

**SYLLABUS AND COURSE REQUIREMENTS  
2022/2023. I. SEMESTER**

<b>Title</b>	
<b>Course code</b>	<b>MSB403ANEP</b>
<b>Weekly hours: lect/pract/lab</b>	<b>1 / 2 / 0</b>
<b>Credit points</b>	<b>3</b>
<b>Curriculum(s)/ type</b>	<b>Civil Engineering BSc./ obligatory</b>
<b>School</b>	<b>English</b>
<b>Requirement</b>	<b>exam</b>
<b>Registration semester</b>	<b>fall semester</b>
<b>Pre-requirement(s)</b>	<b>MSB401ANEP Strength of Materials 1</b>
<b>Gestor Department(s)</b>	<b>Department of Civil Engineering</b>
<b>Responsible and lecturers</b>	<b>Dr. Attila FÜLÖP associate professor</b>

**COURSE DESCRIPTION**

Students continue to learn the fundamentals of mechanics, compression and stressing of bar structures, which helps them with dimensioning basic structural components of construction and selecting the most appropriate materials. To assist with this, students learn the rules of technical and building constructional representations and various structural systems.

**SYLLABUS**

**1. GOALS AND OBJECTIVES**

In particular, students cover the following topics: stress and deformation states, Hooke's Law, shear stresses with simultaneous bending, eccentric stresses of materials with and without tension strength, stability of compressed members - buckling, virtual forces and deflections, potential energy laws.

## 2. COURSE CONTENT

### TOPICS

LECTURE + PRACTICE	
	<ol style="list-style-type: none"><li>1. Introduction. Course description. Orientation.</li><li>2. Eccentric stresses of materials with and without tension strength</li><li>3. Shear stresses with simultaneous bending, Zhuravskiy's formula</li><li>4. Stability of compressed members - buckling.</li><li>5. Stress and deformation states</li><li>6. Virtual forces and deflections</li><li>7. Calculations of deformations of beams</li><li>8. Potential energy laws</li></ol>

## 3. ASSESSMENT AND EVALUATION

**Attendance:** In accordance with the Code of Studies and Examinations of the University of Pécs, Article 45 (2) and Annex 9. (Article 3) a student may be refused a grade or qualification in the given full-time course if the number of class absences exceeds 30% of the contact hours stipulated in the course description. To be in class at the beginning time and stay until the scheduled end of the lesson is required, tardiness of more than 20 minutes will be counted as an absence. In the case of an illness or family emergency, the student must present a valid excuse, such as a doctor's note.

### **Method for monitoring attendance**

attendance sheet

### **Mid-term assessments, performance evaluation and their weighting as a pre-requisite for taking the final exam**

Type	Assessment	Weighting as a proportion of the pre-requisite for taking the exam
1. home assignment (project documentation)	max 90 points	90 %
2. attendance	max 10 points	10 %

### **Requirements for the end-of-semester signature**

mid-term assessment of 40%

### **Re-takes for the end-of-semester signature** (PTE TVSz 50§(2))

The specific regulations for grade betterment and re-take must be read and applied according to the general Code of Studies and Examinations the assignment to be submitted can be repeated/improved each once every semester, and the home assignments can be repeated/improved at least once in the first two weeks of the examination period.

**Type of examination (written, oral):** written

**The exam is successful if the result is minimum 40 %.**

**Calculation of the grade** (TVS<sub>z</sub> 47§ (3))

The mid-term performance accounts for 50 %, the performance at the exam accounts for 50 % in the calculation of the final grade.

**Calculation of the final grade based on aggregate performance in percentage.**

Course grade	Performance in %
excellent (5)	85 % -...
good (4)	70 % ... 84 %
satisfactory (3)	55 % ... 69 %
pass (2)	40 % ... 54 %
fail (1)	below 40 %

The lower limit given at each grade belongs to that grade.

#### **COMPULSORY READING AND AVAILABILITY**

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[1st] Russel C. Hibbeler, Mechanics of Materials (9th Edition), ISBN-13: 978-0133254426

#### **RECOMMENDED LITERATURE AND AVAILABILITY**

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[2nd] Russel C. Hibbeler, Mechanics of Materials (9th Edition), ISBN-13: 978-0133254426

[3rd] Wight, J. K, MacGregor J. Reinforced concrete mechanics & design, Pearson, 2012.

[4th] Riley, Mechanics of Materials, ISBN-13: 978-0471705116

SCHEDULE

	TEACHING PERIOD, TEACHING WEEKS															EXAM PERIOD					
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	1.	2.	3.	4.	5.	
2022/2023. I. SEMESTER																					
Number of Lecture and Practice	1	2	3	4	4	5	6	6		7	7	8	8	9							
Laboratory																					
Exams														x							
Signature and midsemester grade															sig n.						
Planned exam time																					

5<sup>th</sup> September 2022.

**Dr. Attila FÜLÖP**

responsible lecturer