



### MODULE SPECIFICATION

Module code	
Module title in Polish	<b>Budownictwo ogólne</b>
Module title in English	<b>Civil Engineering</b>
Module running from the academic year	<b>2016/2017</b>

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

Field of study	<b>Surveying and Cartography</b>
Level of qualification	first cycle (first cycle, second cycle)
Programme type	academic (academic/practical)
Mode of study	full-time (full-time/part-time)
Specialism	<b>All</b>
Organisational unit responsible for module delivery	<b>The Department of Building Physics and Renewable Energy</b>
Module co-ordinator	<b>Jerzy Piotrowski, PhD hab., Eng., Professor of the University</b>
Approved by:	<b>Jerzy Piotrowski, PhD hab., Eng., Professor of the University</b>

### B. MODULE OVERVIEW

Module type	core module (core/programme-specific/elective HES*)
Module status	compulsory module (compulsory/optional)
Language of module delivery	<b>English</b>
Semester in the programme of study in which the module is taught	<b>semester 2</b>
Semester in the academic year in which the module is taught	<b>Summer semester</b> (winter semester/summer semester)
Pre-requisites	None (module code/module title, where appropriate)
Examination required	<b>No</b> (yes / no)
ECTS credits	<b>3</b>

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



Mode of instruction	lectures	classes	laboratories	project	others
Total hours per semester	30			15	

### C. LEARNING OUTCOMES AND ASSESSMENT METHODS

<b>Module aims</b>	The aim of the module is to familiarise students with the types of such construction elements as: roofs, ceilings, walls, stairs, and foundations (as regards basic notions, types, and tasks). Construction systems will be discussed as well (building rigidity), construction partition walls (strength, insulation, and fire-protection conditions), ventilation and fume ducts; masonry structures, reinforced concrete, steel, and wooden constructions (the characteristics and the conditions of application) as well as technical conditions of utilising these buildings.
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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 knows such basic building construction elements as: foundations, walls, stairs, ceilings, and roofs (together with the principles of determining them and control measurements).	l/p	GiK_W01 GiK_W12 GiK_W21 GiK_W26	T1A_W01 T1A_W03 T1A_W06 T1A_W07
W_02	A student has knowledge on the applied insulation protections, finishing materials, window and door frames.	l/p	GiK_W01 GiK_W26	T1A_W01 T1A_W06 T1A_W07
W_03	A student is familiar with installations, the methods of conducting them in a building and joining to a network.	l/p	GiK_W01 GiK_W12 GiK_W26 GiK_W27	T1A_W01 T1A_W03 T1A_W06 T1A_W07
W_04	A student has knowledge as regards the occurring displacements and deformations during the exploitation of objects (as well as conducting inventory of construction works).	l/p	GiK_W01 GiK_W12 GiK_W21 GiK_W27	T1A_W01 T1A_W03 T1A_W07
W_05	A student has knowledge concerning the principles of designing residential and public utility buildings.	l/p	GiK_W16 GiK_W17 GiK_W26	T1A_W03 T1A_W04 T1A_W05 T1A_W06 T1A_W07
U_01	A student can design a residential building together with area planning; a student can also select appropriate material and construction solutions.	p	GiK_U06 GiK_U18 GiK_U23 GiK_U25 GiK_U26	T1A_U02 T1A_U05 T1A_U07 T1A_U09 T1A_U15 T1A_U16
K_01	A student can independently work on the project assignment; a student also has the ability of self-education and improving his/her knowledge.	p	GiK_K01 GiK_K02	T1A_K01 T1A_K02 T1A_K05 T1A_K07
K_02	A student is aware of the necessity of neat completion of a project assignment.	p	GiK_K03	T1A_K02
K_03	A student is able to co-operate in a team; a student also formulates appropriate conclusions as regards a project assignment.	p	GiK_K07	T1A_K03

