

FACULTY OF ARCHITECTURE

COURSE SYLLABUSCourse title in Polish: **Fizyka budowli**Course title in English: **Building Physics**Main field of study (if applicable): **Architecture**

Specialization (if applicable): -

Profile: **ogólnoakademicki**Level and form of studies: **1st level, full-time**Course type: **optional**Course code: **AUA000343S**Group of courses: **NO**

	Lecture	Tutorial	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU)					30
Number of hours of total student workload (CNPS)					90
Form of crediting					Crediting with grade
For group of courses mark (X) final course					
Number of ECTS points					3
including number of ECTS points for practical (P) classes					1
including number of ECTS points for direct teacher-student contact (BK) classes					1

PREREQUISITES RELATED TO KNOWLEDGE, COMPETENCES AND SOCIAL SKILLS

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COURSE OBJECTIVES

C1 - To introduce students to basic problems of heat and water vapor exchange between two environments divided by a partition.

C2 - To introduce students to basic problems of daylighting of interiors.

C3 - To develop rudimentary knowledge of acoustics - propagation in open space, interior acoustics, acoustic insulation of partitions.

C4 - To introduce a basic knowledge of interior microclimate in buildings.

COURSE LEARNING OUTCOMES**Related to knowledge:**

PEK_W01 - The student has rudimentary knowledge of building physics. (K1A_W07)

Related to competencies:

PEK_U01 - The student is able to interpret and analyze information pertaining to building physics. (K1A_U09)

PEK_U02 - Has the skills to apply general principles of building physics in building design. (K1A_U08, K1A_U09)

Related to social skills:

PEK_K01 – The student understand the importance of lifelong learning, inspire and organize the learning process of others. (K1A_U02)

PEK_K02 - Understand the responsibility for one's work and demonstrate readiness to follow the rules of teamwork. (K1A_K01, K1A_K03)

PROGRAMME CONTENT

Seminar		Number of hours
Sem 1	Organizational classes.	2
Sem 2	Presentation of the scope of seminar, credit conditions, literature.	2
Sem 3	Heat transfer of building materials. Calculation of thermal resistance of partitions, calculation of heat transfer coefficient.	2
Sem 4	Presentations of papers. Discussion about the papers.	2
Sem 5	Presentations of papers. Discussion about the papers.	2
Sem 6	Presentations of papers. Discussion about the papers.	2
Sem 7	Presentations of papers. Discussion about the papers.	2
Sem 8	Presentations of papers. Discussion about the papers.	2
Sem 9	Presentations of papers. Discussion about the papers.	2
Sem 10	Presentations of papers. Discussion about the papers.	2
Sem 11	Summary and discussion about the presentations.	2
Sem 12	The problem of building acoustics. Sound transmission and acoustic insulation of materials.	2
Sem 13	Interior lighting with daylight.	2
Sem 14	Interior microclimate.	2
Sem 15	Summary of classes.	2
Total hours		30

TEACHING TOOLS

N1 - Expository lecture with elements of problem-solving lecture.

N2 - Multimedia presentations.

N3 - Educational discussion.

N4 - Individual work - preparation of the paper and presentation.

ASSESSMENT OF ACHIEVEMENT OF LEARNING OUTCOMES

Evaluation (F – forming (during semester), C – concluding (at semester end))	Number of learning outcome	Method of assessing the achievement of learning outcome
F1	PEK_W01 PEK_U01 PEK_U02	Presentation.
F2	PEK_K01 PEK_U01 PEK_K02	Activity during classes.
C = 85% F1 + 15% F2		

BASIC AND ADDITIONAL LITERATURE

BASIC LITERATURE:

- [1] Stefańczuk, B. (ed.), *Budownictwo ogólne*, vol.1., *Materiały i wyroby budowlane*, Warszawa 2007.
- [2] Klemm, P. (ed.), *Budownictwo ogólne*, vol.2., *Fizyka budowli*, Warszawa 2005.
- [3] Lichołaia, L. (ed.), *Budownictwo ogólne*, vol.3., *Elementy budynków, podstawy projektowania*, Warszawa 2008.
- [4] Markiewicz, P., *Budownictwo ogólne dla architektów*, Kraków 2006.

ADDITIONAL LITERATURE:

- [1] PN-EN ISO 6946 - *Komponenty budowlane i elementy budynku. Opór cieplny i współczynnik przenikania ciepła. Metoda obliczania*, 1999.

COURSE SUPERVISOR (NAME AND SURNAME, E-MAIL ADDRESS)

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