

Title Physical Methods of Materials Characterisations	Code 10102511510102301899
Field Materials Engineering	Year / Semester 3 / 5
Specialty -	Course core
Hours Lectures: 1 Classes: - Laboratory: 1 Projects / seminars: -	Number of credits 2
	Language polish

Lecturer:

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Status of the course in the study program:

Core course at the Faculty of Mechanical Engineering and Management; field of study - Materials Engineering.

Assumptions and objectives of the course:

Introduction to the most popular methods of phase transition investigations (theoretical backgrounds, review of equipments, examples)

Contents of the course (course description):

Temperature dependencies of physical properties in the vicinity of solid-state phase transitions (thermodynamic description of phase transitions). Calorimetric (DTA and DSC calorimeters), thermomechanical (dilatometers), thermogravimetric (TG and magnetic equipments), and electric methods of material characteristics: theoretical backgrounds, equipments, examples, obtained information. Differences between methods and rules for their selection in order to obtain specific information. Introduction to characterisation equipments available in the Institute of Materials Science

Introductory courses and the required pre-knowledge:

Basic knowledge of metallurgy, phase transitions, solid state physics and thermodynamics.

Courses form and teaching methods:

Lectures, laboratory

Form and terms of complete the course - requirements and assessment methods:

Final test, laboratory reports.

Basic Bibliography:

Additional Bibliography: