

Title <b>Strength of Materials (Wytrzymałość materiałów I)</b>	Code <b>1010401141010210651</b>
Field <b>EDUCATION IN TECHNOLOGY AND INFORMATICS</b>	Year / Semester <b>2 / 4</b>
Specialty -	Course <b>core</b>
Hours Lectures: <b>1</b> Classes: -    Laboratory: <b>1</b> Projects / seminars: -	Number of credits <b>5</b>
	Language <b>polish</b>

**Lecturer:**

prof. dr hab. inż. Tadeusz Wegner  
Instytut Mechaniki Stosowanej  
Poznań, ul. Piotrowo 3  
Tel.:61 6652301  
Tadeusz.Wegner@put.poznan.pl

**Faculty:**

Faculty of Technical Physics  
ul. Nieszawska 13A  
60-965 Poznań  
tel. (061) 665-3160, fax. (061) 665-3201  
e-mail: office\_dtpf@put.poznan.pl

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

Core course of the study for Education in Technology and Informatics, Faculty of Technical Physics.

**Assumptions and objectives of the course:**

The student should obtain knowledge of theoretical fundamentals and of practical methods used in Strength of Materials analysis. S/he should be able to calculate and design members of plants taking into account strength of material.

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

Stresses in beams. Shear and bending moment diagrams. Differential equation of the elastic line. Deflection of beams. Statically indeterminate beams. Elastic column buckling. Bending stresses in curved beams. Strain energy. Materials under combined stresses. Fundamental failure theories. Combined bending and torsion. Theorem of Castigliano. Frames. Fatigue of materials.

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

Basic knowledge of mathematics and mechanics are necessary.

**Courses form and teaching methods:**

Lectures, supported by examples of structure members calculating.

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

Written tests and examination

**Basic Bibliography:**

-

**Additional Bibliography:**

-