GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Ventilation and Air Conditioning II, PG_00059136		
Field of study	Environmental Engineering		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2025/2026
Education level	first-cycle studies	Subject group	Obligatory subject group in the field of study
Mode of study	Part-time studies	Mode of delivery	at the university
Year of study	4	Language of instruction	Polish
Semester of study	8	ECTS credits	1.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Sanitary Engineering -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Sylwia Fudala-Książek	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	10.0	5.0	0.0	0.0	0.0	15

E-learning hours included: 0.0

Learning activity and number of study hours

Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
Number of study hours	15	0.0	15.0	30

Subject objectives

The aim of the course is to provide students with a basic understanding of the different types of ventilation and air conditioning, the parameters of humid air and its changes, the design and regulatory parameters of outdoor and indoor air, as well as indoor environmental design, and the current legal regulations and standards relating to the subject.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U15] can make interpretations of measured meteorological parameters, define basic elements characterizing the weather and climate	The student is able to carry out meteorological measurements, identify the basic elements that characterise weather and climate, and interpret the measured parameters.	[SU4] Assessment of ability to use methods and tools
[K6_W09] has ordered, theoretically founded knowledge in the field of water supply, sewage, heating, ventilation and air conditioning, and the principles of shaping the microclimate of rooms; knows legal regulations, standardization issues and recommendations for the design of water supply, sewage, heating and gas networks and installations	The student has a well-structured theoretical knowledge of water supply, sewerage, heating, ventilation and air conditioning, as well as the principles of indoor climate control. The student is familiar with the relevant legislation, standardisation issues and design guidelines for water supply, sewerage, heating and gas networks and installations.	[SW1] Assessment of factual knowledge

Subject contents

Course content – lecture
ĆWICZENIA: Obliczenia analityczne związane ze zmianą parametrów stanu powietrza wilgotnego oraz praktyczne wykorzystanie wykresu hx (Molliera).

Course content – exercises
EXERCISES: Analytical calculations relating to changes in the state parameters of humid air and the practical application of the hx diagram (Mollier).

Prerequisites and co-requisites

Knowledge of thermodynamics.

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Lecture exam</td><td>60.0%</td><td>60.0%</td></tr>
<tr><td>Pass</td><td>60.0%</td><td>40.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>1. Jaskólski M., Micewicz Z., Wentylacja i klimatyzacja hal krytych pływalni. IPPU MASTA, Gdańsk, 2000.

2. Malicki M., Wentylacja i klimatyzacja. PWN, Warszawa 1980.
3. Pełech A., Wentylacja i klimatyzacja. Podstawy. Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław, 2009.
4. Szymański W., Wolańczyk F., Termodynamika powietrza wilgotnego. Przykłady i zadania, OWPRz, Rzeszów, 2008.
5. Przepisy prawne: http://isap.sejm.gov.pl/ , normy</td></tr>
<tr><td>Supplementary literature</td><td>1. Recknagel, Sprenger i in., Poradnik. Ogrzewanie i klimatyzacja. EWFE, Gdańsk, 2008.

2. Żarski K., Termodynamika. Zagadnienia praktyczne w ogrzewnictwie i klimatyzacji. Ośrodek Informacji Technika instalacyjna w budownictwie, Warszawa, 2005.

3. Wytyczne producentów, karty katalogowe armatury i urządzeń.

4. Venture Industries Sp. z o. o. Wentylacja</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">1. Determining the parameters of moist air on the Mollier diagram.</td></tr>
<tr><td>Practical activites within the subject</td><td colspan="2">Not applicable</td></tr>
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