

BME Department of Mechanics, Materials and Structures				
SUBJECT : STRENGTH OF MATERIALS I.		SESSION	SEMESTER	YEAR
CODE: BMEEPSTA301, CREDITS: 4		2018/19	1.	N.II.
PROFESSORS: Ms. Á. O. Csicsely, Ms. R. Vajk				

## TOPICS SCHEDULE

Date	Date	LECTURES Wednesday 12 <sup>15</sup> - 14 <sup>00</sup>	Date	PRACTICALS Tuesday: 10 <sup>15</sup> – 12 <sup>00</sup>
1.		Simple tension, compression		BP1. Repetition of statics. Centroid of cross sections.
37.	09. 05.		09. 04.	
2.		Pure shear. Riveted/bolted joints		BP2. Simple tension, compression.
38.	09. 12.		09. 11.	
3.		Pure bending		BP3. Pure shear. Riveted/bolted joints.
39.	09. 19.		09. 18.	
4.		Skew bending		BP4. Inertia of cross section. Pure bending
40.	09. 26.		09. 25.	
5.		Eccentric tension and compression		BP5. Skew bending
41.	10. 03.		10. 02.	
6.		<b>TEST 1: Simple tension, compression, joints, pure and skew bending</b>		BP6. Eccentric tension and compression in elastic stress state
42.	10. 10.		10. 09.	
7.		-		-
43.	10. 17.		10. 16.	
8.		Materials not having tensile strength		Holiday
44.	10. 24.		10. 23.	
9.		Bending combined with shear		BP7. Eccentric tension and compression in plastic state
45.	10. 31.		10. 30.	
10.		Complex stress state		BP8. Eccentric tension, compression, core of section
46.	11. 07.		11. 06.	
11.		Capacity diagram		BP9. Materials not having tensile strength
47.	11. 14.		11. 13.	
12.		Torsion		BP10. Bending combined with shear, design for bending
48.	11. 21.		11. 20.	
13.		<b>TEST 2: Eccentric tension, compression, bending combined with shear, materials not having tensile strength</b>		BP11. Torsion (shear, bending), Capacity diagram
49.	11. 28.		11. 27.	
14.		-		-
50.	12. 04.		12. 04.	
15.		<b>Repetition test</b>		-
51.	12. 12. 8 <sup>15</sup> -12 <sup>00</sup>			

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## CONDITION OF FULFILMENT

<b>PRELIMINARY CONDITIONS</b>	Successful exam from <b>Mathematics 1 (BMETE951967)</b> and <b>Statics (BMEÉPST1207)</b> .
<b>TYPE OF CLASSES</b>	<ul style="list-style-type: none"> <li>- LECTURE: Mostly theory. The attendance is obligatory and regularly checked.</li> <li>- BLACKBOARD PRACTICAL: Explanation of theory by numerical exercises. The attendance is obligatory and regularly checked.</li> <li>- TEST: closed book test, you have to work independently (only study aids handed out by the department is allowed to be used).</li> <li>- HOMEWORK: exercises to practice regularly at home.</li> </ul>
<b>SEMESTER CONTROLS</b>	<ul style="list-style-type: none"> <li>- There are two TESTs marked by max. 120 points each. Not written test means 0 point. At the end of the semester each of the two tests can be repeated only once, and repetition test overwrites the result of <u>the original test</u>.</li> <li>- Homework is given weekly on Piazza, all together worth about 20 points. There submission is not obligatory, however their solution is a preparation for the tests and highly suggested. If you need help in their solutions you can ask the teachers. The deadline for the submission of each homework is the next practical lesson. no possibility for late submission. Extra 2 points can be gained in case of handing in all the homework solutions in time at an acceptable level.</li> </ul>
<b>CONDITION OF THE SUBSCRIPTION</b>	<ol style="list-style-type: none"> <li>1. Absence rate is less than 30 % in both lectures and practicals.</li> <li>2. Minimum 60 points from each of the two tests. (Minimum 60 points from Test 1 and minimum 60 points from Test 2)</li> </ol> <p>In case the conditions of the subscription are not fulfilled the student is not allowed to attend the exam. There is no improvement /replacement possibility. Homework is optional, its result does not modify the mid-semester requirements, it improves the final mark.</p>
<b>CONDITIONS TO ATTEND THE EXAM</b>	<ul style="list-style-type: none"> <li>- Subscription from the semester or from the previous 3 years.</li> <li>- Application for the exam in the NEPTUN before the given deadline.</li> <li>- Proof of identity by a photo ID before the exam.</li> </ul> <p><u>The nonattendance on an exam without withdrawing from the exam in the Neptun will be charged with an extra fee. All the students who start their exam will get a mark between 1 and 5 depending on their results.</u></p>
<b>EXAM DATES</b>	As in Neptun.
<b>EXAM</b>	It consists of two 90 min. closed book test, each is marked by 120 points. Study aids will be provided if necessary. Minimum 120 points are required from the two tests to pass the exam test.
<b>RESULT OF THE EXAM</b>	<p>Maximal 480 points can be obtained in the semester. 50 % of it is from semester point, and 50 % of it is from exam points.</p> <p>- semester points : min. 120 - max. 240 (260)      - exam points : min. 120 - max. 240</p> <p>Requirement to pass the exam: min. 240 points from sum points (semester points + exam points)</p> <p>Mark 2 (240-289 points), Mark 3 (290-339 points), Mark 4 (340-389 points), Mark 5 (390-480 points).</p>
<b>REPETITION OF EXAM</b>	A failed exam can be repeated once if the conditions for attending the exam are fulfilled.
<b>CONTACT</b>	<p>Teachers are available during their office hours. Communication by e-mail is also encouraged: <a href="mailto:agnescsicsely@yahoo.com">agnescsicsely@yahoo.com</a>, <a href="mailto:rita.vajk@gmail.com">rita.vajk@gmail.com</a></p> <p>During the course we use the online Q&amp;A platform piazza (piazza.com). For enrolment: <a href="http://piazza.com/technical_university_budapest/summer2018/bmeepsta301en">piazza.com/technical_university_budapest/summer2018/bmeepsta301en</a> , Access Code: bmeepsta301</p>
<b>STUDY AIDS</b>	<p>Collection of Examples: Strength of Materials 1</p> <p>Study aids on <a href="http://szt.bme.hu">szt.bme.hu</a> and on <a href="http://piazza.com">piazza.com</a></p>