

Fall 2006

MCB/EMS 298&198 — Special Topics in Transmission Electron Microscopy (3)

Lecture — 1 hour; lab case studies — up to 6 hours; Topics determined by student with focus on developing expertise in a particular materials/biology technique of relevance to their research (or in area determined by consultation with Course Instructor and Major Professor)

Winter 2007

MCB/EMS 230 — Fundamentals of Transmission Electron Microscopy (3)

Lecture—3 hours; Prerequisite: **XXX**. Principles and techniques of transmission electron microscopy are covered in the study of biological and materials sciences. Additional emphasis will be upon practical applications.

MCB/EMS 230L — Laboratory of Transmission Electron Microscopy (2)

Laboratory—3 hours, discussion—1 hour; Prerequisite: course 230 concurrently. Practical applications and techniques in transmission electron microscopy are emphasized.

Spring 2007

MCB/EMS 232 — Advanced Transmission Electron Microscopy (3)

Lecture—2 hours. Prerequisite: course 230. Advanced techniques of electron microscopy are covered with emphasis on analytical techniques, diffraction methods, high resolution imaging, and image data processing.

MCB/EMS 232L — Laboratory of Advanced Transmission Electron Microscopy (2)

Laboratory—3 hours, discussion—1 hour; Prerequisite: course 230. Laboratory in advanced transmission electron microscopy techniques relevant to specific graduate research projects in materials science.