

**SYLLABUS AND COURSE REQUIREMENTS
2021/2022. I. SEMESTER**

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

INTRODUCTION, LEARNING OUTCOMES

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.

CONTENT

General Course Description and Main Content: 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.

Lecture and Practice:

1. Introduction. Course description. Orientation.
2. Eccentric stresses of materials with and without tension strength
3. Shear stresses with simultaneous bending, Zhuravskiy's formula
4. Stability of compressed members - buckling.
5. Stress and deformation states
6. Virtual forces and deflections
7. Calculations of deformations of beams
8. Potential energy laws
9. Exam

EVALUATION AND GRADING

Attendance: Attending is required all classes. In case of unexcused absence from more than 30% of the total number of lessons will be grounds for failing the class. 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.

Signature / Grading: The grading is based on the semester homework project 40%, end semester exam 50%, and attendance 10%. Details is discussed on the practice.

Grading Scale:

0 – 50 % failed (1)

51 – 62 % passed (2)

63 – 75% satisfactory (3)

76 – 87 % good (4)

88 – 100 % excellent (5)

RECOMMENDED READINGS

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

[2nd] Wight, J. K, MacGregor J. Reinforced concrete mechanics & design, Pearson, 2012.

[3rd] 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.
2021/2022. 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																				

7th September 2021.

Dr. Attila FÜLÖP

responsible lecturer