Electron Microscopy, Spring 2015
(PHYS 6980/8980)

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Lectures:	R1-2000N; Tuesday 5:00-6:30pm; Friday 1:30-3:00pm
Office hours:	R1-2100D, Tuesday and Friday morning 10:00 am-noon
Required textbook:	**Scanning Electron Microscopy and X-ray Microanalysis** By Joseph Goldstein, Dale E. Newbury, David C. Joy and Charles E. Lyman **Transmission Electron Microscopy I, II, III, and IV** By David B. Williams and C. Barry Carter, Plenum Press, New York and London

General information: This course is designed to give students an instruction on fundamental principles of electron microscopy imaging and electron diffraction theory. The course aims to teach the principles of scanning electron microscope (SEM), transmission electron microscopy (TEM), and x-ray chemical microanalysis. The course will include in-class lectures and laboratory experiments to give students hands-on experience of operating SEM and TEM. The content will cover materials physics, diffraction physics, electron optics, vacuum physics, crystallography, and advanced imaging techniques.

Grading policy: The grade will be determined by the attendance, class participation, performance on homework assignments, and a final exam.

Grade Division:	Participation	40% (class)
	Participation	40% (experiment)
	Final	20% (report or presentation)

Grading scale: A= 91-100%, B=81-90%, C=71-80%, D= 61-70%, F=below 60%