

Title Mechanics and Theory of Mechanisms	Code 10102542310102101522
Field Mechanical Engineering	Year / Semester 2 / 3
Specialty -	Course core
Hours Lectures: 2 Classes: 16 Laboratory: - Projects / seminars: -	Number of credits 6
Language polish	

Lecturer:

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Status of the course in the study program:

- The 1st degree study core course at the Faculty Mechanical Engineering and Management.

Assumptions and objectives of the course:

- Acquaintance with basic knowledge of the mechanics. Learning the skills of applying of mechanics to describing complex mechanical systems.

Contents of the course (course description):

- Elements of vector algebra. Material point and rigid body. Forces and moment of a force. The couple. The resultant of a system of forces. Static equilibrium and the equilibrium equations. Supports (constraints) and their reactions. Equilibrium of a system of rigid bodies. Planar trusses. Friction. Kinematics of the particle. Kinematics of the rigid body. Direct and inverse problems of dynamics of the material point. Mass distribution. Linear and angular momenta. Law of balance of linear momentum. Law of balance of angular momentum. Work and power. Kinetic energy of material systems. Theorem on work and kinetic energy. The law of conservation of mechanical energy.

Introductory courses and the required pre-knowledge:

- Fundamental knowledge of differential and integral calculus.

Courses form and teaching methods:

- Lectures and classes.

Form and terms of complete the course - requirements and assessment methods:

- Written test.

Basic Bibliography:

Additional Bibliography: