

CSB353H1- 2016 Winter
INTRODUCTIONS TO PLANT-MICROORGANISM INTERACTIONS

COURSE OUTLINE (Total 12 lectures, 2 lectures/hours each)
Thursday 3:00-5:00, WI1016

INSTRUCTOR:

Professor Keiko Yoshioka

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Earth Sciences Centre, Room 3070

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COURSE DESCRIPTION:

Plants have co-evolved with microbes ever since their first appearance on land, resulting in sophisticated strategies of pathogenicity, symbiosis, commensalisms and mutualism. This course presents an overview of these strategies with examples of bacteria, fungi, oomycetes and viruses that have evolved intimate associations with plants, and discusses plant immune systems.

COURSE OBJECTIVES:

1. Understand the basic molecular mechanisms of plant- (mainly pathogenic) microbe interaction and plant immune responses
2. Obtain the ability to read scientific data and research manuscripts

INSTRUCTOR OFFICE HOURS:

Thursday 5-6pm at ES 3070 (No office hour during the Reading Week)

E-MAIL POLICY:

Expected response times is 48 business hours

TEXT BOOKS & REFERENCE MATERIALS:

- Notes and Assigned Readings (research and review articles) will be posted on the CSB353 blackboard web site

Suggested text book

- Biochemistry & Molecular Biology of Plants (Edited by Buchanan, Griseham and Jones) American Society of Plant Biologist

EVALUATION:

1. Mid-Term Test (45%)
 - @EX310 and 320 (120 minutes) on Thursday February 25th, 2016, 3-5pm
2. Assignment (The details will be announced after the mid-term text) (10%)
Late penalty will be 1 point per day.
3. Final Exam (45%)

The Mid-Term Test and Final Exam will be in short answer format or combination of short answer and multiple choices.

DURATION: Lectures: January 14th, 2015 to April 2nd, 2015
Total of 12 lectures (2 hours) including mid term exam
Thursday 3:00 PM; Room: WI1016

Please note:

It is essential that you attend lectures. Exams are based on material discussed in class. The posted lecture notes are only a guide for the lectures and to provide figures – they are not sufficient as study notes. If you miss a lecture, you will need to ask a classmate for notes.

TENTATIVE COURSE CONTENT

Lecture 1	January 14 th	General Introduction of Plant Pathogens I - Nature of plant pathogens and their strategies -
Lecture 2	January 21 st	General Introduction of Plant Pathogens II - Nature of plant pathogens and their strategies -
Lecture 3	January 28 th	General Plant Defense Responses I
Lecture 4	February 4 th	General Plant Defense Responses II
Lecture 5	February 11 th	Systemic Acquired Resistance
	February 18 th	Reading Week
	February 25 th	Midterm Exam (EX310/320)
Lecture 6	March 3 rd	Recognition of Pathogen Invasion by Plants - Receptors for activation of immunity -
Lecture 7	March 10 th	Signal Transduction of Defense Responses I - Early events after pathogen recognition -
Lecture 8	March 17 th	Signal Transduction of Defense Responses II - Identification of signalling components -
Lecture 9	March 24 th	Agrobacterium and Symbiosis
Lecture 10	March 31 st	Control of Plants Disease by Genetic Engineering
Lecture 11	April 7 th	TBA

FINAL EXAM DATE & TIME

TBA (During final exam period)

All final examinations are scheduled and run by the Office of the Faculty Registrar (OFR) in the Final Exam Period