COURSE		STRUCTURES I		
LECTURER		Assoc. Prof. Samir Dolarević Ph.D.		
STUDY	**STATUS**	**SEMESTER**	**NUMBER OF LESSONS L+E**	**ECTS**
B - CE	Compulsory	3	2+2	5

OBJECTIVES

- Introduction of basic laws of structural behavior under various loads. Establishing logic and rules for relating real-life structures and analysis models.

LEARNING OUTCOMES

- Understanding of term: line model of structure
- Analysis of statically determinate line models in plane – calculation of displacements, deformations and internal forces - stresses

COURSE CONTENT

- Basic principles and general assumptions in the analysis of structures. Line model. Loads. Internal forces. Static determinacy and kinematic stability. Beam theory: equillibrium equations, analytical expressions for the internal forces for flat and curved beams. Boundary conditions. Analysis of statically determinate systems: determination of reaction for plane systems, arched systems. Indirectly loaded structures and truss girders - the specifics of analysis and load transfer. Influence lines: concept, application, properties and forms. Constitutive and kinematic equations. Differential equation for beam. Mohr's analogy. Lagrange's equillibrium principle. Flexibility and stiffness. Betty's theorem, Maxwell's theorem, Maxwell-Mohr's equation. Aplication on statically determinate systems.

RECOMMENDED LITERATURE

1. S.Dolarević, *Statika konstrukcija*, Građevinski fakultet Sarajevo, 2011.
2. Đurić, *Statika konstrukcija,* Građevinska knjiga Beograd

Examination:
During the classes the exam is taken in two parts in writing. Each part is scored as follows: test of homework - 10 points, midterm exam - 40 points, a total of 50 points.
a) If a student realizes 55% of both partial exams, the final mark will be graded according to a scale prescribed by the Law on Higher Education. Students who miss less than 5 points for grades 8, 9 and 10 are allowed to take the final exam orally for a higher grade.
b) Students who pass one part, on the final exam take in writing the part that they did not pass. The mark is formed as in a) except that there is no oral option for a higher grade.
c) Students who do not pass any part during the classes, take writing exam in integral form and marks will be graded in the following form:
50% of the points awarded during the classes + 50% of points awarded at the final exam.
Cancelling exams: Students, who have passed both parts and are not satisfied with the results achieved in one part, can take that part again on the final exam.