

Title Strength of Materials II	Code 10102522110102102309
Field Mechanical Engineering	Year / Semester 1 / 1
Specialty -	Course core
Hours Lectures: 2 Classes: 1 Laboratory: - Projects / seminars: -	Number of credits 5
	Language polish

Lecturer:

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Status of the course in the study program:

- Basic course of the study program.

Assumptions and objectives of the course:

- Getting acquainted with basing knowledge of theoretical background and fundamentals of advanced strength analysis of structures, stability, strain energy methods in mechanical systems and vibrations.

Contents of the course (course description):

- Beams on elastic foundation. Stability of bars and bar systems.
Elastic and elastic-plastic stability of columns. Strain energy of deformation, Clapeyron systems. Reciprocity theorems. Castigliano theorem, Castigliano-Menabrea theorem.
Statically indeterminate beams, frames and arcs. The Maxwell-Mohr method.
Force method. Fundamentals of the finite element method.

Introductory courses and the required pre-knowledge:

- The knowledge of fundamentals in mathematics, applied mechanics and statics

Courses form and teaching methods:

- Lectures supported by exercises.

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

- Written evaluation of knowledge.

Basic Bibliography:

Additional Bibliography: