Cracow University of Technology

Course syllabus

binding for the doctoral students of the CUT Doctoral School commencing their studies in the academic year 2022/2023

Information on the course

Name of the course in Polish	Współczesne projektowanie architektoniczno-budowlane
Name of the course in English	Contemporary Architectural Building Design
Number of the ECTS points	1
Language of instruction	Polish
Category of the course	Mandatory
Field of education	Engineering and Technology
Discipline of education	Architecture and Urban Sciences
Person responsible for the course Contact	Prof. Wacław Celadyn, *doctor hab.*, MSc in Arch. wceladyn@pk.edu.pl

Type of course, number of hours in the study programme curriculum

Semester	Credit type (G / NG)*	Lecture	Practical class	Laboratory	Computer Laboratory	Project class	Seminar
2	G	15	0	0	0	0	0

*G – graded credit, NG – non-graded credit

Course objectives

Code	Objective description
Objective 1	Extension of knowledge on technical and structural solutions in energy efficient and environmentally friendly buildings within the framework of the sustainability strategy in architecture
Objective 2	Acquiring knowledge on the methods of building quality evaluation
Objective 3	Acquiring knowledge on the methods of ensuring technical endurance of buildings

Learning Outcomes

Code	Description of the learning outcome adjusted to the specific characteristics of the discipline	Learning outcome symbol in the CUT SD	Methods of verification
OUTCOMES RELATED TO KNOWLEDGE			
EKW1	The doctoral student knows and understands – in the extent enabling revision of the existing paradigms – the global scientific achievements encompassing the theoretical foundations as well as general and selected detailed problems specific to the discipline of Architecture and Urban Sciences	E_W01	Involvement in class activities, progress tests
EKW2	The doctoral student knows the major development trends in the discipline of Architecture and Urban Sciences	E_W02	Involvement in class activities, progress tests
OUTCOMES RELATED TO SKILLS			
EKU1	The doctoral student is able to use knowledge from		

	the field of Architecture and Urban Sciences for creative identification and innovative solution of complex professional problems and for performing research tasks related to architectural building design based on scientific research.	E_U01	Testing
EKU2	The doctoral student is able to perform a critical analysis and evaluation of scientific research results, expert activities and other creative types of work, as well as their contribution to the development of knowledge	E_U01	Testing
OUTCOMES RELATED TO SOCIAL COMPETENCES			
EKK1	The doctoral student is ready to perform a critical evaluation of the scientific achievements within a given scientific discipline	E_K01	Involvement in class activities, testing
EKK2	The doctoral student is ready to recognise the significance of knowledge in solving cognitive and practical problems.	E_K03	Involvement in class activities, testing

Course outline

No.	Contents	Learning outcomes for the course	No. of hours
LECTURE			
W 1	Problems and methods of building design within the framework of the sustainability strategy	EKW1, EKW2, EKU1, EKU2, EKK1, EKK2	3
W 2	Energy efficient buildings – analyses and design	EKW1, EKW2, EKU1, EKU2, EKK1, EKK2	3
W 3	Humans, buildings and the environment – hazards involved in implementing modern building energy technologies	EKW1, EKW2, EKU1, EKU2, EKK1, EKK2	3
W 4	The influence of structural system solutions on the architectural form of buildings – a case study	EKW1, EKW2, EKU1, EKU2, EKK1, EKK2	3
W 5	Sustainable and energy efficient timber buildings – mass timber	EKW1, EKW2, EKU1, EKU2, EKK1, EKK2	3

The ECTS points statement

WORKING HOURS SETTLEMENT	
Type of activity	Average number of hours (45 min.) dedicated to the completion of an activity type
SCHEDULED CONTACT HOURS WITH THE ACADEMIC TEACHER	
Hours allotted in the syllabus	15
Consultations	0
Examination / course credit assignment	0
HOURS WITHOUT THE PARTICIPATION OF THE ACADEMIC TEACHER	
Independent study of the course contents	6
Preparation of a paper, report, project,	4

presentation, discussion	
ECTS POINTS STATEMENT	
Total number of hours	30
The ECTS points number	1

Preliminary requirements

No.	Requirements
1	Knowledge of the foundations of general construction and building design principles
2	Proficiency in English

Course credit assignment conditions / method of the final grade calculation

No.	Description
COURSE CREDIT ASSIGNMENT CONDITIONS	
1	80% attendance in class. Presentation of extensive answers to questions in the progress tests.
	METHOD OF THE FINAL GRADE CALCULATION
	The weighted average of the answers in the progress tests

Additional information

None

The course reading list

1.	Celadyn W., *Przegrody przeszklone w architekturze energooszczędnej*, Wydawnictwo Politechniki Krakowskiej, Kraków 2004
2.	Runkiewicz L., Błaszczyński T. (eds.), *Ekologia w budownictwie*, Dolnośląskie Wydawnictwo Edukacyjne, Wrocław 2014
3.	Herzog T., Natterer J., Schweitzer R., Volz M., Winter W., *Timber Construction Manual*, Birkhäuser Verlag, Basel 2003
4.	Jastrzębska G., *Energia ze źródeł odnawialnych i jej wykorzystanie*, Wydawnictwa Komunikacji i Łączności WKŁ, 2017
5.	Kibert Ch. J., *Sustainable Construction*, Wiley, Hoboken 2016
6.	Markiewicz-Zahorski P., *Budownictwo ogólne: podręcznik dla architektów*, Wydawnictwo Politechniki Krakowskiej, Kraków 2019
7.	Mielczarek Z., *Nowoczesne Konstrukcje w Budownictwie Ogólnym*, Arkady, Warszawa 2005
8.	*Statistical Review of World Energy 1965-2017*
9.	Act of the 20th February 20215 on renewable energy sources (Journal of Laws 2015, item 478)
10.	Weber J., Hugues T., Steiger L., *Timber Construction: Details, Products, Case Studies (Detail Praxis),* Birkhäuser Architecture, Basel 2008
11.	Firląg Sz. (ed.), *Zrównoważone budynki biurowe*, PWN, Warszawa 2018