1. Course number and name

RB-S1-19-W2C-3E, **Structural Mechanics II**

2. Credits and contact hours*

5 ECTS, lectures: 30 hours**, classes: 2 hours**, project: 18 hours**, laboratory: 10 hours**

3. Instructor's or course coordinator's name

Ryszard Walentyński PhD, DSc/University Professor

4. Text book, title, author, and year

- Ghali et al.: „Structural Analysis: The Unified Classical and Matrix Approach". Taylor & Francis
- Karnovski and O. Lebed: „Advanced Methods of Structural Analysis". Springer C.H.
- Norris and J.B. Wilbur: „Elementary Structural Analysis". McGraw Hill

a. other supplemental materials

- any other book of Structural Mechanics

5. Specific course information

a. brief description of the content of the course (catalog description)

Lectures:

Statically indeterminate structures. Force method. Displacement method (classical, iterative, matrix). Introduction to limit load capacity.

Classes:

Statically indeterminate structures. Force method. Displacement method (classical, iterative, matrix). Introduction to limit load capacity.

Project:

Statically indeterminate structures. Force method. Displacement method (classical, iterative, matrix). Introduction to limit load capacity.

Laboratory:

Getting skills on selected programs of structural analysis.

b. prerequisites or co-requisites

Mechanics, Mechanics of Materials, Structural Mechanics I

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

Required.

6. Specific goals for the course

a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic

The student knows:

principles of structural analysis of statically indeterminate rod structures

have skills in:

- selected computer programs of structural analysis
- solving statically indeterminate structures (internal forces and displacements)
- basics of limit load capacity

have social competencies in:

- responsibility for accuracy of the work results and their interpretation
- ability to work on the given task autonomically and cooperate in a team

b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

K1A_W04, K1A_U03, K1A_U12

7. Brief list of topics to be covered

a) Statically indeterminate structures.

b) Solving statically indeterminate structures (internal forces and displacements).

c) Basics of limit load capacity.

d) Getting skills on selected programs of structural analysis.

*- Consultations were not included in the contact hours

**-per semester