MSE-735

Scanning and Analytical Transmission Electron Microscopy

Alexander Duncan, Boureau Victor, Cantoni Marco, Oveisi Emad, Various lecturers (see below)

Cursus	Sem.	Type
Materials Science and Engineering		Opt.

Language of teaching	English
Credits	1
Session	
Exam	Oral presentation
Workload	30h
Hours	**18**
Lecture	11
Exercises	4
Practical work	3
Number of positions	**30**

Frequency

Every 2 years

Summary

This intensive course discusses advanced TEM techniques such as: scanning TEM; analytical TEM using EELS and EDX; aberration corrected imaging; and image simulation. It is intended for researchers who have taken the introductory TEM course MSE-637 or who have a good background in conventional TEM.

Content

This intensive course is intended for researchers who are potential new users of transmission electron microscopes and have followed the introductory doctoral course on TEM or have already a good background in conventional transmission electron microscopy. It will provide them with a basic understanding of the methods, relying on an explanation of the physics at play.

Demonstrations will be given on the microscopes.

Keywords

Transmission electron microscopy, EDX analysis, EELS

Learning Prerequisites

Recommended courses

Doctoral school "Transmission electron microscopy and diffraction"

Resources

Websites

- cime.epfl.ch