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Field of study Civil Engineering First-cycle Studies Elective path/specialty Cycle of study: First-cycle studies First-cycle studies Form of study (full-time, part-time) Form of hours Lecture: Classes: Subject offered in: Form of study (full-time, part-time) Form of study (full-time part-time) No. of credits Status of the course in the study program (Basic, major, other) other Profile of study (general academic, practical) Subject offered in: Form of study (full-time, part-time) Form of study (full-time, part-time) No. of credits (university-wide, from another field) university-wide	Facult	y of Civil and Er	vironmental Engineering				
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Status of the course in the study program (Basic, major, other)	First-cycle studies			full-time			
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Study outcomes and reference to the educational results for a field of study

Knowledge:

1. The student knows how to properly interpret the task of surveying, choose the equipment and perform them with the required accuracy. - [K_W03]

Skills:

- 1. Unable to correctly measure angles, distances and height differences, calculate the most probable value and assess the accuracy of the measurements. - [-K_U14]
- 2. Able to perform basic calculations directly surveying and using computer programs. [-K_U14]
- 3. It can update the map essential directly and using CAD software. [-K_U14]

Social competencies:

- 1. Able to work in a team on a designated task. [-K_K01,K_K05]
- 2. Students deepen their knowledge in the field of geodesy and verifies it in legal terms. [K_K03,K_K06]

Assessment methods of study outcomes

Faculty of Civil and Environmental Engineering

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.

Course description

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.

Basic bibliography:

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

Additional bibliography:

- 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 inżynieryjno-bodowlanych M.Odlanicki-Poczobutt PPWK, Warszawawa 1989

Result of average student's workload

Activity	Time (working hours)
Preparing to perform the task of surveying.	10
2. Performing surveying tasks.	75
3. Preparing to pass the surveying field exercises.	5

Student's workload

Source of workload	hours	ECTS
Total workload	90	3
Contact hours	90	0
Practical activities	90	0