



MODULE SPECIFICATION

Module code	
Module title in Polish	Geomatics and Vocabulary
Module title in English	Geomatics and Vocabulary
Module running from the academic year	2016/2017

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	Ryszard Florek-Paszowski, PhD, Eng.
Approved by:	Ryszard Florek-Paszowski, 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 6
Semester in the academic year in which the module is taught	summer semester (winter semester/summer semester)
Pre-requisites	No requirements (module code/module title, where appropriate)
Examination required	no (Yes/No)
ECTS credits	5

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

Mode of instruction	lectures	classes	laboratories	project	others
Total hours per semester	15		15	15	



C. LEARNING OUTCOMES AND ASSESSMENT METHODS

Module aims	The aim of the module is an overview of main geomatics domains. Students get basic knowledge of earth geometry and coordinate systems for spheres and ellipsoids, measurements and errors, cadastral system and procedures, photogrammetry products and remote sensing applications.
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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	Students get basic knowledge of geomatics domains.	l/p	GiK_W19	T1 A_W03 T1 A_W05 T1 A_W07
W_02	Students acquire basic knowledge about procedures, products and applications in basic domains of geomatics.	l/p	GiK_W02	T1 A_W01 T1 A_W03
W_03	Students have basic knowledge about geodesy, measurements and errors, cadastre, photogrammetry and remote sensing.	l/p	GiK_W02	T1 A_W01 T1 A_W03
U_01	Students have practical ability of computation earth coordinates, adjust measurements, apply suitable cadastral procedure.	l/p	GiK_U04 GiK_U17	T1A_U01, T1A_U06 T1A_U08 T1A_U14
U_02	Students are able to use ortophotomaps and thematic maps from airborne images for different economy fields.	l/p	GiK_U04 GiK_U17	T1A_U01, T1A_U06 T1A_U08 T1A_U14
K_01	Students understand law aspects of cadastral surveys, maps and procedures.	l/p	GiK_K05	T1A_K02
K_02	Students understand role of remote sensing applications for economy needs.	l/p	GiK_K06	T1A_K03

Module content:

1. Topics to be covered in the lectures

No.	Topics	Module outcome code
1	Earth geometry and coordinate systems for sphere and ellipsoid, measurements and errors.	W_01 W_02 W_03 K_01
1-3	Cadastral system, surveys and procedures.	W_02 W_03 K_01
4-5	Photogrammetric products and its applications. Cadastral orthophotomap as a compilation of orthophotomap with cadastral map.	W_02 W_03 K_02
6-7	Photointerpretation and remote sensing for production of thematic maps.	W_03 K_02



2. Topics to be covered in the laboratories

No.	Topics	Module outcome code
1	Land and mortgage registers	W_05 U_04 K_01
2	Cadastral	W_05 U_04 U_13 K_01
3	Subdivision / appraisal reports / photogrammetric methods	W_05 W_08 U_04 K_01
4	Photogrammetry	W_02 U_04 K_01
5	Surveying	W_05 U_04 K_01
6	Surveying engineering	W_07 U_04 K_01
7	Review and description of modern computer techniques	W_09 U_04 K_02

3. Topics to be covered in the project

No.	Topics	Module outcome code
1 -2	Coordinates calculations for sphere and ellipsoide. Adjustment of sample measurements.	W_01 W_02 U_01
3 -5	Cadastral procedure of plot division with access to public road. Use of geoportal for preliminary concept of plot division.	W_02 U_01 K_01
6 - 7	Review and description of sample photogrammetry and remote sensing products applied in different economy domains.	W_03 U_02 K_02

Assessment methods

Module outcome code	Assessment methods (Method of assessment; for module skills – reference to specific project, laboratory and similar tasks)
Gik_	A test, an examination, and laboratory projects



W_01	
GiK_ W_02	A test, an examination, and laboratory projects
GiK_ W_03	A test and laboratory projects
GiK_ _U_0 1	A test and laboratory projects
GiK_ _U_0 2	A test and laboratory projects
GiK_ K_01	A test and discussions during final tutorials
GiK_ K_02	Laboratory projects and discussions during final tutorials



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	
3	Contact hours: participation in laboratories	15
4	Contact hours: attendance at office hours (2-3 appointments per semester)	3
5	Contact hours: participation in project-based classes	15
6	Contact hours: meetings with a project module leader	5
7	Contact hours: attendance at an examination	2
8		
9	Number of contact hours	55 (total)
10	Number of ECTS credits for contact hours <i>(1 ECTS credit =25-30 hours of study time)</i>	2.2
11	Private study hours: background reading for lectures	10
12	Private study hours: preparation for classes	
13	Private study hours: preparation for tests	10
14	Private study hours: preparation for laboratories	
15	Private study hours: writing reports	
16	Private study hours: preparation for a final test in laboratories	
17	Private study hours: preparation of a project/a design specification	30
18	Private study hours: preparation for an examination	20
19		
20	Number of private study hours	70 (total)
21	Number of ECTS credits for private study hours <i>(1 ECTS credit =25-30 hours of study time)</i>	2.8
22	Total study time	125
23	Total ECTS credits for the module <i>(1 ECTS credit =25-30 hours of study time)</i>	5
24	Number of practice-based hours <i>Total practice-based hours</i>	60
25	Number of ECTS credits for practice-based hours <i>(1 ECTS credit =25-30 hours of study time)</i>	2.4

E. READING LIST

References	Manual of Photogrammetry, American Society of Photogrammetry, Virginia, USA, Vol I & II. Manual of Remote Sensing, American Society of Photogrammetry, Virginia, USA, Vol I & II.
Module website	www.fig.net www.eurocadastre.org www.isprs.org



Politechnika Świętokrzyska

WYDZIAŁ INŻYNIERII ŚRODOWISKA, GEOMATYKI I ENERGETYKI

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