

Title Heat Treatment and Welding (Obróbka cieplna i spawalnictwo)	Code 1010401131010230647
Field EDUCATION IN TECHNOLOGY AND INFORMATICS	Year / Semester 2 / 3
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 of the study for Education in Technology and Informatics, Faculty of Technical Physics.

Assumptions and objectives of the course:

-Introduction with the basic processes of the heat treatment and welding and the possibilities of their control. The learn of the technology of the heat treatment and welding various materials. Introduction with novelties in the range of heat treatment and welding.

Contents of the course (course description):

-Developmental tendencies of materials and technology in the heat treatment and thermo-chemical treatment processing. The producibility of the machine elements and tools from the point of view of the heat treatment and thermo-chemical treatment processing. The regulated atmospheres used in the heat treatment and thermo-chemical treatment processing. The device to the heat treatment and thermo-chemical treatment processing. The quenching mediums applied in the heat treatment and thermo-chemical treatment processing of machine elements and tools. Examples of the technological processes of the heat treatment and thermo-chemical treatment processing of machine elements and tools.
Welding ? the basic notions. Gas welding. The arc welding ? MMA and SAW method as well as the automatic of protection arc. The arc welding executed in gas protection ? manual (TIG) and semi-automatic (MIG and MAG). The electric resistance welding. The friction welding. The soldering and braze welding.

Introductory courses and the required pre-knowledge:

-The student must know the basic information in the field of physics and materials science.

Courses form and teaching methods:

-Lecture, Laboratory

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

-The written test or the written semesters elaborate and test of choice repeatedly, reports with laboratory.

Basic Bibliography:

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Additional Bibliography:

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