Tuesday & Thursday 3pm- 4:15pm, Lecture, Classroom: FA 337

Lab or Lab Demo, LME 106A

- **Week 1**
  - 01/21, Lecture: Introduction to Scanning Electron Microscopy (SEM)
  - 01/24, Lecture: Fundamentals of Diffraction Theory
- **Week 2**
  - 01/28, Lecture: SEM Instrumentation
  - 01/31, Lab: SEM basic alignment
- **Week 3**
  - 02/04, Lecture: SEM Imaging
  - 02/06, Lab: SEM basic alignment, SE and BSE imaging
- **Week 4**
  - 02/11, Lecture: SEM X-ray Energy-Dispersive Spectrometry (EDS)
  - 02/13, Lab: SEM basic alignment, SEM EDS
- **Week 5**
  - 02/18, Lecture: SEM Electron Backscatter Diffraction (EBSD)
  - 02/20, Lab: SEM basic alignment, SEM EBSD
- **Week 6**
  - Lab Report Prep Week, 02/25 & 02/27, SEM Lab, Imaging, EDS and EBSD
- **Week 7**
  - 03/03, Lecture: Review class for Midterm exam *(SEM Lab Report due)*
  - 03/05, Lecture: Frontier of SEM
- **Week 8**
  - 03/10, Midterm exam
  - 03/12, Lecture: FIB and sample prep
- **Week 9**
  - Spring break, No classes
- **Week 10**
  - 03/24, Lab: FIB Demo
  - 03/26, Lecture: Introduction to Transmission Electron Microscopy (TEM)
- **Week 11**
  - 03/31, Lecture: Instrument and Sample Preparation
  - 04/02, Lecture: Diffraction from Crystals
- **Week 12**
  - 04/07, Lecture: Index TEM Diffraction
  - 04/09, Lecture: TEM Imaging
- **Week 13**
  - 04/14, Lecture: TEM Imaging
  - 04/16, Lab: TEM Demo
- **Week 14**
  - 04/21, Lecture: TEM X-ray Energy-Dispersive Spectrometry
  - 04/23, Lab: TEM Demo
• Week 15
  o 04/28, Lecture: Electron Energy-Loss Spectrometry
  o 04/30, Lecture: Review class for final exam
• Week 16
  o 05/05, Frontier of Transmission Electron Microscopy

SEM Lab Session: Four groups, 4 students/group, 35mins/group, 12 sessions (each 75mins)

• 01/31, Lab: SEM basic alignment
  Scios 2: 3:00-3:35pm, Group 1; 3:40-4:15pm, Group 2 (75mins, 1st session)
  Nova: 3:00-3:35pm, Group 3; 3:40-4:15pm, Group 4 (75mins, 2nd session)

• 02/06, Lab: SEM basic alignment, SE and BSE imaging
  Scios 2: 3:00-3:35pm, Group 4; 3:40-4:15pm, Group 3 (75mins, 3rd session)
  Nova: 3:00-3:35pm, Group 2; 3:40-4:15pm, Group 1 (75mins, 4th session)

• 02/13, Lab: SEM basic alignment, SEM EDS
  Scios: 3:00-3:35pm, Group 1; 3:40-4:15pm, Group 2 (75mins, 5th session)
  Scios: 4:20-4:55pm, Group 3; 5:00-5:35pm, Group 4 (75mins, 6th session)

• 02/20, Lab: SEM basic alignment, SEM EBSD
  Scios: 3:00-3:35pm, Group 4; 3:40-4:15pm, Group 3 (75mins, 7th session)
  Scios: 4:20-4:55pm, Group 2; 5:00-5:35pm, Group 1 (75mins, 8th session)

• Lab Report Prep Week, 02/25 & 02/27, SEM Lab, Imaging, EDS and EBSD
  02/25, Scios: 3:00-3:35pm, Group 1; 3:40-4:15pm, Group 2 (75mins, 9th session)
  Scios: 4:20-4:55pm, Group 3; 5:00-5:35pm, Group 4 (75mins, 10th session)
  02/27, Scios: 3:00-3:35pm, Group 4; 3:40-4:15pm, Group 3 (75mins, 11th session)
  Scios: 4:20-4:55pm, Group 2; 5:00-5:35pm, Group 1 (75mins, 12th session)

FIB Lab Session: Four groups, 4 students/group, 35mins/group, 2 sessions (each 75mins)

• 03/24, Lab: FIB Demo
  Scios: 3:00-3:35pm, Group 1; 3:40-4:15pm, Group 2 (75mins, 13th session)
  Scios: 4:20-4:55pm, Group 3; 5:00-5:35pm, Group 4 (75mins, 14th session)

TEM Lab Session: Four groups, 4 students/group, 35mins/group, 2 sessions (each 75mins)

• 04/16, Lab: TEM Demo
  JEOL-F2100: 3:00-3:35pm, Group 1; 3:40-4:15pm, Group 2 (75mins, 15th session)

• 04/23, Lab: TEM Demo
  JEOL-F2100: 3:00-3:35pm, Group 3; 3:40-4:15pm, Group 4 (75mins, 16th session)