

2012 SYLLABUS for MMBB J460/J555, Microbial Physiology

Catalog description: Concepts of microbial growth, regulation, variation, structural-functional relationships. Extra oral and/or written assignments required for graduate credit (Fall, alt years). Prerequisite: MMBB 250.

Instructor: Aurelio M. Briones, Assistant Professor, Soil and Land Resources Division

Email: abriones@uidaho.edu Phone: 885-0136

Class Room and Time:

Office Hours: Email or phone (email is preferred) to make an appointment. My office is located at Ag Science 239 and my mailbox is located in Ag Science 243

Course Objectives:

The student will master fundamental concepts of microbial physiology primarily from a biochemical standpoint with emphasis on mechanisms and pathways. To develop analytical and critical thinking skills, we will regularly conduct class discussions that tackle selected research publications. By the end of this course, the student will be able to relate the fundamental concepts of microbial physiology to exciting research topics in basic and applied microbiology, particularly those that are relevant to environmental and clinical microbiology. Graduate students will be expected to present a research topic for class discussion (see below) and submit a two-page analysis of a selected microbiology research article.

Textbooks:

No textbooks will be required.

Recommended resource: The Physiology and Biochemistry of Prokaryotes by White, 3rd edition (2007; Note: a 4th edition has been released this year, 2012). Copies will be on reserve in the library. You may supplement your reading from more basic microbiology textbooks. My lecture materials are from various sources, and will be provided in pdf format prior to the lectures. Additional assigned readings will be posted on Blackboard.

Performance Evaluation:

Quizzes and assignments – Short quizzes will be given approximately once every two weeks. Two major assignments will be assigned during the course.

Class participation – Students are expected to attend class and participate in the discussions. A subjective grade will be assigned by the instructor based on the quality of that participation. Class attendance is required unless you have a valid excuse.

Tests - Exams will be in-class and will comprise three lecture exams and a cumulative final.

Grading:

Quizzes and assignments	45%
Class participation	10%
Tests	30%
Final exam	15%

Grade cut offs:

A = 90%

B = 80%

C = 70%

D = 60%

F < 60%

Class Website- We will use Blackboard for class assignments and announcements:

<https://www.blackboard.uidaho.edu/webct/entryPageIns.dowebct>. I will use this to post announcements, additional reading materials and take-home assignments. There is a "Discussion" tool in Blackboard that we will use to make comments, ask and respond to questions to a topic of interest. These topics will focus mostly on student presentations and guest lectures and will be open for 24 h after the presentation. This provides everybody an opportunity to participate, especially those whose questions or comments could not be addressed due to time constraint.

Additional requirements for MMBB 555: Graduate presentation. Each person taking the course for graduate credit will make a presentation to the class and lead a class discussion of the topic presented. Discussion must focus on research results. Any topic that falls within the framework of this course is acceptable. Your topic may relate to your own research but should not be a repetition of any previous seminar. You'll have roughly 30 minutes to present your material, and allow about 20 minutes for question and answers. The required format is a Powerpoint presentation, which will be submitted. The presentations will occur near the end of the semester, one presentation per day. Attendance will be required for the whole class.

Graduate students will be required to submit a 2-page analysis of a microbiology research paper. The paper should be written such that a non-expert will be able to understand what the research was about, the importance the research, the objectives, the key findings and how these advance the science.

Deadline: By November 3, your topics must be decided and will be posted on Blackboard soon thereafter. Consult with me regarding your topics and papers as soon as possible.