

Course Syllabus: BIOL 4450/6450: Fall 2013

Theory and Practice of Scanning Electron Microscopy

CRN 81304 and 81325 MW 1:00 – 1:50 p.m. (BC 1202), MW 2:00 – 3:50 p.m. (BC 1075)

Instructor: Dr. Russ Goddard, BC 2090, 249-2642

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Office Hours: Mon. and Wed. 10:15 a.m. – noon.

Course Catalog Description: BIOL 4450/6450, Theory and practice of scanning electron microscopy, 2-2-4. Prerequisite: BIOL 3200 and 3250 or consent of the instructor (for 6450: admission into the graduate program). General principles of scanning electron microscopy operation and theory with comparison to light optics in a laboratory intensive environment. Topics include fixation and preparation of samples for standard, low voltage, low vacuum, and high resolution SEM.

Recommended Texts

Goldstein et. al. 2003. Scanning electron microscopy and x-ray microanalysis, 3e. Kluwer Academic/ Plenum Publishers. New York.

Scanning Electron Microscopy Primer http://www.charfac.umn.edu/instruments/sem_primer.pdf

Grading: There are two parts to this course, the lecture and the laboratory, but students must understand that this course is a laboratory intensive course and that they need to spend significant independent time in the laboratory.

Lecture Exams (300 pts) There will be 3 one-hour exams in this course. Each exam will cover

Guaranteed grade distribution is as follows (Max. pts = 650 for BIOL 4450; 750 for BIOL 6450):

A = 90-100%	<u>Points available BIOL 4450:</u>	<u>Points available BIOL 6450:</u>
B = 80-89%	Lecture Exams: 300 pts	Lecture Exams: 300 pts
C = 70-79%	Research Proposal: 50	Research Proposal: 50
D = 60-69%	Oral Proficiency Exam: 100	Research Paper / Oral Presentation: 100
F = ≤ 59%	Lab Image Portfolio: 200	Oral Proficiency Exam: 100
	Total: 650 pts	Lab Image Portfolio: 200
		Total: 750 pts

Tentative EXAM SCHEDULE:

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

Final Exam Period: Wednesday, Dec. 4, 2013 12:30 pm - 21(3)4.7(0 pm)r7N

Tentative Lecture and Laboratory Schedule: