BME FACULTY OF ARCHITECTURE DEPARTMENT OF MECHANICS, MATERIALS AND STRUCTURES				
Subject: **REINFORCED CONCRETE STRUCTURES**			Code: **BMEEPSTK601**	
Evaluation form	Credit points	Educational year	Semester	Year
EXAM	6	2011/2012	2nd	A3
Lecturer: Dr. András Draskóczy		Practical lessons: Bernát Csuka		

REQUIREMENTS

Conditions of inscription:	-Fulfilment of the prerequisits: succesful exam in Building Construction I and Strength of Materials global exam
Character of the lessons:	Lectures and practical lessons in small groups 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 lectures and practical lessons is obligatory and 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 50 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: 14th 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:	1. Fulfilment of the prerequisits 2. Presence on at least 70% of the lectures and of practical lessons (max. 3-3 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: 1,5xTmeanvalue(of the two best tests) + MPmeanvalue(of the two best MP-s) + ΣDEpoints 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 (will be given later)
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, 2011.

Draskóczy, A.: Lecture notes

Topics schedule and requirements, design exercises and lecture notes see on homepage of the Department: www.szt.bme.hu

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TOPICS SCHEDULE

Week	Date	**LECTURES** **Tuesday 16.15-18.00 K354b** Friday 10.15-12.00 K353	Date	**PRACTICAL LESSONS** Thursday 12.15-14.00 K393
1	8. Febr. 10.	1. Introduction, loads, concrete and steel, historical review 2. Modelling, bending of rectangular sections, 3rd state of stresses, flanged beams	9. Febr. .	Modelling, loads, effective span, resistance moment B1
2	14. 17.	3. Stress states 1, 2 and 3, inertia in stress states 1 and 2 4. Plastic design, continuous beams, substitutive loading	16.	Design and check of rectang. sections subjected to bending B2 Distribution of DE1 and DE2
3	21. 24.	5. Deformations, crack width 6. Shear	23.	T and other sections subjected to bending, Deflection check B3
4	28. 2.March	7. Anchorage, shifting of the moment diagram, check of beam end, detailing of beams 8. Slabs, one-way slabs, stair slabs	1. March	Shear B4
5	6. 9.	9. Two-way slabs 10. Flat slabs, punching, deflection of slabs	8.	**Bending** **MP1** Simple supported beam B5
6	13. 16.	**Test 1: Modelling reinforced concrete, flexural and shear design of beams** Day off	15.	National holiday
7	20. 23. 24. (Sut.!)	11. R.c. sections subjected to axial and eccentric compression 12. R.c. column, buckling Consultion of design xercises	22.	Continuous beams, one way slabs B6
8	27. 30.	13. Walls, tie-beams, local compression 14. Composite structures	29.	Stair slabs, two-way slabs B7
9	3. April 6.	15. Joints of r.c. structures Deep beams, r.c. walls, bracing 16. Prefabricated r.c. structures	5.	**Beams and slabs** **MP2** Two-way slabs B8
10	10. 13.	**Test 2: Beams and slabs** 17. Prestressed r.c. structures	12.	Axially compressed columns B9 **Deadline of DE1**
11	16-20.	Studio week	16-20.	Studio week
12	24. 27	18. Basements 19. Design theory of structures, Fire protection of structures	26.	Eccentric compression B10
13	1. May 4.	Holiday **Test3: R.c. columns**	3. May	**R.c. columns** **MP3** Eccentrically loaded column B11
14	7-11.	PREPARATORY WEEK	10.	PREPARATORY WEEK **Deadline of DE2**