

Title Mechanical engineering design	Code 10102514410102102036
Field Management and Production Engineering	Year / Semester 2 / 4
Specialty -	Course core
Hours Lectures: 2 Classes: 1 Laboratory: - Projects / seminars: -	Number of credits 5
	Language polish

Lecturer:

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Faculty:

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Status of the course in the study program:

- The field course

Assumptions and objectives of the course:

- Study in the range: selected problems of strength of materials, mathematical modeling of machine elements and joints, mechanical engineering.

Contents of the course (course description):

- Introduction: the definitions, the phases of design, constraints of design, optimal design, dimensions and tolerances. The design of screws, fasteners and connections. Welded, brazed and bonded joints. Mechanical springs. Vibration damping. Rolling contact bearing. Lubrication and journal bearings. Gearing: types of gears, involute properties, the forming of gear teeth, bevel gears, worm gears, force analysis of spur gears, Flexible mechanical elements: belts, roller chains, wire rope. Shafts and axles. Clutches and brakes. Pressure vessels.

Introductory courses and the required pre-knowledge:

- Classical mechanics and strength of materials

Courses form and teaching methods:

- Lectures, classes and design of selected simple machine

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

- Examination and a simply machine design

Basic Bibliography:

Additional Bibliography: