<u>1. Course number and name</u>

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, CEng, MSc, PhD, DSc, Assoc. Prof.

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

<u>program</u>

Required.

6. Specific goals for the course

<u>a. specific outcomes of instruction, ex. The student will be able to explain the significance</u> 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