COURSE DESCRIPTION:

**MCB6355.** Microbial Defense/Host-Microbe Interactions

Credits: 1. Principles of bacterial virulence, host defense to microbial invasion and host-microbe interactions will be examined in a context of molecular and cellular biology involving both plants and animals. Current scientific research that incorporates these principles will also be discussed.

**COURSE INSTRUCTORS:**

Dr. Joseph Larkin III  
Dr. Nian Wang*

MCS Bld.  

Phone: 392-6884  
Phone: 863-956-8828

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E-mail: nianwang@ufl.edu

* I appreciate it if you could make an appointment by email first since I have to commute between Gainsville and Lake Alfred (2.5h drive).

**WEB PAGE:** Users can log directly into the course by using the following URL:

https://elearning.courses.ufl.edu/webct/logon/4522412880041

COURSE OBJECTIVES:

• To develop the concepts and skills required to understand and critically evaluate research that addresses molecular and cellular biology events involved in host defense to microbial pathogens and virulence mechanism of microbial pathogens.

• To link basic knowledge to problem solving

• To apply the theories in molecular and cell biology to current problems in host defense to microbial pathogens and virulence mechanism of microbial pathogens.

• To critically evaluate orally delivered research.

• To become more effective oral communicators of scientific research.

STUDENT RESPONSIBILITIES:

**ATTENDANCE:**

Class attendance is **required** to achieve the objectives of this course. **Students should not be late for class.** Tardiness will result in poor score in class.
participation and attendance.

Section 1 (Dr. Nian Wang) will focus on bacterium-host interactions, while Section 2 (Dr. Joe Larkin) will focus on mammalian defense strategies against various pathogens. Bacterial pathogens utilize different virulence factors (e.g., effectors, toxins) to help them infect their hosts. Meanwhile, the hosts including plants, animals, and humans may fend off the infection by mounting a battery of defense responses. We will learn the amazing interactions that happen over the long co-evolution of host and pathogens.

Each student will present as an individual and as part of a group (Table 1).

In addition Henry Stewart Talks have been selected and assigned for presentation.

Henry Stewart Talks (HST): The University of Florida has purchased the rights to utilize a seminar series featuring talks from the leading researchers in his/her respective fields. We will be utilizing selected talks from this series to facilitate learning. The general website, http://www.hstalks.com can be accessed anywhere on campus by clicking the above site marker. The assigned talks can be accessed through the above link or directly through the links provided within the syllabus.

1. All students are required to read the papers and watch the HST and be prepared to contribute to discussions (NOT just the presenters).

2. The presentations will resemble those of a Journal Colloquium course, but the class size will be small enough to permit everyone to contribute to the discussions.

3. PowerPoint slides are recommended for the presentations. Presentations may also contain excerpts of the HS Talks for emphasis. Presenting student(s) will be responsible for distributing their slide presentations to the entire class at least one day before their presentation. Presentations may be distributed by email or provided to the instructors for posting on the e-learning website. All students are expected to have read/watched, and understood, each paper (presentation) and to contribute to each of the discussions. The presentation should be around 25-30 min with 5-10 min for discussion.

4. Discussion. Each student should prepare at least one question for the speaker. The speaker(s) will be allowed two times to pick up students from the audience to answer the question for himself/herself.

5. Grades will be assigned based on presentations (33%), participation in the discussions (33%) and exam (34%).

6. In case of the presentation by the two students, they should work as a group and will take turns presenting different sections of the paper, to assure that everyone contributes equally.

Teacher evaluation and suggestions: 10-15 minutes will be allocated at the beginning of the class on April 14 to conduct on line teacher evaluation and provide feedbacks and suggestions for the course.

DEADLINES:

Students are expected to meet the deadlines for their oral presentation
**STUDENT EVALUATION:**
Students will be evaluated on the basis an oral presentation (33 points), class participation and attendance (33 points), and final exam (33 points).

Final grades will be based on the following performance standard (100 points total):

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<tr>
<th>Percentage</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90 - 100 %</td>
<td>A</td>
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<tr>
<td>85 - 90 %</td>
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<td>80 - 84.9 %</td>
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<td>75 - 79.9 %</td>
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<td>70 - 74.9 %</td>
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<td>Less than 60 %</td>
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