

BME FACULTY OF ARCHITECTURE				
DEPARTMENT OF MECHANICS, MATERIALS AND STRUCTURES				
Subject: REINFORCED CONCRETE STRUCTURES			Code: BMETKEPB603	
Evaluation form	Credit points	Educational year	Semester	Year
EXAM	6	2010/2011	2nd	A3
Lecturer: Dr. András Draskóczy		Practical lessons: Bernát Csuka, Dr. György Visnovitz		

REQUIREMENTS

Conditions of inscription:	-Fulfilment of the prerequisites: succesful exam in Building Construction I and Strength of Materials global exam
Character of the lessons:	Lectures and practical lessons in small groups, optional laboratory test Types of practical lessons: B: blackboard exercise, solution of problems at the blackboard by the practical teacher MP: marked practical, work done by help of the teacher DE: design exercise T: test, individual work (design aids distributed by the Department can only be used)
Prescriptions for presence:	According to Study Regulations. Presence on practical lessons is regularly checked.
Midsemester controls (dates as given in topics schedule):	Three 105 Minutes tests (T), max. 120 points each, 0 point in case of absence. There is no possibility for suuplying tests. Three 30 Minutes marked practicals (MP), valueing 15 points max. each, 0 point in case of absence. There is no possibility for supplying MP-s.
Scheduled design exercises (deadlines as indicated in topics schedule):	Two design exercises (DE) are made at home with individual consultation possibility during reception hours, the 1st DE valueing 20 points max., the 2nd DE valueing 25 points. (Computer-aided solutions and projects can only be submitted after previous consultation with, and agreement of the practical teacher.) Condition of acceptance: adequate elaboration level checked by the practical teacher three days upon submission at the latest. Final termin of submission: 16th of May at 12.00 a.m. Passing this deadline means loosing the semester. Requirements prescribed for the educational period can not be recovered during the examination period.
Conditions of signature:	<ol style="list-style-type: none"> 1. Fulfilment of the prerequisites 2. Presence on at least 70% of practical lessons (max. 3 missings) 3. Submission and acceptance of the design exercises 4. 60 points mean of the best two test results 5. Achievement of at least 120 points from the total of 240 points that can be given as maximum for the term work, as given below: $1,5 \times T \text{meanvalue}(\text{of the two best tests}) + MP \text{meanvalue}(\text{of the two best MP-s}) + \Sigma DE \text{points}$ Students not fulfilling conditions of signature can not sit for the exam.
Conditions of admission to the exam:	-Aquisition of signature in the present or previous max. 8th semester. -Inscription for the exam in the booklet available in the entrance-hall of the Department. Or the NEPTUN System, when available. -presenting personal identification document with photo at the beginning of the written exam. After beginning the written exam no retirement from the exam can be accepted. Not fulfilment means failing the exam..
Dates of the exams:	of May, of June
Character of the exam:	2x90 Minutes written exam. In the first part problems are given, the second part includes theoretical questions too. During the first part design aids indicated by the Department can be used. During the second part no aids can be used at all. Exam requirements: knowledge of the material of the lectures, practical lessons and of the obligatory literature.
Final mark:	Max. 50% of the total of. 480 poinst that can be achieved are given for the exam. Conditions of passing the exam: -min. 100 points for the written exam -min. 240 points for the term work and the written exam together. Final mark: 0-239 points fail (1) 240-289 points pass (2) 290-339 points satisfactory (3) 340-389 points good (4) 390-480 points excellent (5)
Repeating the exam:	Unsuccesful exam can be repeated during the examination period, observing other conditions of admission to the exam. Improving the final mark is possible according to the Exam Regulations.

Obligatory literature:

Deák – Draskóczy – Dulácska – Kollár – Visnovitz: Reinforced Concrete Design Aids, 2004.

Draskóczy, A.: Lecture notes

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TOPICS SCHEDULE

Week	Date	LECTURES		Date	PRACTICAL LESSONS	
		Monday 12.15-14.00 K326	Tuesday 10.15-12.00 K212		Thursday 8.15-10.00	
1	7. Febr. 8.	1. Introduction, loads, concrete and steel, historical review		10.	Modelling, loads, effective span, resistance moment	B1
2	14. 15.	2. Modelling, bending of rectangular sections, 3rd state of stresses, flanged beams				
		3. Stress states 1, 2 and 3, inertia in stress states 1 and 2		17. Febr.	Design and check of rectang. sections subjected to bending	B2
		4. Plastic design, continuous beams, substitutive loading			Distribution of DE1 and DE2	
3	21. 22.	5. Deformations, crack width		24.	T and other sections subjected to bending, Deflection check	B3
		6. Shear				
4	28. 1. March	7. Anchorage, shifting of the moment diagram, check of beam end, detailing of beams		3. March	Bending Shear	MP1 B4
		8. Slabs, one-way slabs, stair slabs				
5	7.	9. Two-way slabs		8. 10.	Simple supported beam Test 1: Modelling reinforced concrete, flexural and shear design of beams	B5
6	14. or 19. 15.	10. Flat slabs, punching, deflection of slabs National holiday		17.	Continuous beams, one way slabs	B6
7	21. 22.	11. R.c. sections subjected to axial and eccentric compression		24.	Stair slabs, two-way slabs	B7
		12. R.c. column, buckling				
8	28. 29.	13. Walls, tie-beams, local compression		31.	Beams and slabs Two-way slabs	MP2 B8
		14. Composite structures				
9	4. 5.	Studio week		7.	Studio week	
10	11. 12.	15. Joints of r.c. structures Deep beams, r.c. walls, bracing		14.	Test 2: Continuous beams, r.c. slabs	
		16. Prefabricated r.c. structures				
11	18. 19.	17. Prestressed r.c. structures		21.	Axially compressed columns Deadline of DE1	B9
		18. Basements				
12	25. 26.	Eastern Monday, holiday		28.	Eccentric compression	B10
		19. Design theory of structures				
13	2. May	20. Fire protection of structures		3. 5.	R.c. columns Flat slabs Test3: R.c. columns	MP3 B11
14	10-14	PREPARATORY WEEK		12.	PREPARATORY WEEK Deadline of DE2	