COURSE DESCRIPTION CARD - SYLLABUS

Course name
Wood Processing

Course

Field of study	Year/Semester
Product Lifecycle Engineering	2/3
Area of study (specialization)	Profile of study
	practical
Level of study	Course offered in
Second-cycle studies	English
Form of study	Requirements
full-time	elective

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
15	15	
Tutorials	Projects/seminars	

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

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Faculty of Mechanical Engineering

Piotrowo Street No 3, 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

Basic knowledge of phisics and materials. The ability to think logically and independently obtain information from various sources, as well as understanding the need for learning.

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Course objective

The aim of the course is to transfer knowledge and skills in the field of wood processing.

Course-related learning outcomes

Knowledge

Classes will cover the theory of wood, its properties and behavior in various conditions. Physical and mechanical properties of wood. Konwledge of the area of classification of wood raw material, technological processes of mechanical wood processing, drying wood methods as well as gluing and coating.

Skills

Student knows the structure, properties and can to recognize the defects of wood. Student is able to rationally use wood in technological processes, recognize the factors and symptoms of destruction of wood and wood-based materials. Students can design the processes of mechanical wood processing, can clasify timber, processes occurring in wood cutting and its hydrothermal processing. Student can recognize the phenomena occurring during gluing wood materials, is able to choose the type of adhesive and use it rationally.

Social competences

The student can work in a group. Student is aware of the need and role wood processing knowledge in the economy and the need to constantly expand it.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: Credit in writing or oral on the basis of scoring questions (credit in the event of obtaining 51% of points:> 50% - dst,> 60% - dst plus,> 70% - db,> 80% - db plus,> 90% points - very good) carried out at the end of the module.

Laboratory: Credit based on reports from laboratory exercises. To get credit, all exercises must be passed.

Programme content

Classes will be conducted in blocks consisting of lectures and laboratories.

Topics of classes:

The usefulness of wood as a renewable material.

Wood construction at the ultramicro-, micro- and macro-scopic level.

Defects of wood.

Physical and mechanical properties of wood.

Classification of the wood materials.

Processing of large and medium-sized wood.

Classification of wood products.

Wood - water - heat system: wood drying methods.

Wood gluing processes. Assessment of the weld quality in the wood products.

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Teaching methods

Lecture: The lecture will be illustrated with a multimedia presentation containing the discussed program content

Laboratory: practical classes

Bibliography

Basic

1. Robert J. Ross, Wood handbook : wood as an engineering material, USDA Forest Service, Forest Products Laboratory, General Technical Report FPL- GTR-190, 2010.

2. Christoph Richter, Wood Characteristics : Description, Causes, Prevention, Impact on Use and Technological Adaptation, Springer International Publishing AG, 2015.

Additional

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1]	20	1,0

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1 delete or add other activities as appropriate