



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Laboratory of machining

Course

Field of study

Mechanical Engineering

Area of study (specialization)

-

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

2/3

Profile of study

general academic

Course offered in

polish

Requirements

compulsory

Number of hours

Lecture

0

Laboratory classes

15

Other (e.g. online)

0

Tutorials

15

Projects/seminars

0

Number of credit points

3

Lecturers

Responsible for the course/lecturer:

dr inż. Marek Rybicki

Responsible for the course/lecturer:

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Prerequisites

Basic scope in the field of physics and mechanics. The ability to think logically, to use information obtained from various sources. Understanding of acquiring knowledge and the positives of new knowledge.

Course objective

To acquaint students with the practical aspects of machining, operating cutting machine tools and the basics of workshop metrology.



Course-related learning outcomes

Knowledge

1. Student is able to recognize the basic methods and types of machining
2. The student is able to describe the construction and application of cutting tools
3. Student is able to characterize technological possibilities of lathes, milling machines, drills and grinders

Skills

1. Student is able to set cutting parameters
2. The student is able to use the basic measurement tools
3. The student is able to mount and use cutting tools in various cutting methods

Social competences

1. The student acquires teamwork skills
2. The student is aware of the importance of machining in the modern economy and for society

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Tutorials: credit based on the knowledge tested during classes

Laboratory: credit based on the knowledge tested during classes and individually prepared reports.

Programme content

During tutorials and laboratories students:

- get acquainted with the tools and technique of measurements,
- learn the kinematics of the turning process, the structure and types of turning tools, methods of clamping tools and workpieces, the scope of performed operations,
- learn the kinematics of the milling process, the structure and types of milling tools, methods of clamping tools and workpieces, the scope of operations,
- learn about the kinematics of the drilling, drilling, tapping, reaming and countersinking process, construction and types of drilling tools, methods of fixing tools and workpieces, the scope of performed operations,
- learn the kinematics of the grinding process of rollers, holes and planes, the structure and types of grinding wheels, methods of grinding grinding wheels and fixing workpieces, the scope of performed operations.

Teaching methods



Multimedial presentation, practical method of realization of production tasks, instruction, discussion, work with a book

Bibliography

Basic

1. Brodowicz W.: Skrawanie i narzędzia. WSiP Warszawa 1998.
2. Praca zbiorowa pod red. J. Erbla: Encyklopedia technik wytwarzania w przemyśle maszynowym. Tom II obróbka skrawaniem, montaż. Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2001.
3. Filipowski R., Marciniak M.: Techniki obróbki mechanicznej i erozyjnej. Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2000.
4. Praca zbiorowa pod red. A. Laber: Wybrane zagadnienia z inżynierii wytwarzania. Obróbka ubytkowa. Oficyna Wydawnicza Uniwersytetu Zielonogórskiego, Zielona Góra 2008.

Additional

1. Praca zbiorowa pod red. P. Cichosza: Techniki wytwarzania ? obróbka ubytkowa. Laboratorium. Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 2002.
2. Tomaszewski R.: Wstęp do technologii mechanicznej. Wydawnictwo Politechniki Poznańskiej, Poznań 2003.

Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,0
Classes requiring direct contact with the teacher	33	1,3
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) ¹	27	1,1

¹ delete or add other activities as appropriate