S Y L L A B U S

MSB383A- Reinforced Concrete Structures 2

Course number: MSB383A

Schedule: R11:15am-1:30pm, begins: 2/2/21 ends: 5/13/21

Allotment: Lecture R11:15-12:00pm, Practice R12:00-1:30pm

Major: Civil Engineer

Semester: Sophomore year, spring semester

Room: Synchronous via MS Teams

Instructor: Juhasz, Tamas

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Office hours: Online by request. During state of emergency in-person meetings are suspended.

Prerequisite: Reinforced Concrete Structures 1

Course description:

The objective of the course, is to provide basic knowledge in the field of reinforced concrete slabs and frames. During the first half of the semester the theory of two-way slabs is discussed covering the following sub-areas. Elastic analysis, distribution of moments is two-way slabs, equivalent frame methods, deflections, yield-line analysis according to Johansen, yield-line patterns, design of slabs without beams, punching shear. The second half covers the mechanics and design of reinforced concrete frames, namely: sway and nonsway frames, design of slender columns, columns in sway and nonsway frames, first and second order analysis. The course is based on the regulations according to Eurocode 2 standards. The practical classes are aided by AxisVM FEM software.

Tests and assignments:

There will be two midterm tests and two assignments. Students must achieve 50% of scores at least.

- 1st midterm test (date TBA), test score 25
  Topics covered: reinforced concrete slabs
- 2nd midterm test (date TBA), test score 25
  Topics covered: reinforced concrete frames, slender columns
- 1st assignment (due date TBA)
  Students have to carry out detailed reinforcement plans for a designated concrete ribbed slab.
- 2nd assignment (due date TBA)
  Students have to carry out detailed reinforcement plans for a designated loadbearing concrete frame structure.

Assignments must be defended by an oral examination on the final week.

Numerical grading system:
Scores/ semester 100 = 100 %

Excellent (5)	Good (4)	Satisfactory (3)	Pass (2)	Fail (1)
100-88%	75-87%	62-74%	51-61%	0-50%