tests.  |

 | 4@100

|  |
| --- |
|  |
|  |
|  |

 | 400 | 90%-100%=A80%-90%=B70%-80%=C60%-70%=D<60%=E |
|

|  |
| --- |
| ***Vaccine Proposal*** 2x Milestones (25 each)Group Vaccine Proposal Vaccine Presentation |

 | 5010025 | 175 |
|

|  |
| --- |
| ***Quizzes and Case Studies*** Individual in-class clicker quizzes Case studies/participation 4@25 |

 | 100100 | 200 |
|  **Science art project** | 25  | 25 |
|

|  |
| --- |
| **Course Total**  |

 |  | 800 |

**Exams —** Exams will be performed in class. There will be three exams throughout the semester and one cumulative final. The lowest of the four exams taken during the semester will be dropped. I will hand back graded exams within 7-10 days. It will be your responsibility to look over the test for errors and come to my office hours or make an appointment with me outside of class to go over it within a week of receiving the test back. I will not review the test for re-grades after this time period. If you know of a legitimate situation where you will not be able to take the exam when scheduled contact me at least a week in advance and we will arrange something.

**PLEASE BE AWARE THAT THERE WILL BE *NO* MAKE-UP EXAMS. IF YOU ARE UNABLE TO TAKE A SCHEDULED EXAM, *AND* YOU HAVE A LEGITIMATE REASON (LEGITIMATE ILLNESS, DEATH, OFFICIAL UNIVERSITY ACTIVITY), YOUR *FINAL* COMPREHENSIVE EXAM SCORE WILL BE SUBSTITUTED FOR THE MISSED EXAM SCORE. THERE WILL BE NO EXCEPTIONS TO THIS POLICY.**

**Quizzes —** Quizzes will be in class, done with clickers. They are a way for me in make sure you are understanding the information we are covering in class as well as encourage you to do the reading before you get to class.

**Case studies —** Some course material will be learned in the context of clinical cases. Your assignment will be to read the textbook chapters and use that information to identify signs of immune system function and explain how the immune system deals with the pathogen that is described in the case. All information that you will need to answer the questions is in the case and/or your textbook and/or the posted material; no other sources are required. You will work with other students in the course on the case studies, however, each of you must individually understand the material. Time in class will be spent in your learning teams (see below) discussing case questions and additional questions posed in class; this is also a time to ask for clarification of the material.

**Vaccine Proposal —** The vaccine proposal is required for completion of the course. Cooperative learning using formal teams is an integral tool in MIC 419/519. Your team will work together to create an immunologically sound vaccine proposal. You will be turning in a written proposal an making a 10 minute presentation to the class.

**Science art project —** Prepare a 2D or 3D art project that illustrates a concept or idea covered in this course. These projects are worth 25 points and due .

**Late papers —** I do not accept late work.

**Grading scale —** I will follow the grading guidelines and grade breakpoints outlined in the table above. As mentioned in the Exam section, any discrepancies in the exam grading have to be brought to my attention within a week of receiving your exam back from me. The latter is the case for any of the other graded assignments as well. I cannot change your grade at the end of the semester or allow you to do extra work once the class is at the very end or over. **The time to earn the grade you desire in this course starts the first day of class and stretches throughout the semester.**

**519 students** – Students enrolled in the graduate version of this class will have some additional assignments. First they write their vaccine propose on there own. I will be assigning primary journal articles for them to read and understand not covered by the 419 students. Finally they will get different versions of the 4 examinations. They are also expected to participated to a greater extent in class discussion.

**Attendance and Participation**

Attendance may be recorded, but it should go without saying that you are expected (and feel compelled) to not just attend but also participate in lectures – you have prepaid for these with tuition dollars! I will spend the majority of my time during the semester selecting and preparing learning materials and cases for you, and expect you to participate so that there can be effective two-way communication. The opportunity to be a facilitator in your professional development and education is taken seriously and you are expected to reciprocate. Direct interactions and information exchanges in class and lab offer far more educational value than a sterile monologue with a computer website or textbook. Test material will come primarily from lectures, and lectures include information presented via power points, videos, diagrams, drawings, group activities, and verbally. Material covered in class is considered test material.

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.

CLASS WILL START AT 3:00 pm and last until 5:00 pm. Please be settled and ready to go at the start of the period, participate in the discussion and stay until 5:00 pm. If you cannot do this for any non-legitimate reasons, it is on you to find out what happened and what we covered.

**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

**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.
* Work honestly and independently on quizzes, exams and individual assignments.
* Succeed!!

**Your Fellow Students**

There are many reasons for working in teams, but I'll give you what I consider the most important: 1) The BEST way to learn something is to teach it. 2) Working effectively with a diverse group of people is a life skill you will need in any career you choose. The basis for much of our in-class activity and out-of-class learning will be the learning teams. Teams will be formed as much as possible to balance diversity in members' previous academic and extracurricular experience.

**Texts**

I have asked the bookstore to order the following text book:

**Janeway’s IMMUNOBIOLOGY K. Murphy, P. Travers and M. Walport. Eighth Edition, Garland Publishing, 2011.**

Other readings will be assigned and/or available during the semester on D2L. Sources for your vaccine proposal can be found in the Arizona Health Sciences Library and through their web site: http://www.ahsl.arizona.edu/.

**Electronic Resources.** All class materials are available electronically on D2L. Check this site daily for announcements. Email will be another potential way of communicating with you—you will be responsible for checking your email. Grades will be posted online through D2L. You will need to be able to submit assignments electronically to D2L. You can access class material and drop boxes by logging in to the class D2L website at www.d2l.arizona.edu.

**Instructor:** John Scott Wilbur, Ph.D.

Campus Office: Vet Science Room 208.

E-mail**:** wilburj@email.arizona.edu.

Office Hours**: 1:30-2:30 M-F or by appointment**

**What you can expect of me**:

* Arrive promptly and prepared for each class session.
* Start and finish class on time.
* Be available during regular office hours and for appointments.
* Return exams and homework promptly (7-10 days).
* Respond to email promptly.
* Follow clearly stated course requirements and policies.
* Evaluate student performance based on material and activities from class, assigned reading, and team activities according to the published syllabus.

**Special Resources.** Students needing special accommodations or special services should contact the S.A.L.T. Center (http://www.salt.arizona.edu/ 621-1242) and/or the Disability Resource Center (http://drc.arizona.edu/ 621-3268) in the Highland Commons Building, 1010 N. Highland Ave. The needs for special services must be documented, verified by these UA units, and **presented to me before the end of the second full week of classes**. I will do everything I can to accommodate documented special needs.