

Course title	Pathogen Perception and Signaling
Course number	PLPA 608, 2017
Term	Fall, 2017
Meeting times	Monday/ Wednesday, 10:20-11:35am; Borlaug Library or Conference Room 176
Meeting location	Institute for Plant Genomics and Biotechnology Norman E. Borlaug Center Building 1513
Professor	Dr. Libo Shan
Office	Rm 136A, Norman E. Borlaug Center
Office Phone:	979-845-8818
Email:	lshan@tamu.edu
Office hours:	by appointment only

Course Description and Prerequisites

This course is designed to provide graduate students with most updated advance on the molecular and biochemical basis of pathogen recognition and signaling initiation/transduction in hosts.

Although there are no strict course requirements, a general knowledge of plant pathology, genetics, biochemistry and molecular biology is advised.

Learning Outcomes or Course Objectives

- Master principles and general concepts of nonself recognition and signaling mechanisms in host-microbe interaction.
- Define key molecular, biochemical, genetic and genomics concepts used in plant-microbe interaction.
- Comprehend the experimental approaches necessary for molecular plant-microbe interaction research.
- Develop comprehensive view of current status of molecular plant-microbe interaction.
- Develop a better understanding of the process of scientific inquiry
- Foster curiosity and critical thinking

Class Organization

The class meets on Mondays and Wednesdays from 10:20 AM until 11:35 AM. The course is composed of lectures and student discussions. Prior each class during the semester, papers/slides will be handed out electronically to the whole class and students are expected to read the papers before the lecture and be actively involved in the lecture discussion.

Class participation

Students will be expected not only to be well prepared for each class, but also, to participate in class discussion. All questions and points of view will be welcomed, and disagreement and respectful debate is expected. All students will be expected to follow University and classroom rules of conduct during class discussion.

Classroom rules

Rules of the classroom are available in the Texas A&M University student handbook. It is expected that students will abide by these rules. In addition, the following rules of the classroom apply:

- No use of electronic equipment (e.g., computers, iPods, calculators) during class unless such use is employed for activities directly related to class.
- No mobile phone rings, etc. during class
- Every point of view presented in class will be treated respectfully. Different opinions and lively discussions are encouraged. However, personal, inappropriate, or unprofessional conduct will not be allowed.

Instructor Information

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Textbook and/or Resource Material

The course will be based on the recent literatures and there are no designated textbooks required. The instructor will correspond with students by email. All students must therefore have email access, and check for messages from the instructor periodically. The reading materials should be downloaded from the scientific journals or distributed to the class by email attachment.

Grading Policies

Grading Policy	Exam 1 (Comprehensive close-book exam on microbial sensing and signal transduction)	90%
	Class Participation	10%
	Total	100%
Grade Scale	90-100%	A
	80-89%	B

70-79%	C
60-69%	D
59 and below	F

Course Topics, Calendar of Activities, Major Assignment Dates

Class Schedule:

(Note: Detailed subject of each lecture is subjected to update with the most recent advance in host-microbe interaction research)

Week1

- Introduction: Microbial sensing and non-self recognition
- Elicitors, PAMPs and DAMPs

Week 2

- Cell surface receptors and signaling
- From effectors to genome editing

Week 3

- Effectors and Receptors
- Signaling in effector-triggered immunity

Week 4

- Differences and similarities in plant and mammalian immunity
- Modulation of immune signaling by pathogens

Week 5

- Exam

Attendance and Participation: See: <http://student-rules.tamu.edu/rule07>. It is expected that students be prepared for class and participate in the group discussion.

Make-Up Policy If an absence is excused, the instructor will either provide the student an opportunity to make up work that contributes to the final grade or provide a satisfactory alternative by a date agreed upon by the student and instructor.

Academic Integrity Statement

Aggie Honor Code "An Aggie does not lie, cheat, or steal or tolerate those who do." Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the Texas A&M University community from the requirements or the processes of the Honor System. For additional information, please visit: <https://aggiehonor.tamu.edu/>.

Plagiarism: <https://aggiehonor.tamu.edu/Rules-and-Procedures/Rules/Honor-System-Rules>
Plagiarism is defined as theft or inadequate citation of other work, including (but not limited to) primary and secondary literature and internet sources. Plagiarism will result in a grade of 'zero' for the assignment AND a deduction of the equivalent amount of points from your grade. For example, if plagiarism is discovered on an assignment worth 10 points, the assignment will be given -10 points as its score. Infractions will be reported to the Honor Code Office.

Disability Services

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit <http://disability.tamu.edu>.