COURSE OUTLINE: BIOL 3400/5400 Plant Physiology (Fall, 2014)

CRN 81767 and 81794

Lecture: **MWF: 8:00 – 8:50 a.m. (BC 1202)**

Laboratory: **M: 12:00 noon - 2:50 p.m. (BC 2040)**

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

email: rgoddard@valdosta.edu **Office Hours**: MW: 10:15 – 11:50 a.m.

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 processes in plants, metabolism, secondary products, cell physiology, and introducing principles of growth and development.

Grading: There are two parts to this course, the lecture and the laboratory. The lecture will provide an opportunity to discuss conceptual information in the text, and current topics in the subject. The laboratory will provide hands-on opportunities in structured labs and in independent investigations. Both will count toward your final grade.

Lecture Exams (300 pts): There will be 3 one-hour exams in this course. Each exam will cover approximately 1/3 of the lecture and reading material. All exams will cover material presented since the last lecture exam but could integrate cumulative information garnered from the entire semester. Each of the three exams will be worth 100 pts.

Labs, Lab Projects (100 pts.): There will be a formal weekly lab in BC 2040. Due to a lack of expensive equipment that is not duplicated, the formal lab period will often provide a demonstration of techniques and student groups will perform experiments independently using these techniques and apparatus. Complete handouts generally will not be given for these labs (but you will receive instructions and background). Lab grading will be by attendance and participation (15% of lab grade), quizzes, and an electronic lab notebook. Each group write-up can be prepared by groups of four students (maximum!) or less and each group is required to submit four lab write-ups during the semester. Each student of a group is required to serve as the primary author for one of the write-ups. After each lab study is completed, students (one per lab group) should write up their results and analysis in MS Word and send this as an attached document to Dr. Goddard by email (rgoddard@valdosta.edu). Lab write-ups should be in the format of a scientific paper and should include any pictures that help others in understanding the lab (cell phone cameras are allowed in lab). Write-ups will be evaluated as 50% of your la

Tentative Lecture Schedule:.

Tentative Lecture and Laboratory Schedules: **Mid-term is 2 October 2014; Last day to withdraw without penalty is 9 October 2014**

Lecture:		**Laboratory:**	Tentative Schedule
Week of / Date:	Topics covered: Assigned Reading:(Chapter:pages)	**Date:**	**Laboratory Exercise:**
Aug. 18	**What is Plant Physiology?** Botany Review	Aug. 18	Lab Introduction; Plant Cells and Tissues
Aug. 25	Plant and Cell Architecture	Aug. 25	Continue Plant Cells & Tissues; Start Plant Organ Structure
Sept. 1	Water Potential Water Balance and Transport in Plants	Sept. 1	Plant Structure: Organ Structure &

VSU administration has required that certain elements be included in all class syllabi. One of these requirements is that relevant course learning outcomes must be linked to the VSU General Educational Outcomes at