

SUBJECT MATTER AND PERFORMANCE REQUIREMENTS
SEMESTER: 2022/2023. 1.

Subject: Structural Analysis 2.

<i>Code</i>	<i>MSB385ANEP</i>
<i>Weekly hours: L/Pr/lab</i>	<i>0/1/1</i>
<i>Credits</i>	<i>2</i>
<i>Degree (s) / Type</i>	<i>Civil Engineering BSc</i>
<i>Type</i>	<i>Full-time</i>
<i>Requirement</i>	<i>Exam</i>
<i>Semester</i>	<i>5</i>
<i>Prerequisite(s)</i>	<i>MSB404AN Structural Analysis 1.</i>
<i>Teaching Department(s)</i>	<i>Department of Civil engineering</i>
<i>Responsible and trainers</i>	<i>Vanda Olimpia Pomezanski Dr. associate professor</i>

AIM OF THE COURSE

The aim of the course is to introduce the necessary basics and relationships for mastering the subject group and to provide general knowledge for the recognition and analysis of load-bearing forces in load-bearing structures. Further aim is to provide a solid basic knowledge for further technical education.

CONTENT

Short description:

During the course, students become acquainted with the behavior of statically determinate and indeterminate planar structures with a moving vehicle load. They master the process of producing maximum stress diagrams for distributed and concentrated load.

Topics:

Examination of static and indefinite planar supports for moving vehicle loads. Creating demand diagrams. Maximum load diagrams for brackets for distributed and concentrated loads.

Exercise:

1. Internal force influence line diagrams of statically determinate structures (simple supported beam, cantilevered simple supported beam)
2. Internal force influence line diagrams of statically determinate structures (three hinged and Gerber style structures)
3. Influence lines of statically determinate truss type structures
4. Influence lines of statically indeterminate structures by the force method
5. Influence lines of over supported beam structures by the force method
6. Maximal internal force diagrams in case of distributed loads
7. Maximal internal force diagrams in case of concentrated loads

Laboratory:

1. Internal force influence line diagrams of statically determinate structures (simple supported beam, cantilevered simple supported beam)
2. Internal force influence line diagrams of statically determinate structures (three hinged and Gerber style structures)
3. Influence lines of statically determinate truss type structures
4. Influence lines of statically indeterminate structures by the force method
5. Influence lines of over supported beam structures by the force method
6. Maximal internal force diagrams in case of distributed loads
7. Maximal internal force diagrams in case of concentrated loads

EVALUATION + GRADING

Attendance:

Attending is required all classes. Unexcused absences will adversely affect the grade, and in case of absence from more than **30%** of the total number of lesson (4 times) 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 / semester mark condition:

2 midterm test: 50-50 points

Recognition of the semester is subject to a minimum of 40% each, and attendance at lectures and practice.

Exam: presentation, 100 points, min.: 40%

Grading Scale:

Semester points: 200 point (minimum 80 point).

Exam mark (semester points + exam points)

Course grade	Performance in %
excellent (5)	85 % ...100%
good (4)	70 % ... 85 %
satisfactory (3)	55 % ... 70 %
pass (2)	40 % ... 55 %
fail (1)	0 % ... 40 %

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

REQUIRED AND RECOMMENDED LITERATURE

- [1.] Exercise Material,
- [2.] Electronic Aids on TEAMS/Moodle
- [3.] R.C.Hibbeler, *Structural analysis*, ninth edition, section 6. 2015. ISBN-13: 978-0-13-394294-2

Examples from Hungarian books:

- [4.] Kurutzné Kovács Márta: *Tartók statikája*, 2006, Műegyetemi kiadó (figures with white background)
- [5.] Pásztor Erzsébet, Tamássy Tamás: *Tartók statikája példatár I.*, Tankönyvkiadó Budapest 1992. J9-1275. (figures with yellow background)

SCHEDULE

		WORKING PERIODS, TEACHING WEEKS															EXAM PERIOD						
SEMESTER 2019/2020. I.		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	1.	2.	3.	4.	5.		
Serial number of presentation		1.		2.		3.		4.				5.		6.		7.			Signature and midterm mark cannot be corrected				
Serial number of practice/laboratory			1.		2.		3.		4.		5.		6.		7.								
Midterm test								1						2									
Take home test	promulgation							1						2									
	submission deadlines							1						2									
Retakes	Midterm test															X							
Others	eg. reports,																						
	etc.																						
Signature / semester mark															A								
Scheduled dates for exams																	X						

September 05. 2022.

Vanda Olimpia Pomezanski Dr.
associate professor.