MSE-637(b)

Transmission electron microscopy and diffraction (b)

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Cursus	Sem.	Type
Materials Science and Engineering		Opt.

Language of teaching	English
Credits	1
Session	
Exam	Written
Workload	30h
Hours	**15**
Lecture	12
Exercises	1
Practical work	2
Number of positions	**26**

Frequency

Every year

Summary

This intensive course is intended for researchers who envisage using transmission electron microscopy to study materials samples or to help them interpret TEM data in publications. It presents basics of TEM instrumentation, imaging, electron diffraction, specimen preparation and high-resolution TEM.

Content

This intensive course is intended for researchers who are potential new users of transmission electron microscopes for study of materials (i.e. all non-biological) samples. It will provide them with a basic understanding of the instruments, sample requirements, optics of TEM, electron diffraction, the imaging modes, high-resolution TEM, and related theories of image formation.

Demonstrations will be given on the microscopes.

2x Year Spring (b) and autumn (a)

Keywords

TEM, electron diffraction, high-resolution TEM

Learning Prerequisites

Recommended courses

Basic knowledge of crystallography and diffraction is advised

Assessment methods

Written

Resources

Websites

- http://cime.epfl.ch/MSE-637