



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Passing project

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### Course

Field of study

Mechanical engineering

Area of study (specialization)

Mechanical engineering

Level of study

Second-cycle studies

Form of study

part-time

Year/Semester

2/3

Profile of study

general academic

Course offered in

Requirements

compulsory

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### Number of hours

Lecture

Laboratory classes

Other (e.g. online)

Tutorials

Projects/seminars

45

### Number of credit points

5

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### Lecturers

Responsible for the course/lecturer:

dr inż. Adam Myszkowski

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Wydział Inżynierii Mechanicznej

ul. Piotrowo 3

60-965 Poznań

Responsible for the course/lecturer:



### Prerequisites

Knowledge of technical drawing, technical mechanics, material strength, materials science, design of technological processes, selection of machines and devices.

### Course objective

Expanding knowledge in the field of technological lines design and selection of machines and devices. Strengthening application skills, skills in performing engineering calculations. Acquiring the skills to independently shape technological lines, managing the work of construction teams.

### Course-related learning outcomes

#### Knowledge

Detailed knowledge of machinery and equipment, including typical components and subassemblies, development trends of machinery and equipment, and manufacturing technologies with particular regard to mechanical technology,

Knowledge of design principles.

#### Skills

Conceptual work, analyzing kinematic structures, mapping and dimensioning of machines; designing and performing strength calculations of mechanical systems using computer aided design of machines.

#### Social competences

Collaboration and teamwork, taking on different roles and tasks.

Ability to map and dimension machine elements; designing and performing strength calculations of mechanical systems using computer aided design of machines.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Completion of the project.

### Programme content

- Design and selection of machines and devices
- requirements and restrictions for machines and devices,
- basic design principles with particular regard to safety during the operation of machinery,
- structural reliability,
- economic and ecological aspects of design,
- indicating the areas of acceptable solutions and effective solutions to the problem.



## Teaching methods

Presentation of issues, problem solving, discussion, teamwork, consultation.

## Bibliography

Basic

1. Obrabiarki skrawające do metali, L.T. Wrotny, WNT, Warszawa 1974
2. Automatyzacja obrabiarek i obróbki skrawaniem, J. Kosmol, WNT, Warszawa 2000.
3. L. T. Wrotny, Podstawy konstrukcji obrabiarek, WNT, Warszawa 1974.
4. Poradnik inżyniera mechanika. WNT, Warszawa 1970.

Additional

1. Catalogs of manufacturers of machine elements.
2. Websites of machine and device manufacturers.

## Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,0
Classes requiring direct contact with the teacher	45	2,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	80	3,0

<sup>1</sup> delete or add other activities as appropriate