



## COURSE DESCRIPTION CARD - SYLLABUS

Course name  
science of mechanics

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### Course

Field of study	Year/Semester
Logistics	1/2
Area of study (specialization)	Profile of study
	general academic
Level of study	Course offered in
First-cycle studies	polish
Form of study	Requirements
part-time	compulsory

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### Number of hours

Lecture	Laboratory classes	Other (e.g. online)
12		
Tutorials	Projects/seminars	

### Number of credit points

3

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### Lecturers

Responsible for the course/lecturer:

3dr hab. inż. Józef Gruszka, prof.PP

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tel. 665 33 77

ul. Jacka Rychlewskiego 2, 60-965 Poznań

Responsible for the course/lecturer:

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### Prerequisites

Basic knowledge of technique (sem.1)



### Course objective

To familiarize students with the basic principles of construction, operation and operation of general purpose machines and equipment, which are equipped in an industrial plant

### Course-related learning outcomes

Knowledge

P6S\_WG\_01 knows the basic issues of construction, technology and techniques related to logistics

P6S\_WG\_02 knows the basic issues of mechanics, construction and operation of machines related to logistics

Skills

P6S\_UW\_03 is able to apply the right experimental and measuring techniques to solve the problem within the studied subject, including computer simulation within logistics and its specific issues, and supply chain management

P6S\_UU\_01 is able to identify changes in requirements, standards, regulations, technical progress and reality of the labor market, and based on them determine the needs of supplementing knowledge

Social competences

P6S\_KO\_02 is aware of initiating activities related to the formulation and transfer of information and cooperation in society in the field of logistics

P6S\_KR\_02 is aware of cooperation and work in a group on solving problems within logistics and supply chain management

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Formative assessment:

in lectures: on the basis of answers to questions about material modified in previous lectures.

Summary summary:

lecture - written test on the basis of previously prepared questionnaire

### Programme content

Program content:

lectures:

- Introduction to subject matter, basic concepts, machine classification,
- standardization, typisation and unification of machine parts and subassemblies,
- Clutches, brakes, gears,
- Mechanisms used in machine tools,



- Machines and devices for transport, trolleys, cranes, overhead cranes, cranes, conveyors,
- Compressors and fans,
- Pumps, water motors, turbines
- Installations, pneumatic, hydraulic,
- Refrigeration equipment,
- Internal combustion engines

### Teaching methods

monographic with the use of a computer with the division of the content of the program into separate thematic issues in connection

### Bibliography

Basic

1. Kijewski J. , Maszynoznawstwo, WSiP, Warszawa 2011
2. Dąbrowski Z, Pakowski R: Maszynoznawstwo; Warszawa 2013;
3. Legutko S., Podstawy eksploatacji maszyn i urządzeń, WSiP Warszawa 2004
4. Gruszka J., Technologiczne kształtowanie cech funkcjonalnych warstwy wierzchniej tulei cylindrowych (w silnikach spalinowych)-Monografia, Wyd.PP, Poznań 2012

Additional

1. S.Legutko Eksploatacja maszyn, Wyd. Politechnika Poznańska. Poznań 2007
2. Rutkowski A.,Części maszyny, Wyd.WSiP,1992

### Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,0
Classes requiring direct contact with the teacher	12	2,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	63	1,0

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