



1. Course number and name

RB-S1-19-W2C-3D, **Structural Mechanics I**

2. Credits and contact hours*

5 ECTS, lectures: 25 hours**, classes: 2 hours**, project: 28 hours**, laboratory: 5hours**

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
- Karnowski 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 determinate structures. Finding displacements in statically determinate structures. Influence lines and envelopes.

Classes:

Statically determinate structures. Finding displacements in statically determinate structures. Influence lines and envelopes.

Project:

Statically determinate structures. Finding displacements in statically determinate structures. Influence lines and envelopes

Laboratory:

Getting skills on selected programs of structural analysis.

b. prerequisites or co-requisites

Mechanics, Mechanics of Materials,

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 determinate rod structures

have skills in:

- selected computer programs of structural analysis,
- solving statically determinate structures (internal forces and displacements),
- finding influence lines and envelopes of simple statically determinate structures,

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_U04, K1A_U12

7. Brief list of topics to be covered

- a) Statically determinate structures.
- b) Finding displacements in statically determinate structures.
- c) Influence lines and envelopes.
- d) Getting skills on selected programs of structural analysis.

*- Consultations were not included in the contact hours

** -per semester