

University POLITEHNICA of Bucharest

Faculty of Industrial Engineering & Robotics

Study programme: Industrial Engineering

Form of study: Bachelor

### COURSE SPECIFICATION

<b>Course title</b>	<b>MECHANICS OF MATERIALS II</b>	<b>Semester</b>	<b>4</b>
<b>Course code</b>	<b>UPB.06.D.03.O.002</b>	<b>ECTS</b>	<b>7</b>

<b>Course structure</b>	<b>Lecture</b>	<b>Seminar</b>	<b>Laboratory</b>	<b>Project</b>	<b>Total hours</b>
<b>No. of hours/ week</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>6</b>
<b>No. of hours/ semester</b>	<b>28</b>	<b>28</b>	<b>28</b>	<b>0</b>	<b>84</b>

<b>Lecturer</b>	<b>Lecture</b>	<b>Seminar</b>	<b>Laboratory</b>	<b>Project</b>
<b>Name, academic degree</b>	<b>Prof. Stefan-Dan PASTRAMA</b>			
<b>Contact (E-mail, location)</b>	<a href="mailto:stefan.pastrama@upb.ro">stefan.pastrama@upb.ro</a> / room CA108			

**Course description (max: 200 words):**

Knowledge of the theoretical basis in the field of mechanics of deformable solid, necessary for approaching different technical problems and acquiring knowledge on strength, stiffness and stability calculus for mechanical structures: statically indeterminate systems in bending, buckling of struts, combined loadings, impact loadings, fatigue of metals, experimental methods in stress analysis.

**Seminar description (max: 200 words):**

Strength, stiffness and stability problems for the chapters taught at the course: statically indeterminate systems in bending, buckling of struts, combined loadings, impact loadings, fatigue of metals.

**Laboratory description (max. 200 words):**

Strength, stiffness and stability problems for the chapters taught at the course, using dedicated software; experimental measurements using strain gauges and photoelasticity

**Projectscription (max. 200 words)**

<b>Assessment methods</b>	<b>Percentage of the final grade</b>	<b>Minimal requirements for award of credits</b>
<b>Written exam</b>	<b>40%</b>	<b>50% of the total points</b>
<b>Report/ Project</b>	<b>-</b>	
<b>Homework</b>	<b>20%</b>	
<b>Laboratory</b>	<b>40%</b>	

**References**

[1]. Ş.D. Pastramă - Strength of Materials 2, ISBN 978-606-250-503-5, MatrixRom Publishing House, Bucharest, 2019.

[2]. D.W.A. Rees - Mechanics of Solids and Structures, Imperial College Press, UK, 2000, ISBN 1860942172

[3]. R.J. Asaro, V.A. Lubarda - Mechanics of Solids and Materials, Cambridge University Press, UK, 2006, ISBN 0511147074

Prerequisites	Co-requisites (courses to be taken in parallel as a condition for enrolment)
Mathematics, Physics, Mechanics, Technical drawing, Mechanics of Materials 1	-----

**Additional relevant information: ----**

**Date: 27.05.2022**