### Module content:

1. Topics to be covered in the lectures

No.	Topics	Module outcome code



1	Introduction to civil engineering, the definitions of the selected notions: civil engineering, a structure, a building, etc. Basic requirements concerning civil engineers. Construction systems of structures.	W_01 U_01
2	Building structures. General characteristics of brick, wooden, steel, reinforced concrete, and compressed construction.	W_01 U_01
3	Ground works, excavations, and ports. Determining buildings, setting types, and the types of foundations.	W_01 W_02 W_03 U_01
4	Basement walls, material and construction solutions. Horizontal and vertical installations, building basements. Overground walls of buildings. Materials and technologies of wall construction.	W_01 U_01
5	Pilasters, avant-corps, buttresses, attics, and base courses. The technologies of thermoinsulation of external walls. Chimney bases. Smoke, fume, and ventilation ducts.	W_01 W_02 W_03 U_01
6	Roofs, ring beams, and roof bolting. Balconies, their construction and thermoinsulation protections. The division and principles of designing stairs. Stair constructions. Balustrades.	W_01 W_02 U_01
7	Full, bled, and ventilated flat roofs. The principles of designing flat roofs. Terraces. Inverse flat roof. A green roof. Anti-water insulations of balconies and terraces.	W_01 W_02 U_01
8	Wooden roofs. Frame and frameless collar beam roof, purlin and collar beam roof, truss roofs. A knee walls and roof bolting. Lattice trusses. Reinforced concrete and steel roof constructions.	W_01 U_01
9	Plaster, masonry, and wooden division walls. The principles of manufacturing and joining division walls with construction walls, placing division walls on a roof. Suspended ceiling.	W_01 W_02 U_01
10	Roof coverings. Bleeding of roofs, gutters, and drain pipes. Roof works. Roof coverings of flat roofs. Finishing of terraces and balconies.	W_01 W_02 U_01
11	The types of windows and window frames. The types of floors and floorings/ Thermal insulations. The requirements concerning thermal protection of buildings. Anti-water and anti-humidity insulations. Finishing elements. Plasters. Plaster types. External and internal facings. Painting.	W_01 W_02 W_03 U_01
12	Installation types, the methods of conducting installations in a building. Leading installations over a roof. Connections. The elements of small architecture.	W_01 W_03 U_01
13	Displacements and deformations of construction and finishing elements, damage types during lifting and exploitation.	W_01 W_02 W_04 U_01
14	The principles of completing construction project, basic graphical marking and loads. Designing construction elements. Basic utilisation, functional, and exploitation principles for residential buildings and public utility buildings.	W_01 W_03 W_05 U_01
15	A final test.	K_01 K_02 K_03

### 2. Topics to be covered in the classes

No.	Topics	Module outcome code
1	Discussing the project of a residential building made with the traditional method (the scope of the project and issuing subjects to students).	W_01 W_05 U_01
2	The location of a building on a plot. Discussing the standards of designing residential building and public utility buildings (technical conditions as regards buildings and rooms). Particular requirements concerning flats in residential buildings, the surface and height of rooms, the arrangement of rooms, lighting and insulation, airing rooms, entrances to buildings and flats,	W_01 W_02 W_03 W_05 U_01



	chimney ducts and the placement of chimneys. Preparing an initial project of a residential building.	K_01 K_02 K_03
3	A projection of the ground floor (construction elements of external and internal load bearing walls, division walls, roofs, binders, chimney ducts, the size and position of windows and doors, headers, ring beams, balconies, loggias, alternative solutions as regards entrance enclosures.	W_01 W_02 W_03 W_05 U_01 K_01 K_02 K_03
4	Calculating extra stairs repetitive floors and basement stairs, construction solutions of stairs, recommended parameters of stairs in residential buildings.	W_01 W_02 W_05 U_01 K_01 K_02 K_03
5	A vertical section through a staircase (a variant of a building with a loggia and a balcony) – foundations, the details of wall, roof, stairs, and balconies connections; vertical and horizontal anti-humidity protections, insulating the roof and basement walls, flooring layers on various floors, drawing levels, chimney above the roof.	W_01 W_02 W_03 W_05 U_01 K_02 K_03
6	Joints and plot management. Construction inventorying during the construction process, after construction completion, and during the exploitation.	W_03 W_04 W_05 U_01 K_02 K_03
7	A technical description: guidelines of preparing a technical description. The scope and form of a construction design.	W_01 W_02 W_03 W_04 U_01 K_02 K_03

### 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	A test, obtaining a credit for the project
W_02	A test, obtaining a credit for the project
W_03	A test, obtaining a credit for the project
W_04	A test, obtaining a credit for the project
W_05	A test, obtaining a credit for the project
U_01	A test, obtaining a credit for the project
K_01	A test, obtaining a credit for the project, a discussion during the lectures and classes
K_02	A test, obtaining a credit for the project, a discussion during the lectures and classes
K_03	A test, obtaining a credit for the project, a discussion during the lectures and classes

### D. STUDENT LEARNING ACTIVITIES

ECTS summary	
Type of learning activity	Study time/



		credits
1	Contact hours: participation in lectures	30
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	2
7	Contact hours: attendance at an examination	
8		50 <i>(sum)</i>
9	<b>Number of contact hours</b>	2
10	<b>Number of ECTS credits for contact hours</b> <i>(1 ECTS credit =25-30 hours of study time)</i>	5
11	Private study hours: background reading for lectures	
12	Private study hours: preparation for classes	10
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	10
17	Private study hours: preparation of a project/a design specification	
18	Private study hours: preparation for an examination	25 <i>(sum)</i>
19		1
20	<b>Number of private study hours</b>	75
21	<b>Number of ECTS credits for private study hours</b> <i>(1 ECTS credit =25-30 hours of study time)</i>	3
22	<b>Total study time</b>	27
23	<b>Total ECTS credits for the module</b> <i>(1 ECTS credit =25-30 hours of study time)</i>	1.1
24	<b>Number of practice-based hours</b> <i>Total practice-based hours</i>	
25	<b>Number of ECTS credits for practice-based hours</b> <i>(1 ECTS credit =25-30 hours of study time)</i>	

### E. READING LIST

References	
Module website	