



### MODULE SPECIFICATION

Module code	
Module title in Polish	<b>Podstawy geodezyjnej obsługi inwestycji</b>
Module title in English	<b>Surveying for constructing</b>
Module running from the academic year	<b>2016/2017</b>

### A. MODULE IN THE CONTEXT OF THE PROGRAMME OF STUDY

Field of study	Surveying and Cartography
Level of qualification	first cycle (first cycle, second cycle)
Programme type	academic (academic/practical)
Mode of study	full-time (full-time/part-time)
Specialism	All
Organisational unit responsible for module delivery	The Department of Geotechnical Engineering, Geomatics and Waste Management
Module co-ordinator	Prof. Bogdan Wolski, PhD hab., Eng.
Approved by:	Ryszard Florek-Paszkowski, PhD, Eng.

### B. MODULE OVERVIEW

Module type	core module (core/programme-specific/elective HES*)
Module status	compulsory module (compulsory/optional)
Language of module delivery	English
Semester in the programme of study in which the module is taught	semester 4
Semester in the academic year in which the module is taught	summer semester (winter semester/summer semester)
Pre-requisites	None (module code/module title, where appropriate)
Examination required	No (Yes/No)
ECTS credits	2

\* elective HES – elective modules in the Humanities and Economic and Social Sciences

Mode of instruction	lectures	classes	laboratories	project	others
<b>Total hours per semester</b>	15	15			



### C. LEARNING OUTCOMES AND ASSESSMENT METHODS

<b>Module aims</b>	The aim of the subject is substantive and practical preparing students for future professional work as regards general activity of surveyors who participate in investment processes in civil engineering at various stages of investment realisation.
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Module outcome code	Module learning outcomes	Mode of instruction (l/c/lab/p/ others)	Corresponding programme outcome code	Corresponding discipline-specific outcome code
W_01	A student has knowledge connected with conducting surveying works for the needs of general and transport engineering.	l/c	GiK-W12	T1A_W03.
W_02	A student has detailed knowledge connected with applying surveying controls, their measurement and calculating as well as taking land survey and height measurements.	l/c	GiK_W13	T1A_W03
W_03	A student knows surveying instruments as well as the principles of controlling and rectifying them.	l/c	GiK_W20	T1A_W03 T1A_W06.
W_04	A student knows the methods of setting out surveys as well as displacements and deformations; a student also knows general principles of preparing measurement results.	l/c	GiK_W21	T1A_W03,
U_01	A student has theoretical background to work in surveying engineering in companies and organizational structures of various institutions.	l/c	GiK_U20 GiK_U26	T1A_U11
U_02	A student is able to complete a surveying project as well as to determine various objects with diverse measurement techniques; a student is also able to prepare measurement results.	l/c	GiK_U23	T1A_U15
U_03	A student has the ability of completing stage and final inventory of objects as regards surveying investment handling.	l/c	GiK_U25	T1A_U16
K_01	A student is aware of the responsibility for the realisation of teamwork assignments.	c	GiK_K06	T1A_K03
K_02	A student is able to co-operate and work in a team during the realisation of various engineering projects.	c	GiK_K07	T1A_K03

#### Module content:

1. Topics to be covered in the lectures
2. Topics to be covered in the classes

No.	1. Topics	Module outcome code
1	Introduction to the issues of surveying investment services. A thematic range of the subject according to the binding regulations.	W_01
2	Surveying preparation of a general plan and preparing surveying documentation of investment services. A short outline of creating surveying maps for design needs.	W_02
3,4	Execution works conducted during surveying investment services. The methods of determining and the methods of surveying service as regards assembly of the construction, machine, and devices.	W_03 W_04
5,6	Surveying service as regards the construction of transport routes. Characteristic points of routes ranged along horizontal and vertical curves. The methods of ranging.	W_03 W_04
7	Surveying preparation of measurement results, surveying calculations in realisation works.	W_04



