



Course Syllabus: Plant Growth & Development - PS 201

Division	Biological and Environmental Sciences & Engineering Division
Course Number	PS 201
Course Title	Plant Growth & Development
Academic Semester	Spring
Academic Year	2017/2018
Semester Start Date	01/28/2018
Semester End Date	05/24/2018
Class Schedule (Days & Time)	10:30 AM - 12:00 PM Mon Thu

Instructor(s)

Name	Email	Phone	Office Location	Office Hours
Heribert Hirt	heribert.hirt@kaust.edu.sa	+966128082959		

Teaching Assistant(s)

Name	Email

Course Information

Comprehensive Course Description	The basic concept of general growth and development will be introduced, treating how specific plant organs develop as the plant grows from an embryo to a flowering plant. How does the cell cycle and growth control contribute to plant development and how is cell cycle and growth controlled, how are cell walls and metabolism integrated into development. How do stresses impact on growth and development and what kind of molecular mechanisms underly these processes.
Course Description from Program Guide	This course focuses on environmental and developmental processes of plant growth and development. A student completing this course should have an understanding of the developmental processes of plant growth and how plants integrate different environmental factors to optimize their growth.
Goals and Objectives	Students will be able to describe basic concepts in plant growth and development and explain the genetics and molecular basis underlying plant growth, reproduction, development, nutrition, cell signaling and stress adaptation. Students will be able to develop critical thinking, analysis and evaluation skills in applying knowledge in the class to solve research questions.
Required Knowledge	Basic course knowledge in biology and chemistry at the BSc level is required.
Reference Texts	Textbook: Biochemistry and Molecular Biology of Plants, B.Buchanan, W. Gruissem and R.L. Jones Wiley ISBN 9780470714218 Chapters dealt with: 1 structure and membrane organelles, 2 The cell wall, 5 The cytoskeleton, 11 Cell Division, 18 Signal Transduction, 21 response to Pathogens, 22 Responses to Abiotic Stress.
Method of evaluation	20.00% - Attendance 50.00% - Oral presentation 30.00% - Active participation
Nature of the assignments	A. Class Presentations B. Weekly Reviews, and Discussions
Course Policies	see above
Additional Information	

Tentative Course Schedule

(Time, topic/emphasis & resources)

Week	Lectures	Topic
1	Mon 01/29/2018 Thu 02/01/2018	the plant cell
2	Mon 02/05/2018 Thu 02/08/2018	plant organelles
3	Mon 02/12/2018 Thu 02/15/2018	the plant cell wall
4	Mon 02/19/2018 Thu 02/22/2018	membranes
5	Mon 02/26/2018 Thu 03/01/2018	the plant cytoskeleton
6	Mon 03/05/2018 Thu 03/08/2018	plant cell division
7	Mon 03/12/2018 Thu 03/15/2018	mitochondrial and chloroplast genomes
8	Mon 03/19/2018 Thu 03/22/2018	nuclear genomes
9	Mon 03/26/2018 Thu 03/29/2018	plant hormones
10	Mon 04/02/2018 Thu 04/05/2018	signal transduction
11	Mon 04/09/2018 Thu 04/12/2018	abiotic stress 1
12	Mon 04/16/2018 Thu 04/19/2018	abiotic stress 2
13	Mon 04/23/2018 Thu 04/26/2018	abiotic stress 3
14	Mon 04/30/2018 Thu 05/03/2018	biotic stress 1
15	Mon 05/07/2018 Thu 05/10/2018	biotic stress 2
16	Mon 05/14/2018 Thu 05/17/2018	biotic stress 3
17	Mon 05/21/2018 Thu 05/24/2018	course wrap up
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Note

The instructor reserves the right to make changes to this syllabus as necessary.