MODULE SPECIFICATION

Module code	
Module title in Polish	**Bazy danych w geomatyce**
Module title in English	**Databases in Geomatics**
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	
Organisational unit responsible for module delivery	The Department of Geotechnical Engineering. Geomatics and Waste Management
Module co-ordinator	**Beata Hejmanowska, PhD hab., Eng., Professor of the University**
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 7
Semester in the academic year in which the module is taught	winter 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

Total hours per semester	**15**				

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C. LEARNING OUTCOMES AND ASSESSMENT METHODS

Module aims	The aim of the module is to acquaint students with the knowledge of creating and utilising databases. Students become familiarised with the methodology of creating and designing databases; furthermore, students obtain the ability of using the SQL language (at a basic level). In addition, a student can design a simple system of databases and build simple queries to the base in the SQL language.

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 basic knowledge concerning databases and the principles of designing databases (including the standards as regards information exchange between databases; moreover, a student knows the characteristics of conceptual models of topographical data).	l	GiK_W03 GiK_W06 GiK_W23 GiK_W33	T1 A_W01 T1 A_W03 T1 A_W04 T1 A_W05 T1 A_W07
W_02	A student can characterise actual data; in addition, a student knows the principles of completing field works in the process of creating and updating topographical databases and obtaining data for databases of topographical object; furthermore, a student can define functional dependencies occurring among the analysed data; a student also presents the considered data set in the form of a relational database.	l	GiK _W03 GiK _W19 GiK_W33	T1 A_W03 T1 A_W05 T1 A_W07
W_03	A student understands the fundamentals of the SQL language; a student also describes the operations conducted in the base by the user with the use of the SQL language.	l	GiK _W04	T1 A_W01 T1 A_W05 T1 A_W07 T1 A_W10
U_01	A student can design a simple database system based on a relational model.	l	GiK _U02	T1A_U01, T1A_U02, T1A_U03, T1A_U05, T1A_U07
U_02	A student builds simple queries for the base in the SQL language; a student also constructs functional dependencies occurring among the analysed data.	l	GiK _U06	T1A_U02, T1A_U05, T1A_U07, T1A_U16
U_03	A student implements the theory on the normalisation of the base in practice while creating tables/arrays.	l	GiK _U06 GiK _U12	T1A_U02, T1A_U05, T1A_U07, T1A_U10, T1A_U16

Module content:

1. Topics to be covered in the lectures

No.	Topics	Module outcome code
1 – 2.	Legal fundamentals of creating databases in surveying.	W_01
3 – 4.	Explaining the following concepts: a database, base management system, the diagrams of databases, applications, and information system.	W_01 W_02 K_01
5 – 6.		W_02

	Requirements concerning databases. Appropriate modelling reality. The authorisation concerning the access to data. Data cohesion.	W_03 U_01 U_02 K_01
7 – 8.	Data processing. Data access. Metadata.	W_02 W_03 U_02 U_03 K_02

Assessment methods

Module outcome code	Assessment methods *(Method of assessment; for module skills − reference to specific project, laboratory and similar tasks)*
W_01	Final tests
W_02	Final tests
W_03	Final tests
U_01	Final tests
U_02	Final tests
U_03	Final tests
K_01	A discussion during tutorials and obtaining a credit
K_02	A discussion during tutorials and 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	**-**
3	Contact hours: participation in laboratories	**-**
4	Contact hours: attendance at office hours (2-3 appointments per semester)	**15**
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	**Number of contact hours**	**30** *(total)*
10	**Number of ECTS credits for contact hours** *(1 ECTS credit =25-30 hours of study time)*	**1,2**
11	Private study hours: background reading for lectures	**20**
12	Private study hours: preparation for classes	
13	Private study hours: preparation for tests	
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	
18	Private study hours: preparation for an examination	**-**
19		
20	**Number of private study hours**	***20*** *(total)*
21	**Number of ECTS credits for private study hours** *(1 ECTS credit =25-30 hours of study time)*	**0.8**
22	**Total study time**	**50**
23	**Total ECTS credits for the module** *(1 ECTS credit =25-30 hours of study time)*	**2**
24	**Number of practice-based hours** *Total practice-based hours*	**0**
25	**Number of ECTS credits for practice-based hours** *(1 ECTS credit =25-30 hours of study time)*	**0**

E. READING LIST

References	
Module website	