	Introduction to surveying measurements of displacement and deformations. General principles of measurements.	
2. Topics to be covered in the classes		
1	A project, measurement, and preparation of measurement results as regards the geodetic bench mark as the base and fundamental of surveying works in terms of surveying investment services.	U_01 K_01
2	Surveying measurements and preparing a project of ranging a building structure with the polar, offsets and abscissas. Setting out a sketch	U_01
3	Land survey and height ranging a building. Determining height at a construction site. Determining longitudinal and transverse axes. Determining reflections of main axial points.	U_01
4	Surveying control of the geometry of the determined object; correcting and controlling ranging.	U_02
5	Preparing the documentation of setting out and other realisation works. Inventory measurements.	U_03
6	Surveying measurement of the verticality of poles concerning building structure.	U_03 K_02
7	Setting out axial points of the transport route.	U_02

### Assessment methods

Module outcome code	Assessment methods <i>(Method of assessment; for module skills – reference to specific project, laboratory and similar tasks)</i>
W_01 W_02 W_03 W_04	Obtaining a credit for the lectures in the form of a quiz (e-learning).
U_01 U_02 U_03	Completing surveying analytical and graphical papers.
K_01, K_02	Observing a student's involvement during the classes and while obtaining a credit.



### D. STUDENT LEARNING ACTIVITIES

ECTS summary		
	Type of learning activity	Study time/ credits
1	Contact hours: participation in lectures	15
2	Contact hours: participation in classes	15
3	Contact hours: participation in laboratories	
4	Contact hours: attendance at office hours (2-3 appointments per semester)	2
5	Contact hours: participation in project-based classes	
6	Contact hours: meetings with a project module leader	
7	Contact hours: attendance at an examination	
8		
9	<b>Number of contact hours</b>	<b>32</b> <i>(total)</i>
10	<b>Number of ECTS credits for contact hours</b> <i>(1 ECTS credit = 25-30 hours of study time)</i>	<b>1.28</b>
11	Private study hours: background reading for lectures	4
12	Private study hours: preparation for classes	4
13	Private study hours: preparation for tests	5
14	Private study hours: preparation for laboratories	
15	Private study hours: writing reports	5
16	Private study hours: preparation for a final test in laboratories	
17	Private study hours: preparation of a project/a design specification	
18	Private study hours: preparation for an examination	
19		
20	<b>Number of private study hours</b>	<b>18</b> <i>(total)</i>
21	<b>Number of ECTS credits for private study hours</b> <i>(1 ECTS credit = 25-30 hours of study time)</i>	<b>0.72</b>
22	<b>Total study time</b>	<b>50</b>
23	<b>Total ECTS credits for the module</b> <i>(1 ECTS credit = 25-30 hours of study time)</i>	<b>2</b>
24	<b>Number of practice-based hours</b> <i>Total practice-based hours</i>	<b>0</b>
25	<b>Number of ECTS credits for practice-based hours</b> <i>(1 ECTS credit = 25-30 hours of study time)</i>	<b>0</b>

### E. READING LIST

References	<ol style="list-style-type: none"><li>1. <a href="#">Francis Hodgman</a> A Manual of Land Surveying, Publisher: Nabu Press (January 7, 2010)</li><li>2. <a href="#">N. Dann</a>, <a href="#">D. Worthing</a>, <a href="#">D. Marshall</a>. The Construction of Houses <a href="#">Roger Heath</a> 2013 Publisher <a href="#">Taylor &amp; Francis Ltd.</a></li></ol>
Module website	<ol style="list-style-type: none"><li>1. <a href="http://www.ebooksread.com/.../a-manual-land-surveying-comprising...">www.ebooksread.com/.../a-manual-land-surveying-comprising...</a></li><li>2. <a href="#">W. Schofield</a>. Engineering surveying (5<sup>th</sup> edition), free download</li></ol>



# Politechnika Świętokrzyska

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