

BIOSCI 1999
MEDICAL MICROBIOLOGY
Fall Term 2021 Syllabus

Instructor

Dr. Jon Boyle

Life Sciences Annex 101

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Office Hours: Please contact me to make an appointment and we can hold office hours on Zoom.

Lecture Time/Place

T/R 4:00-5:15 P.M. This class will be remote for the first two weeks (via Zoom). Students may use the classroom (Langley A221) to log in to the class if they like. However, at this stage of the pandemic I don't think it wise that we have more than 25% capacity in A221 at least for the first 2 weeks.

Course Objectives

This course will focus on mechanisms of microbial pathogenesis and the host response, and the scientific approaches that are used to investigate these processes. How do microbes gain entry into the host? How do constituents of the "normal" microbial flora cause disease? How do microbial pathogens modulate the host *milieu* to facilitate their survival? How do host cells respond to pathogens? How, in turn, do pathogens respond to these insults? What does genomics tell us about how pathogens evolve? How do emerging pathogens take advantage of new ecological niches? How can pathogens be thwarted? What research approaches are used to address these important questions?

This is a literature-based course, and will require reading of the primary literature and its interpretation. I will provide some information in standard lecture format, but we will routinely discuss articles on specific topics relevant to state of the art research in Medical Microbiology. Participation on class discussions (via discussion boards and during synchronous lecture) are critical to being able to understand and synthesize the non-intuitive concepts that we plan to cover. There will also be guest lectures throughout the semester by local colleagues who are actively engaged in research on various aspects of host-pathogen interactions.

At the end of this course students will be able to:

- Compare and contrast different infectious diseases, including the mechanisms of how they cause disease and pathogenesis.
- Summarize the role (both positive and negative) of the host in infectious disease, including natural barriers to infection, innate and acquired immune responses to infection, and inflammation.
- Understand the modern approaches that are used to study pathogens through readings from the primary literature.
- Compare and contrast therapeutic treatments for microbial infections, and distinguish when a vaccine, antibiotic, or other therapy is likely to be the most appropriate response.
- Understand the genetics behind how microbes "resist" host responses and how antimicrobial resistance evolves.

Textbook

None

Reserve Materials

None

Course Delivery

I will be using Canvas to post course materials, including primary literature articles, Powerpoint slides that I use in lecture, guest lectures and slides from presentations given by your peers. If you need help, contact the computer help desk at 412-624-HELP.

I may also use Tophat to pose questions in class.

For remote lectures: All lectures will be recorded and uploaded onto Canvas. There is a benefit to being in the remote lecture synchronously but you may also just use the lecture recordings if you like.

In-person lectures: After September 13th, if we do move to being completely in person, I will still record all lectures as I deliver them and upload them onto Canvas. Quizzes and the final exam will be administered using Canvas or Gradescope.

Changes to modes of instruction and course adjustments will be announced on Canvas as needed. We may need to adjust throughout the semester as we navigate the pandemic, and the course could range from being fully remote to fully in person depending on how things go.

E-mail

Although e-mail will not be used routinely in this class for communication, occasionally I may send out an e-mail notice using the addresses available through CourseWeb (your pitt.edu address). Such notices are also posted as Announcements on CourseWeb.

Important: if you write me a direct email or post a message to me via Canvas, I may take up to 48 hours to get back to you, so take that into consideration. **Equally important:** please make sure to put your name in the email as well as the course number in the subject line.

Lecture, Quiz and Exam Schedule

The schedule for this course can be found at <https://tinyurl.com/52k6web3>. It usually changes slightly throughout the term, so please check it from time to time. I will make sure to announce any major changes. Please note the dates of the quizzes (including the final) to avoid any future scheduling conflicts. Quizzes will be given during the regular class meetings.

Five quizzes are scheduled during the semester, worth 10 points each. They will cover any and all information that we discuss in lecture, including guest and peer lectures. Quizzes will be administered using Canvas or Gradescope or some other remote platform. They will be timed (~30 minutes).

