

COURSE DESCRIPTION CARD

Course name	Sustainable construction				
Course type	optional	Course code	SDPB0021	Number of ECTS credits	1
Forms and number of hours of tuition	Lecture: 10 h	Discipline of science	civil engineering and transport environmental engineering, mining and energy		
Course objectives	The aim of the course is for the PhD student to provide with education and guidance on construction methods and practices that amplify and ensure the achievement of environmental criteria and goals in building projects.				
Course content	<p>Lecture:</p> <ol style="list-style-type: none"> 1. Methods to reduce the environmental impact of construction on the project site and surrounding environment are identified. 2. Identifies environmentally friendly building materials as well as harmful and toxic materials that should be avoided. 3. Methods to reduce and eliminate waste on construction projects are identified. 4. Identifies materials to recycle at each phase of construction and methods to support the onsite recycling effort. 5. Methods to ensure and improve the building's energy performance, reduce energy consumed during construction, and identify opportunities to use renewable energy sources. 6. Identifies reusable materials and methods to facilitate the future reuse of a facility, systems, equipment, products and materials. 				
Teaching methods	The lecture enriched with practical case studies				
Assessment method	Exam				
Symbol of learning outcome	Learning outcomes		Reference to Learning Outcomes for qualifications at PQF Level 8	Verification methods	
LO1	knows and understands, to a degree which enables the revision of existing paradigms, the world's achievements in the field of sustainable construction, including theoretical foundations and general and selected specific issues.		SD_W1	Exam	
LO2	knows and understands the economic, legal, ethical and other relevant determinants of scientific activity.		SD_W6	Exam	
LO3	is able to use knowledge of sustainable construction to creatively identify, formulate and innovatively solve complex problems or perform tasks of a research nature		SD_U1	Exam	
LO4	PhD student is able to communicate on specialized topics related to the use of renewable materials to		SD_U4	Exam	

	a degree that enables active participation in the international scientific community.		
LO5	is able to plan and carry out individual and team research or creative projects related to the field of sustainable construction, also in an international environment.	SD_U8	Exam
LO6	is ready to critically evaluate the achievements within the scientific discipline related to sustainable development of construction, to critically evaluate his/her own contribution to the development of methods related to energy efficiency assessment of buildings and to recognize the importance of knowledge in solving cognitive and practical problems.	SD_K1	Exam
LO7	Is prepared to uphold and develop the ethos of the research and creative communities, including: - conducting scientific activity in an independent manner, - respect the principle of public ownership of the results of scientific activity, taking into account the principles of intellectual property.	SD_K3	Exam

Student workload (in hours)	
Lecture	10
Consultations	1
Own work	10
Preparation for classes	5
Sum of hours	26
ECTS credits	1

Basic references	1. Jong-Jin Kim, Brenda Rigdon: Sustainable Architecture. National Pollution Prevention Center for Higher Education. 1998.
Supplementary references	1. Green Building Guidelines 5th Edition Meeting the Demand for Low-Energy, Resource-Efficient Homes.
Lecturer	Assoc. Prof. Miroslaw Broniewicz, DSc, PhD, Eng
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