



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Field training of surveying [S1Bud1>PRGD]

### Course

Field of study

Civil Engineering

Year/Semester

1/2

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

Polish

Form of study

full-time

Requirements

compulsory

### Number of hours

Lecture

0

Laboratory classes

0

Other (e.g. online)

0

Tutorials

80

Projects/seminars

0

### Number of credit points

3,00

### Coordinators

mgr inż. Michał Moczko

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### Lecturers

### Prerequisites

Knowledge of analytic geometry, trigonometry and knowledge of the basic methods in the field of mathematical analysis. The knowledge gained in the classroom with surveying conducted in the semester preceding the practice of surveying. Ability to solve basic tasks in mathematics of geometry and trigonometry. Skills gained in the classroom with surveying conducted in the semester preceding the practice of surveying. Diligence and regularity in acquiring knowledge and skills.

### Course objective

Fieldwork with geodetic surveying practices are known to develop in students the skills acquired during laboratory classes. This is done by consulting and implementation of practical actions clearly formulating surveying tasks. Linking the theme of fieldwork tasks include training in mastering the techniques of measurement, which is measured repeatedly length, angles, etc. determines the height differences. Entire job including the development is to develop the ability to work in a team and perform well let alone some of the tasks encountered in engineering practice.

### Course-related learning outcomes

Knowledge:

1. The student knows how to properly interpret the task of surveying, choose the equipment and perform them with the required accuracy.

#### Skills:

1. Unable to correctly measure angles, distances and height differences, calculate the most probable value and assess the accuracy of the measurements.
2. Able to perform basic calculations directly surveying and using computer programs.
3. Can update the map essential directly and using CAD software.

#### Social competences:

1. Able to work in a team on a designated task.
2. Students deepen their knowledge in the field of geodesy and verifies it in legal terms.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

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Continuous assessment of student involvement and contribution to the work done by measuring assembly.

Control and checking the daily progress of fieldwork and chamber measuring units.

Evaluation of the implementation of single practical tasks. Final evaluation of the implementation of the sampling surveying. Way of checking individual skills and score sets a leading of group practice.

Persons conducting exercises - employees of the Geodesy Laboratory: PhD Eng. Ireneusz Wyczałek, DSc Eng. Artur Plichta, MSc Eng. Anna Małek, MSc Eng. Joanna Papis, MSc Eng. Michał Moczko.

### Programme content

Implementation of the selected tasks:

Task 1: Development of a situation and altitude maps in scale 1: 1000 or 1: 500.

Task 2: Surveying the development of building design and building lay on the ground.

Task 3: Testing the verticality of high object. Task 4: Study of the vertical shape of the road bridge.

Task 5: Paving the axis of the road route.

Task 6: Development of longitudinal profile path with cross sections.

Task 7: Determination of longitudinal decline in the water table and the average water velocity.

Task 8: Develop cross-section of the river valley.

### Course topics

The tasks performed during surveying internships should be selected from those listed in the program content. The limitation in their number is the time frame of the internship. The implementation of individual tasks is discussed in detail in the Guide to field exercises in geodesy - collective work, Wydawnictwo Politechniki Poznańskiej 2008. Due to the development of measurement technologies and the increasing access to spatial data contained in geoportals, measurement and processing of results are subject to improvement and may differ from those described. However, as a rule, the goal contained in the topic is achieved under the guidance and control of the supervisors of the internship groups using available tools.

### Teaching methods

Observation, field measurement. Project method.

### Bibliography

Basic

1. Przewodnik do ćwiczeń terenowych z geodezji - praca zbiorowa, Wydawnictwo Politechniki Poznańskiej 2008

Additional

1. Geodezja - M. Wójcik, I. Wyczałek, Wydawnictwo Politechniki Poznańskiej 19972. Geodezja dla kierunków niegeodezyjnych - Stefan Przewłocki PWN, Warszawa 2002 3. Geodezja. Podręcznik dla studiów inżyniersko-budowlanych - M.Odlanicki-Poczobutt PPWK, Warszawa 1989

### Breakdown of average student's workload

	Hours	ECTS
Total workload	90	3,00
Classes requiring direct contact with the teacher	80	2,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	10	0,50