

## FACULTY OF ARCHITECTURE

## COURSE SYLLABUS

Course 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)					<b>30</b>
Number of hours of total student workload (CNPS)					<b>90</b>
Form of crediting					<b>Crediting with grade</b>
For group of courses mark (X) final course					
Number of ECTS points					<b>3</b>
including number of ECTS points for practical (P) classes					<b>1</b>
including number of ECTS points for direct teacher-student contact (BK) classes					<b>1</b>

### PREREQUISITES RELATED TO KNOWLEDGE, COMPETENCES AND SOCIAL SKILLS

COURSE OBJECTIVES
<b>C1</b> - To introduce students to basic problems of heat and water vapor exchange between two environments divided by a partition. <b>C2</b> - To introduce students to basic problems of daylighting of interiors. <b>C3</b> - To develop rudimentary knowledge of acoustics - propagation in open space, interior acoustics, acoustic insulation of partitions. <b>C4</b> - To introduce a basic knowledge of interior microclimate in buildings.
COURSE LEARNING OUTCOMES
<b>Related to knowledge:</b> <b>PEK_W01</b> - The student has rudimentary knowledge of building physics. (K1A_W07)
<b>Related to competencies:</b> <b>PEK_U01</b> - The student is able to interpret and analyze information pertaining to building physics. (K1A_U09) <b>PEK_U02</b> - 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**

<b>Seminar</b>		<b>Number of hours</b>
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
<b>Total hours</b>		<b>30</b>

**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**

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

<b>BASIC AND ADDITIONAL LITERATURE</b>
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<b><u>BASIC LITERATURE:</u></b>
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| <ul style="list-style-type: none"><li>[1] Stefańczuk, B. (ed.), <i>Budownictwo ogólne</i>, vol.1., <i>Materiały i wyroby budowlane</i>, Warszawa 2007.</li><li>[2] Klemm, P. (ed.), <i>Budownictwo ogólne</i>, vol.2., <i>Fizyka budowli</i>, Warszawa 2005.</li><li>[3] Lichołaj, L. (ed.), <i>Budownictwo ogólne</i>, vol.3., <i>Elementy budynków, podstawy projektowania</i>, Warszawa 2008.</li><li>[4] Markiewicz, P., <i>Budownictwo ogólne dla architektów</i>, Kraków 2006.</li></ul> |
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<b><u>ADDITIONAL LITERATURE:</u></b>
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| <ul style="list-style-type: none"><li>[1] PN-EN ISO 6946 - <i>Komponenty budowlane i elementy budynku. Opór cieplny i współczynnik przenikania ciepła. Metoda obliczania</i>, 1999.</li></ul> |
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<b>COURSE SUPERVISOR (NAME AND SURNAME, E-MAIL ADDRESS)</b>
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