

Field of study (Kierunek):

Civil Engineering (Budownictwo)**Subject Description Card (Karta Opisu Przedmiotu)**

ISCED 2013-F Field of study: Building and civil engineering (code: 0732)

Name of the subject				Subject code		Semester
Civil Engineering and Technical Equipment <i>Budownictwo ogólne i wyposażenie techniczne</i>						Spring
Subject		Profile		Level of education		
Facultative		General academic		Full-time		
Type of classes						ECTS
Lecture	Practice	Laboratory	Project	Seminar	Exam	
30	-	-	30	-	NO	6
Faculty conducting subject:	<i>Faculty of Civil Engineering Tel: +48 (34) 325 09 04</i>					
Teachers conducting subject:	<i>PhD. Eng. Arch. Nina Solkiewicz-Kos</i> mail: n.solkiewicz-kos@pcz.pl					

I. Card subject**PURPOSE OF THE SUBJECT**

C01	Mastering of basic issues of civil engineering. Acquiring of knowledge and skills pertaining to technical demands and to criteria of construction elements' selection in buildings erected from small-dimensional elements.
C02	Getting acquainted with methods of information collection and preparing of assumptions for project enterprises. Mastering of construction, building and technical problems pertaining to designing and realization of buildings.
C03	Mastering of problems concerning construction physics and technology of building usage, allowing to create conditions of inner comfort and secure from influence of weather factors. Getting acquainted with building technologies, regulations and procedures implemented in designing and realization of building objects.

PRELIMINARY REQUIREMENTS FOR KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1	General knowledge of descriptive geometry, physics and technical drawing
2	Knowledge of mathematical problems, of physics and chemistry on general level and engineering level.

LEARNING OUTCOMES:**Knowledge: the graduate knows and understands**

EK1	issues pertaining to designing and realization of building objects erected from small dimensional elements in traditional technology and by using modern building technologies.
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Skills: the graduate can

EK2	design building structures which fulfil norm technical requirements and principles of correct selection of construction elements; implement regulations pertaining to designing and functioning of living quarters, including the knowledge of current regulations of the Building Law, norms and standards of the Building Law; efficiently use issues concerning insulation designing in buildings erected in traditional technology and with implementation of modern solutions.
EK3	implement modern information sources which concern solutions of designing tasks; to use basic knowledge pertaining to development trends in the area of a particular engineering discipline.

Social competence: the student is ready to

EK4	actively participate in projects run by interdisciplinary/international teams as well as to cooperate with a team which realizes project concepts.
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PROGRAM CONTENT		
Type of classes - Lecture		Number of hours
L1	Engineering buildings in Poland and in the world: tenement houses, residential housing, apartment buildings, public utility buildings.	2
L2	Engineering construction: bridges, dams, tunnels, towers.	2
L3	Kinds of loads affecting the building.	2
L4	Setting out of the building and foundation trenches.	2
L5	Foundation of the building. Kinds of foundation.	2
L6	Wall structures made of bricks and natural stones.	2
L7	Rules of multi – layer walls designing.	2
L8	Rules of wooden walls' designing.	2
L9	Ceilings. Kinds and rules of construction of ceilings.	2
L10	Rules of chimney wall designing. Installations , gravity ventilations	2
L11	Flat roofs. Kinds of rules of construction of flat roofs.	2
L12	Wooden roofs. Presentation of characteristic construction solutions. .	2
L13	Stairs. Kinds of material construction solution.	2
L14	Installation: ventilation system, heating system, plumbing system, wiring system, draining system.	2
L15	Final colloquium.	2
TOTAL:		30
PROGRAM CONTENT		
Type of classes - Project		Number of hours
P1	Discussion on rules of designing exercises. Presentation of projects in previous years. Discussion on designing process issues.	2
P2	Ground floor plan study – rules of dimensioning: external wall, window and door openings, lintels in a wall.	2
P3	Ground floor plan study – rules of dimensioning: external wall, window and door openings, lintels in a wall.	2
P4	Building cross section study – rules of dimensioning: window and door openings, lintels in a wall.	2
P5	Ground floor plan study – rules of dimensioning: internal load-bearing walls, partitional walls.	2
P6	Ground floor plan study - kitchen designing, bathroom and toilet designing.	2
P7	Ground floor plan study -plumbing system, wiring system, heating system.	2
P8	Ground floor plan study – staircase designing.	2
P9	Ground floor plan study – rules of chimney walls designing: smoke ducts, waste gas ducts, ventilation ducts.	2
P10	First floor plan study – functional arrangement. Plumbing system, wiring system, heating system.	2
P11	Cross – section – roof structure.	2
P12	Detailed study – foundation and foundation wall, floor on the ground.	2
P13	Detailed study – ceiling between floors, lintels.	2
P14	Detailed study – external wall and construction of roof.	2
P15	Project presentation	2
TOTAL:		30

BASIC AND ADDITIONAL LITERATURE	
Basic literature:	
1.	Millais M. Building structures from concept to design. Spon Press Taylor & Francis Group. Londyn 2005
2.	Matteson D., Kennedy D., Baur S. Civil Engineering & Architecture. Delmar Cengage Learning NY USA 2010
Additional literature:	

1.	Killer W.K. Polsko - Angielsko - Niemiecki ilustrowany słownik budowlany. Arkady. Warszawa. 2006
2.	Neufert E. Podręcznik projektowania architektoniczno-budowlanego. Arkady. Warszawa. 1996
3.	Markiewicz P., Detale projektowe nowoczesnych technologii budowlanych. Archi Plus. Kraków 2004
4.	Michalak H., Pyrak S.: Domy jednorodzinne. Konstruowanie i obliczanie. Arkady. Warszawa 2004
5.	Mielczarek Z.: Nowoczesne konstrukcje w budownictwie ogólnym. Arkady. Warszawa 2001
6.	Pela R.: Projektowanie konstrukcji murowych i stropów w budownictwie jednorodzinym. Cz II Konstrukcje murowe niezbrojone. Wydawnictwo Politechniki Łódzkiej. Łódź 2004
7.	Poradnik kierownika budowy. Tom I, II. Arkady. Warszawa 1989/91
8.	Stefańczyk B.: Budownictwo Ogólne. Materiały Budowlane i systemy budowlane. Tom I. Arkady. Warszawa 2010.
9.	Prawo budowlane, rozporządzenia do prawa budowlanego
10.	Warunki techniczne wykonania i odbioru robót budowlanych. Pod red. dr inż. Adama Ujmy Tom I, II, III, IV wyd. Verlag Dashofer Warszawa 2005/06/07/08/09/10/11
11.	Żenczykowski W.: Budownictwo Ogólne. Elementy i konstrukcje budowlane Tom 2/1, 2/2 . Arkady. Warszawa 1990
12.	Rozporządzenie Ministra Infrastruktury z dnia 12 kwietnia 2002 r. w sprawie warunków technicznych, jakim powinny odpowiadać budynki i ich usytuowanie Dz. U. 2002 nr 75 poz. 690 ze zmianami (Dz. U. 2008 nr 201 poz. 1238)
13.	Schabowicz K., Gorzelańczyk T., Materiały do ćwiczeń projektowych z budownictwa ogólnego. Dolnośląskie Wydawnictwo Edukacyjne. Wrocław 2009
14.	Czasopisma: Przegląd budowlany, Materiały Budowlane, Izolacje