



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Surveying Measurements Training [S1IŚrod2>PrG]

Course

Field of study	Year/Semester
Environmental Engineering	1/2
Area of study (specialization)	Profile of study
–	general academic
Level of study	Course offered in
first-cycle	Polish
Form of study	Requirements
full-time	compulsory

Number of hours

Lecture	Laboratory classes	Other
0	0	80
Tutorials	Projects/seminars	
0	0	

Number of credit points

3,00

Coordinators

dr inż. Joanna Papis
joanna.papis@put.poznan.pl

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.

Course objective

Field surveying classes, known as surveying internships, are designed to develop students' skills acquired during laboratory classes. This is accomplished through familiarization with and the performance of practical surveying tasks within clearly defined tasks. Linking the task topic to fieldwork includes training in mastering measurement techniques involving repeated measurements of lengths, angles, determination of height differences, and so on. The fieldwork, along with the study, is designed to develop teamwork skills and allow students to perform, even independently, some of the surveying 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. It 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:

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 internships - employees of the Geodesy Workshop.

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 project of the collector and the demarcation of its axis in the field. 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

Tasks completed during the surveying internship should be selected from the list below. The number of tasks is limited by the internship's timeframe.

Selected tasks:

1. Development of a topographic map,
2. Geodetic development of a building design and field marking,
3. Vertical testing of a tall structure,
4. Marking out the road alignment,
5. Development of a longitudinal profile of the route with cross-sections,
6. Development of a cross-section through a river valley.

The task selection and execution method are determined by the group leader.

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 1997.
2. 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	75	3,00
Classes requiring direct contact with the teacher	60	2,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	15	0,50