COURSE SYLLABUS AND COURSE REQUIREMENTS
ACADEMIC YEAR 2023-24 SEMESTER 1

Course title	*Structural Analysis 2.*
Course Code	*MSB385ANEP*
Hours/Week: le/pr/lab	*0/1/1*
Credits	*2*
Degree Programme	*Civil Engineering BSc*
Study Mode	*Full-time*
Requirements	*Exam*
Teaching Period	*5*
Prerequisites	*MSB404AN Structural Analysis 1.*
Department(s)	*Department of Civil engineering*
Course Director	*Vanda Olimpia Pomezanski Dr. associate professor*
Teaching Staff	*Vanda Olimpia Pomezanski Dr. associate professor*
Hours/Week: le/pr/lab	*MSB385ANEP*

COURSE 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.

SYLLABUS

1. GOALS AND OBJECTIVES

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

2. COURSE CONTENT

	TOPICS
LECTURE	----
PRACTICE	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 PRACTICE	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 concentrated and distributed loads

DETAILED SYLLABUS AND COURSE SCHEDULE

PRACTICE, LABORATORY PRACTICE

week	**Topic**	**Compulsory reading; page number (from … to …)**	**Required tasks (assignments, tests, etc.)**	**Completion date, due date**
1.	1. Pr.	[1.], [2.], [3.] pp. 211-221		
2.	1. Lab.	[1.], [2.], [3.] pp. 230-233		
3.	2. Pr.	[1.], [2.], [3.] pp. 222-229		
4.	2. Lab.	[1.], [2.], [3.] pp. 238-252		
5.	3. Pr.	[1.], [2.], [3.] pp. 234-237		
6.	3. Lab.	[3.] pp. 253-267	Test 1.	
7.	4. Pr.	[1.], [2.]		Test 1
8.	4. Lab.	[1.], [2.]		
9.	5. Pr.	[1.], [2.]		
10.	5. Lab.	[1.], [2.]	Test 2	
11.	6. Pr.	[1.], [2.]		Test 2
12.	6. Lab.	[1.], [2.]		
13.	7. Pr.	[1.], [2.]		

3. ASSESSMENT AND EVALUATION

ATTENDANCE

In accordance with **the Code of Studies and Examinations of the University of Pécs** (PTE TVSz), Article 45 (2) and Annex 9. (Article 3) a student will be refused a grade or qualification in the given full-time course if the number of class absences exceeds 30% (4 times) 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

ASSESSMENT

2 midterm test: 50-50 points

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***
Test 1: home assignment	**50 points**	**50 %**
Test 2: home assignment	**50 points**	**50 %**

Requirements for the end-of-semester signature

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

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

The two midterm tests of the semester are assignments to be submitted in time. If they are submitted **in time**, then there will be a correction possibility for them, if not then it is failed. Failed or skipped midterm exams can be repeated once at the beginning of the exam period.

Type of examination: **oral presentation**

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

Calculation of the grade *(TVSz 47§ (3))*
The mid-term performance accounts for **100 points 50%**, the performance at the exam accounts for ***100 points 50%*** in the calculation of the final grade.

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

Course grade	Performance in %	Performance in points
excellent (5)	85 % …	170 - 200
good (4)	70 % ... 85 %	140 - 170
satisfactory (3)	55 % ... 70 %	110 - 140
pass (2)	40 % ... 55 %	80 - 110
fail (1)	below 40 %	0 - 80

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

4. SPECIFIED LITERATURE

COMPULSORY READING AND AVAILABILITY

[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

RECOMMENDED LITERATURE AND AVAILABILITY

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)