

## COURSE SYLLABUS SEMESTER SPRING 2019/2020

<i>Name of Course</i>	<i>Steel-Concrete Composite Structures</i>
<i>Course Code</i>	<b>MSB391AN</b>
<i>Allotment of hours per week</i>	<b>1/1/0</b>
<i>Number of credits</i>	<b>2</b>
<i>Program</i>	<b>Civil Engineering (BSc)</b>
<i>Evaluation</i>	<b>Course mark</b>
<i>Semester</i>	<b>6th</b>
<i>Prerequisites</i>	<b>Reinforced Concrete Structures 1, Steel Structures 1</b>
<i>Department</i>	<b>Civil Engineering</b>
<i>Instructor</i>	<b>András Dormány</b>

### INTRODUCTION, GENERAL COURSE DESCRIPTION

The aim of the course is to present the types of composite structures, working mechanism of them and the construction methods. The students have to learn the design methods according to Eurocode.

### LEARNING OBJECTIVES

The working mechanism of composite structures. Load bearing capacity of steel-composite structures in case of partial and full interaction. Longitudinal shear and shear connections. Effects of slip on stresses and deflection. Design of simply supported beam and slab. Design of multi-supported beams and slabs. Composite columns and frames. Serviceability Limit States.

*Schedule:*

Lecture:

1. Types of Steel-concrete composite structures, plastic analysis of simply supported composite structures
2. Plastic analysis of multi-supported composite structures, interaction of bending and shear
3. Plastic analysis of multi-supported beams and bridges
4. Stability of composite structures, longitudinal shear, full and partial interaction
5. Design of shear connection, serviceability Limit States
6. Composite columns
7. Consultation

Practice:

1. Effect of shrinkage and creep in Steel-concrete composite structures
2. Calculation of simply supported beam
3. Design of shear connection
4. Full and partial interaction
5. Serviceability Limit States
6. FEM modelling of Composite structures
7. Consultation

## ATTENDANCE AND GRADING

*Attendance: according to Study Code.*

*Grading:* Students have to accomplish the semester assignment.

Evaluation in percents	Numeric grade
89%-100%	5
76%-88%	4
64%-75%	3
51%-63%	2
0-50%	1

## READING AND REFERENCE MATERIALS

- [1.] R.P. Johnson: Composite Structures of Steel and Concrete, third edition, 2004  
ISBN 1-4051-0035-4

# SCHEDULE

		STUDY PERIOD, WEEKS															EXAM PERIOD				
		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	1.	2.	3.	4.	5.
SEMESTER FALL 2019/2020		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	1.	2.	3.	4.	5.
Lecture number		1		2		3		4		5		6		7							
Practice number			1		2		3		4		5		6		7						
Semester assignment	publishing								X												
	submission															X					
Create of course mark																	A/ FJ				

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