

Title <b>Strength of Materials</b>	Code <b>10102513310102102392</b>
Field <b>Mechatronics</b>	Year / Semester <b>2 / 3</b>
Specialty -	Course <b>core</b>
Hours Lectures: <b>1</b> Classes: <b>1</b> Laboratory: -    Projects / seminars: -	Number of credits <b>3</b>
	Language <b>polish</b>

**Lecturer:**

- Waclaw Szyc, Ph. D. Sc., Eng.  
Tel. +48(61) 6652700  
e-mail: waclaw.szyc@put.poznan.pl

**Faculty:**

Faculty of Mechanical Engineering and Management  
ul. Piotrowo 3  
60-965 Poznań  
tel. (061) 665-2361, fax. (061) 665-2363  
e-mail: office\_dmef@put.poznan.pl

**Status of the course in the study program:**

- Basic course at the field of study - Mechatronics

**Assumptions and objectives of the course:**

- Getting acquainted with basing knowledge of theoretical and experimental methods connected with fundamentals of strength analysis of structures.  
Stresses and displacements in tension/compression and torsion.

**Contents of the course (course description):**

- External and internal forces and moments, stress and strain.  
Basic tests of the mechanical properties of materials.  
Stresses and displacements in bar systems.  
Generalized Hooke's law. Plane stress state and the base of tensometric measurements.  
Torsion of bars of circular cross sections.  
First and second moments of area.  
Experimental tests of material properties.  
Tensometric measurements.

**Introductory courses and the required pre-knowledge:**

- Basics in mathematics (analysis, differential equations), classical mechanics (statics and dynamics).

**Courses form and teaching methods:**

- Lectures supported by exercises. Laboratory tests.

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

- Written tests, laboratory reports

**Basic Bibliography:**

**Additional Bibliography:**