MSE-610

Non-destructive evaluation methods

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Cursus	Sem.	Type
Materials Science and Engineering		Opt.

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

Frequency

Every year

Summary

Basic knowledge of the classical non-destructive testing methods as they are used today in industrial applications and the advanced (mostly imaging) 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 thermal methods
- Penetrant and leak testing
- Electromagnetic methods: diverted magnetic flux, eddy current, microwaves
- Acoustic methods: ultrasonics, acoustic emission
- Radiography, radioscopy, computed tomography
- Magnetic resonance imaging

Keywords

Radiography, Radioscopy, Computed Tomography, Ultrasonic Emission, Acoustic Emission, Electromagnetic methods.

Learning Prerequisites

Recommended courses

Basic knowledge in materials science