1. Course number and name

RB-S1-19-W25-83, Surveying II

2. Credits and contact hours*

2 ECTS, lectures: 15 hours**, classes: 5 hours**, laboratory: 10 hours**

3. Instructor's or course coordinator's name

Magdalena Wróblewska, PhD Eng.

4. Text book, title, author, and year

- Anderson J., Mikhail E.: Surveying: Theory and Practise. WCB/McGRAW-HILL, New York, 1998.
- Assur V.L., Filatov A.M.: Practical Guide to Surveying. Mir Publishers Moscow 1998.
- Hycner R., Dobrowolska-Wesołowska M.: Geodesy, Surveying and Professionals Ethics. Wydawnictwo Gall, 2008.
- Kavanagh B., Slattery D.: Surveying with Construction Applications. Pearson 2013.

5. Specific course information

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

Lectures:

Reference surfaces. Coordinate systems on a basic maps (X, Y). Elements of the coordinate calculus. Situational measurements. Methods for the measurement and computation of distances and angles measurements. Calibration, adjustment and maintenance of geodetic instruments – theodolite.

Classes:

Reading surveying documents created during measurement, Reading basic maps, calculations in a coordinate system ”2000” – mainly pole method.

Laboratory:

Surveying instruments in practice – theodolite adjustments and maintenance. Measuring two types of angles: horizontal, vertical, measuring distances, making inventory of stair case/road, checking verticality of edges. Calculate coordinates of points (X,Y) in the coordinate system on basic maps. Finding the position of points based on results of measurement, drawing/complementation part of the basic map.

b. prerequisites or co-requisites

Surveying I – sem. III.

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 and understands:

- Student knows basic geodesic-cartographical elaborations and ways of gaining of spatial datas.
- Students understands the nature and aim of geodesic works performed for needs for the building process.

The student can:

- Student can handle with geodesic-cartographical documentation,
- Students gets the knowledge required for realization of basic calculations and geodesic measurement which are necessary on the building site.

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

K2A_W03, K2A_U07

7. Brief list of topics to be covered

1. General introductory information: organization of classes, basic definitions, division of geodesy, main tasks in the construction process (repetition of basic concepts from the previous semester),
2. Spatial reference system: coordinate systems (X, Y), geodetic control network, legal regulations,
3. Basic map: coordinate systems on a basic maps (X, Y). Elements of the coordinate calculus. Reading surveying documents created during measurement (basic maps). Calculations in a coordinate system ”PL-2000”,
4. Situational measurements. Methods for the measurement and computation of distances and angles measurements. Geodetic development of investment projects,
5. Surveying instruments in practice. Calibration, adjustment and maintenance of geodetic instruments – theodolite,
6. Measurements on a building site: height of the building, making inventory of stair case/road, checking verticality of edges.

*- Consultations were not included in the contact hours

**-per semester