

Title Mechanics and Strength of Materials	Code 1010101231010110341
Field Environmental Engineering First-cycle Studies	Year / Semester 2 / 3
Specialty -	Course core
Hours Lectures: 2 Classes: 1 Laboratory: - Projects / seminars: 1	Number of credits 5
	Language polish

Lecturer:

dr inż. Jacek Wdowicki
Instytut Konstrukcji Budowlanych
tel. 0-61 665 24 62
e-mail: jacek.wdowicki@put.poznan.pl

Faculty:

Faculty of Civil and Environmental Engineering
ul. Piotrowo 5
60-965 Poznań
tel. (061) 665-2413, fax. (061) 665-2444
e-mail: office_dceef@put.poznan.pl

Status of the course in the study program:

Guiding course

Assumptions and objectives of the course:

Learning of essentials of the strength analysis of structural elements.

Contents of the course (course description):

Equilibrium conditions for a mass point in the plane and in space. Friction. Laws of friction. Equilibrium conditions in the plane and in space. Rolling resistance. Strength of materials - fundamentals. Stresses in tension, compression, shear, torsion and bending. Buckling and stability of columns. Statically determinate framed and arch structures, plane truss structures. Deflections of truss and framed structures. Analysis of stress (combined loadings). Calculation of thin-walled pressure vessels by standards of UDT. Machine elements of chemical apparatus and apparatus used in environmental engineering.

Introductory courses and the required pre-knowledge:

Mathematics: semesters 1 and 2.

Courses form and teaching methods:

Lectures, seminar and projects.

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

Verification of projects, written tests and examination.

Basic Bibliography:

1. J. Przewłócki, J. Górski Podstawy mechaniki budowli Arkady Warszawa 2006
2. Z. Dyląg, A. Jakubowicz, Z. Orłoś Wytrzymałość materiałów, WNT Warszawa 1996-97
3. W. Orłowski, L. Słowański Wytrzymałość materiałów. Przykłady obliczeń Arkady Warszawa 1978
4. Z. Cywiński Mechanika budowli w zadaniach PWN Warszawa 1999
5. Pr. zbior. Wytrzymałość materiałów. Zarys teorii, przykłady, zadania Wyd. Pol. Pozn. Poznań 1981
6. J.M. Gere, S.P. Timoshenko Mechanics of Materials PWS-Kent Publishing Company Boston 1984

Additional Bibliography:

