MODULE SPECIFICATION

Module code	
Module title in Polish	**Diagnostyka i Utrzymanie Budowli**
Module title in English	**Diagnostics and Maintenance of Buildings**
Module running from the academic year	**2016/2017**

A. MODULE IN THE CONTEXT OF THE PROGRAMME OF STUDY

Field of study	**Civil Engineering**
Level of qualification	**First cycle** *(first cycle, second cycle)*
Studies profile	**Academic** (*academic/practical)*
Mode of study	**Full-time** *(full-time / part-time)*
Specialism	
Organisational unit responsible for module delivery	**The Department of Transportation Engineering**
Module co-ordinator	**Andrzej Kroner, PhD, Eng.**
Approved by	**Marek Iwański, Professor**

B. MODULE OVERVIEW

Module type	**Core module** (*core/programme-specific/elective HES*)*
Module status	**Compulsory module** *(compulsory / non-compulsory)*
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 / summer)*
Pre-requisites	**None** (*module code/module title, where appropriate)*
Examination required	**No** *(yes / no)*
ECTS credits	**2**

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

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

C. LEARNING OUTCOMES AND ASSESSMENT METHODS

Module aims	The aims of the module include: familiarising students with the issues connected with exploitation and maintaining a building structure; familiarising students with legal aspects concerning periodical overhauls of building structures (together with the principles of completing them); presenting the specificity of making diagnostics of building structures realised in different material technology: timber, masonry, reinforced concrete and steel.

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 knows legal conditions of maintaining building structures.	l/p	B_W08 B_W15	T1A_W03 T1A_W06 T1A_W07 T1A_W08 T1A_W09
W_02	A student knows the specificity of making periodical overhauls of building structures.	l/p	B_W08 B_W15	T1A_W03 T1A_W06 T1A_W07 T1A_W08 T1A_W09
W_03	A student knows the range and specificity of issues connected with the diagnostics of building structures.	l/p	B_W08 B_W15	T1A_W03 T1A_W06 T1A_W07 T1A_W08 T1A_W09
U_01	A student can determine and foresee the necessary range of diagnostics as regards a building structure.	l/p	B_U13 B_U25	T1A_U05 T1A_U07 T1A_U11 T1A_U15 T1A_U16
U_02	A student can determine critical places in the building structure.	l/p	B_U13 B_U25	T1A_U05 T1A_U07 T1A_U11 T1A_U15 T1A_U16
U_03	A student can prepare basic data to establish a register of a building structure.	l/p	B_U13	T1A_U05 T1A_U07 T1A_U11 T1A_U15 T1A_U16
K_01	A student understands the significance of periodical and target diagnostics of building objects.	p	B_K02 B_K05	T1A_K02 T1A_K05 T1A_K07
K_02	A student is responsible for the reliability of the obtained results of his/her work during the diagnostics of building objects.	p	B_K02	T1A_K02 T1A_K05 T1A_K07

Module content:

1. Topics to be covered in the lectures

No.	Topics	Module outcome code
1	Discussing subject range and the recommended literature on the subject. Initial information. Legal requirements concerning the maintenance of building objects.	W_01
2	General principles and range of overhauls of buildings. A Building Log Book.	W_01

		W_02 U_01 U_03
3	Single- and multi-parameter diagnostics. The causes and cases of conducting target diagnostics. Special studies.	W_03 U_01 K_01
4	The diagnostics and maintenance of buildings with timber structure. Critical points in timber objects. The reasons for damages.	W_02 W_03 U_01 U_02 K_04
5	The diagnostics and maintenance of buildings with masonry structure. Critical points in masonry objects. The reasons for damages.	W_02 W_03 U_01 U_02 K_02
6	The diagnostics and maintenance of buildings with reinforced concrete structure. Critical points in reinforced concrete objects. The reasons for damages.	W_02 W_03 U_01 U_02 K_02
7	The diagnostics and maintenance of buildings with steel structure. Critical points in steel objects. The reasons for damages.	W_02 W_03 U_01 U_02 K_02

2. Topics to be covered in the classes
3. Topics to be covered in the laboratories
4. Topics to be covered in the projects

Project number	Topics	Module outcome code
1	Determining the range and method of proceedings while commissioning a new building object on the selected example from nature.	W_01 U_03
2	The selection and preparing technical data which characterise the selected building object.	W_01 U_03
3	A review of the requirements as regards preparing a Building Log Book of a building object.	W_01 U_03
4	Preparing a register of an object from editorial and formal point of view.	W_01 U_03
5	Preparing individual data to practice on the basis of the selected and actual building object.	W_01 U_03
6	Making entries and completing data in the prepared document.	W_01 U_03
7-8	Making entries and completing data in the prepared document.	W_01 U_03

Assessment methods

Module outcome code	Assessment methods *(Method of assessment; for module skills − reference to specific project, laboratory and similar tasks)*
W_01	Obtaining a credit on the basis of independent paper, defending a completed project assignment.
W_02	Obtaining a credit on the basis of independent paper, defending a completed project

	assignment.
W_03	Obtaining a credit on the basis of independent paper, defending a completed project assignment.
U_01	Obtaining a credit on the basis of independent paper, defending a completed project assignment.
U_02	Obtaining a credit on the basis of independent paper, defending a completed project assignment.
U_03	Obtaining a credit on the basis of independent paper, defending a completed project assignment.
K_01	Obtaining a credit on the basis of independent paper, defending a completed project assignment.
K_02	Obtaining a credit on the basis of independent paper, defending a completed project assignment.

C. 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)	**3**
5	Contact hours: participation in project-based classes	**15**
6	Contact hours: meetings with a project module leader	
7	Contact hours: attendance at an examination	**2**
8		
9	**Number of contact hours**	**35** *(total)*
10	**Number of ECTS credits for contact hours** *(1 ECTS credit =25-30 hours of study time)*	**1.4**
11	Private study hours: background reading for lectures	**10**
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	**12**
18	Private study hours: preparation for an examination	**3**
19		
20	**Number of private study hours**	**25** *(total)*
21	**Number of ECTS credits for private study hours** *(1 ECTS credit =25-30 hours of study time)*	**1**
22	**Total study time**	**60**
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*	**30**
25	**Number of ECTS credits for practice-based hours** *(1 ECTS credit =25-30 hours of study time)*	**1.2**