Quiz dates:

9/14/2021

9/30/2021

10/19/2021

11/4/2021

11/18/2021

Final Exam:

12/14/2021

Please be aware that there will be **no make-up quizzes**. You will be allowed to drop your *lowest* quiz of the 5. **All** students are required to take the entire final exam in order to pass the course, which will have a “quiz” component which will include questions covering the last section of the course as well a comprehensive component. Please see the information below on missed quizzes.

Final Grade

Your final grade will be determined as follows:

Criterion	Total Possible
Top 4 quiz scores	40 points
In-class group presentation	15 points
Discussion board posts and other participation	20 points
Final Exam	25 points (10 points quiz, 15 points comprehensive)
Total	100 points

Your final grade is based on total points for the semester (no curve), using the following scale:

- A+: $\geq 100\%$
- A: 93-99.9% A-: 90-92.9% B+: 88-89.9%
- B: 83-87.9% B-: 80-82.9% C+: 78-79.9%
- C: 73-77.9% C-: 70-72.9% D+: 68-69.9%
- D: 63-67.9% D-: 60-62.9% F: <59.9%

Missed quizzes and in-class presentations

There are no make-up quizzes or extra credit opportunities in this course. If you miss more than one quiz you should discuss the options available to you with your advisor or the SAS Dean’s Office. Students who miss the final exam due to an emergency should pursue the G grade option as detailed below. Late arrivals will be given the quiz during the time that remains for the designated examination period. If you miss a quiz or in-class presentation due to health reasons, you **MUST** provide a note from your doctor stating that you could not take the quiz or do the presentation. A note from you **OR** your doctor simply stating that you were at the doctor is not sufficient. There will be no exceptions to this.

Regrades

You may request a regrade of any portion of a quiz by submitting your request in writing and explaining why you think the grading was in error. This request must be submitted to me within one week after the date that the graded exams are returned to the class.

G Grades

If you wish to petition for a G grade, you must submit a request for this grade change in writing, and you must document your reason(s). You will be required to make arrangements for the specific tasks that you must complete to remove the G grade. Remember that G grades, according to SAS guidelines, are to be given only when students who have been attending a course and have been making regular progress are prevented by circumstances beyond their control from completing the course after it is too late to withdraw. If you miss the final exam, you may receive a G grade if the above conditions are met.

Academic Integrity Policy

Cheating or plagiarism will not be tolerated. Students suspected of violating the University of Pittsburgh Policy on Academic Integrity, noted below, will be required to participate in the outlined procedural process as initiated by the instructor. A minimum sanction of a zero score for the quiz, exam or paper will be imposed.

Students in this course are expected to comply with the University of Pittsburgh School of Arts and Sciences Academic Integrity Code (<http://www.as.pitt.edu/fac/policies/academic-integrity>). Any student

**Email
communication
policy**

suspected of failing to meet the student obligations of the code for any reason during the semester will be required to participate in the procedures for adjudication, initiated at the instructor level. This may include, but is not limited to, the confiscation of the examination of any individual suspected of violating the code.

You must submit for grading only material that is written exclusively in your own words and written or drawn in your own handwriting.

For presentations in class you must cite sources for all images, flow charts and diagrams that you a) use as is or b) modify (use “modified from”).

Violation of the Academic Integrity Code **requires** the instructor to submit an Academic Integrity Violation Report to the Dean.

Each student is issued a University email address (username@pitt.edu) upon admittance. This email address may be used by the University for official communication with students. Students are expected to read email sent to this account on a regular basis. Failure to read and react to University communications in a timely manner does not absolve the student from knowing and complying with the content of the communications. The University provides an email forwarding service that allows students to read their email via other service providers (e, g., Hotmail, AOL, Yahoo). Students that choose to forward their email from their pitt.edu address to another address do so at their own risk. If email is lost as a result of forwarding, it does not absolve the student from responding to official communications sent to their University email address. To forward email sent to your University account, go to <http://accounts.pitt.edu>, click “[logintoyouraccount](#)” and click on “Edit Forwarding Addresses”, and follow the instructions on the page. Be sure to log out of your account when you have finished.