

COURSE OUTLINE: BIOL 3400/5400 Plant Physiology (Fall, 2013)

CRN 81294 and 81315

Lecture: MWF: 9:00 – 9:50 a.m. (BC 2202)

Laboratory: T: 9:30 a.m. - 12:20 p.m. (BC 2040)

Instructor: Dr. Russ Goddard, 2090 Biology/Chemistry Bldg., 249-2642

email: rgoddard@valdosta.edu

Office Hours: MW: 10:15 a.m. - noon

Course Catalog Description: BIOL 3400, Plant Physiology, 3-3-4. Prerequisite: BIOL 1107K, BIOL 1108K, BIOL 3200, CHEM 1211/1211L, CHEM 1212/1212L. An introduction to basic principles of plant function including physical processes occurring in plants, water relations in whole plants and plant tissues, cell physiology and biochemistry, and growth and development.

Text: Jones, R., H. Ougham, H. Thomas, S. Waaland. 2012. The Molecular Life of Plants, Wiley-Blackwell
ISBN: 978-0-470-87012-9

General Course Objectives: The instructor's goal in teaching this course is to give students a greater appreciation of the plant world we depend on and to stimulate student learning of basic concepts in plant and biological science. Specific course learning objectives aligned with Department and University learning objectives are listed at the end of this syllabus.

This course provides an introduction to basic principles of plant function, primarily covering physical

Guaranteed grade distribution is as follows (Max. pts = 400; for BIOL 3400 only):

	Undergraduate	Graduate
A = 90-100%	360 - 400 points	450 – 500 points
B = 80-89%	320 - 359 "	400 – 449 “
C = 70-79%	280 - 319 "	350 – 399 “
D = 60-69%	240 - 279 "	300 – 349 “
F = \leq 59%	\leq 239 points	\leq 299 points

MAKE-UP EXAMS: I generally do NOT allow make-ups because the exams are given during the normally scheduled class times. If you know that you will miss an exam and believe that you have a justifiable reason for missing it, you must talk to me **BEFORE** the scheduled exam time, either in person or by phone to seek my approval and to arrange a suitable time to retake the exam. I determine whether you have a justifiable reason to arrange a make-up exam. Approved make-ups must be completed within 3 days of the scheduled exam date.

Tentative EXAM SCHEDULE (final dates to be announced during lecture):

Approx. 1/3rd schedule:

- Exam 1: Monday, 16 September 2013
- Exam 2: Monday, 21 October 2013
- Exam 3: Monday, 2 December 2013

Final Exam Period: Thursday, December 5, 2013 8:00 – 10:00 a.m.

There is no comprehensive final exam but this time may be used for a presentation symposium of the lab projects and posters.

FERPA: The Family Educational Rights and Privacy Act (FERPA) prohibits the posting of grades by social security number or in any manner personally identifiable to the individual student. Grades will not be posted by social security number or by name. No grades can be given over the telephone, as positive identification can not be made by this manner.

Students with Disabilities: Students requesting classroom accommodations or modifications because of a documented disability should contact the Access Office for Students with Disabilities located in room 1115 Nevins Hall. The phone numbers are 245-2498 (voice) and 219-1348 (tty).

Tentative Lecture Schedule:Tentative Lecture and Laboratory Schedules: **Mid-term is 3 October 2013**

Lecture:		Laboratory:	Tentative Schedule
Week of / Date:	Topics covered: Assigned Reading: (Chapter: pages)	Date:	Laboratory Exercise:
Aug. 12	What is Plant Physiology? Botany Review	Aug. 13	
Aug. 19	Plant and Cell Architecture	Aug. 20	Lab Introduction; Plant Structure: Roots, Stems, Leaves, Growth forms
Aug. 26	Water Potential Water Balance and Transport in Plants	Aug. 27	Plant Seeds and Germination
Sept. 2	Membrane Potential and Solute Transport	Sept. 3	Plant Water Potential Plant Pressure Bomb; Transpiration
Sept. 9	Mineral Nutrition	Sept. 10	Mineral Nutrition (Molarity, preparation of solutions)
Sept. 16 Sept. 16	Mineral Assimilation EXAM 1	Sept. 17	Mineral Nutrition (cont'd)
Sept. 23	Phloem Transport	Sept. 24	Amylase induction during Seed Germination
Sept. 30	Biochemistry and Metabolism Respiration and Lipid Metabolism	Oct. 1	Analysis of α -amylase by glucose accumulation
Oct. 7	Photosynthesis: The light reactions Photosynthesis: Carbon reactions	Oct. 8	Analysis of α -amylase by starch hydrolysis
Oct. 14	Photosynthesis: Physiological and Ecological considerations EXAM 2	Oct. 15	Measurement and characterization of Photosynthesis
Oct. 21	Cellular Communication		
Oct. 21			

