MSE-668

Non-destructive methods for industry and research

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Cursus	Sem.	Type
Materials Science and Engineering		Opt.

Language of teaching	English
Credits	2
Session	
Exam	Oral presentation
Workload	60h
Hours	**28**
Courses	28
Number of positions	

Frequency

Every year

Remark

Next time: 2025.11.3-4 & 6-7. To benefit from this course, the Doctoral School has agreed to fund it. If you register, please ensure that you can attend to avoid last-minute and mid-course withdrawals

Summary

Basic knowledge ofthe classical non-destructive testing methods as they are used today in industrial applications and the advanced (mosily imaginé) technologies used for the analysis of materials and components in special applications. It covers several material groups and various applications.

Content

The course content is as follows:
- Probability of detection / human factors
- Visual, optical and lhermal methods
- Penetrant and leak testing
- Electromagnetic methods: diverted magnetic flux, eddy current, microwaves
- Acoustic methods: ultrasoriics, acoustic emission
- Radiography, radioscopy, computed tomography

Keywords

Radiography, Radioscopy, Computed Tomography, Ultrasonic Testing, Acoustic Emission, Electromagnetic Methods

Learning Prerequisites

Required courses

Basic knowledge in materials science