

Course Outline

Scanning Transmission Electron Microscopy: From Fundamentals to Advanced Applications

June 14-17, 2010

5:00-8:00	Sunday, June 13 (evening) Registration (Whitaker Lobby)
Day One	Monday, June 14
8:30-8:45	Welcome to AEM Course
8:45-10:00	Beam-specimen Interactions
10:00-10:15	Break
10:15-12:00	Sources, Lenses, and Detectors in STEM
12:00	Lunch
1:15-2:15	Imaging in STEM
2:15-3:30	Laboratory: STEM Imaging
3:30-3:45	Break
3:45-5:15	Atomic-resolution Imaging in TEM and STEM
5:30	Dinner
7:15-9:00	X-ray Energy-dispersive Spectrometry
Day Two	Tuesday, June 15
8:30-10:00	Quantitative XEDS
10:00-10:15	Break
10:15-12:00	Thin Specimen Preparation/FIB
12:00	Lunch
1:15-3:15	Laboratory: XEDS
3:15-3:30	Break
3:30-4:15	Introduction to Electron Energy Loss Spectrometry
4:15-5:15	Advanced EELS
5:30	Dinner
7:15-9:00	Laboratory: EELS

Day Three	Wednesday, June 16
8:30-9:15	Compositional Imaging
9:15-10:15	Multivariate Statistical Analysis and Advanced Spectral Processing
10:15-12:00	Introduction to Diffraction
12:00	Lunch
1:15-3:00	Convergent Beam Diffraction: Basics and Applications
3:00-3:15	Break
3:15-5:15	Laboratory: CBED
6:30	Cocktail hour and banquet
Day Four	Thursday, June 17
8:30-9:30	Imaging Atom Probe
9:30-10:15	Demo: DTSA
10:15-10:30	Break
10:30-12:00	Advanced Topics in CBED and Dynamical Diffraction Theory
12:00	Lunch
1:15-2:30	Laboratory: HR Imaging in TEM and STEM
2:30-2:45	Break
2:45-4:00	Demo: Aberration-corrected XEDS & EELS
4:00-4:30	Identification of Unknowns: Questions and Answers

Note: All classes and labs will be held in Whitaker Lab.

Disclaimer: The organizers reserve the right to change the instrumentation or sequence of lecture topics and to cancel lectures or substitute lecturers if necessitated by circumstances beyond their control. Updated 9/15/09.