



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Laboratory of machining

Course

Field of study

Mechatronics

Area of study (specialization)

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

1/1

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

0

Projects/seminars

0

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

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Responsible for the course/lecturer:

Prerequisites

Basic knowledge of physics and mechanics.

Course objective

Familiarization students with practical aspects of subtractive forming techniques

Course-related learning outcomes

Knowledge

1. The student knows how to recognize basic kinds and types machining operations.
2. The student knows how to describe design features and application of cutting tools.
3. The student knows how to characterize technological capabilities of hand powered metalworking, lathe, milling and drilling machines or grinders.

Skills

1. The student is able to choose the appropriate subtractive technology to give a specific surface shape.



2. The student is capable of setting cutting parameters.
3. The student is capable of operating basic measuring devices.
4. The student is capable of mounting and using cutting tools for different types of machining.

Social competences

1. The student acquires skills of teamwork.
2. The student is aware of importance of machining for contemporary economics and society.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

The skills acquired during the laboratory classes are verified by evaluating the student's activity and individually made reports from particular experiences.

Programme content

During the laboratory classes, students make machine elements on machine tools in the field of technologies learned during the exercises: hand powered metalworking, workshop measurements, turning, milling, centre drilling, drilling, reboring, counterboring, reaming and grinding.

Teaching methods

Laboratory classes: selection of tools, machining of machine parts, discussion, teamwork

Bibliography

Basic

1. Brodowicz W., Skrawanie i narzędzia. WSiP, Warszawa 1998.
2. Praca zbiorowa pod red. Erbla J., 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. Laber A., Wybrane zagadnienia z inżynierii wytwarzania. Obróbka ubytkowa. Oficyna Wydawnicza Uniwersytetu Zielonogórskiego, Zielona Góra 2008.
5. Paczyński P.: Metrologia techniczna: przewodnik do wykładów, ćwiczeń i laboratoriów. Wydawnictwo Politechniki Poznańskiej, Poznań 2003. .

Additional

1. Praca zbiorowa pod red. Cichosza P., 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	50	2
Classes requiring direct contact with the teacher	25	1
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) ¹	25	1

¹ delete or add other activities as appropriate