



1. Course number and name

RB-S1-19-W21-B7, **Engineering Graphics II**

2. Credits and contact hours*

2 ECTS, laboratory classes: 15 hours**

3. Instructor's or course coordinator's name

Monika Sroka-Bizoń PhD

4. Text book, title, author, and year

- Pottmann H. Asperl A., Hofer M., Kilian A.: Architectural Geometry, Bentley Institute Press, 2013
- Platenberg K.: Engineering Graphics Essentials with AutoCAD 2021 Instruction, SDC Publications, 2020

a. other supplemental materials

- online teaching materials - Interactive and animated drawing teaching tools realized in the Erasmus+ project No 2017-1-LT01- KA202-035177 - <https://liggd.lt/diad-tools/gb/training-materials>

5. Specific course information

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

Laboratory Classes:

A main course objective is acquiring of skills in geometric shaping of buildings using CAD and BIM programs. As part of the laboratory classes, computer-aided design works are realized in which structural geometric problems are solved. Design Works will be carried out in the following areas: modelling of geometric objects - solids, polyhedrons, surfaces (surfaces of second degree; Catalan's surfaces, free shape surfaces) using CAD and BIM programs; editing 3D models, making changes, preparing a printout; development of the design concept, preparation of the digital spatial model of the designed object, preparation of drawing documentation using CAD and BIM programs.

b. prerequisites or co-requisites

the course of Engineering Graphic 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 will know:

- the rules of the construction digital spatial models of geometric objects in CAD and BIM programs,
- the rules of work in computer – aided design programs and BIM programs.

The student will be able:

- to develop digital documentation of a simple civil engineering object using CAD and BIM programs.

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

K1A_W02, K1A_U07

7. Brief list of topics to be covered

1. 2D drawings with CAD.
2. Layouts in CAD programs.
3. 6 views of 3D object with CAD.
4. Construction of spatial object defined by main views with CAD.
5. Cross-section in CAD programs.
6. Editing 3D models, making changes.
7. Modelling of geometric objects – solids, polyhedrons, surfaces.
8. Preparing a printout.
9. Development of the design concept, preparation of the digital spatial model of the designed object.
10. Preparation of drawing documentation using CAD and BIM programs.

*- Consultations were not included in the contact hours

** -per semester