RIE (5)
Wydział Inżynierii Środowiska i Energetyki
POLITECHNIKI ŚLĄSKIEJ
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Załącznik Nr 5 do Zarz. Nr 33/11/12

(pieczęć wydziału)

COURSE DESCRIPTION

1. Course title: *Indoor air quality*	**2. Kod przedmiotu:**
3. Validity of course description: 2015/2016	
4. Level of studies: *MSc*	
5. Mode of studies: *intramural studies*	
6. Field of study: *Inżynieria Bezpieczeństwa* (RIE)	
7. Profile of studies: general academic	
8. Programme: *Bezpieczeństwo obiektów i higiena pracy*	
9. Semester: *II*	
10. Faculty teaching the course: *Katedra Ogrzewnictwa, Wentylacji i Techniki Odpylania*	
11. Course instructor: *dr hab. inż. Jan Kaczmarczyk*	
12. Course classification: *common directional subject*	
13. Course status: *obligatory*	
14. Language of instruction: *English*	
15. Pre-requisite qualifications: *none*	
16. Course objectives: *The aim of the course is to acquaint students with problems of indoor air quality non-particularly residential, commercial and residential.*	
17. Description of learning outcomes:[1]	

Nr	Learning outcomes description	Method of assessment	Teaching methods	Learning outcomes reference code
1	identifies and characterizes sources of air pollution and indoor air pollutants	*written test*	*lecture*	K_W8, K_W12
2	is able to identify and describe methods to assess indoor air quality	*written test*	*lecture*	K_W15
3	is able to identify and characterize ways to improve indoor air quality	*written test*	*lecture*	K_W14, K_W23
4	plans and carries out an assessment of the perceived air quality	*raport*	*laboratory*	K_U03, K_K03
5	determines the air exchange rate in a room based on tracer gas concentration decay and interprets the results	*raport*	*laboratory*	K_U01, K_U03, K_U10

[1] należy wskazać ok. 5 – 8 efektów kształcenia

18. Teaching modes and hours

Lecture / BA /MA Seminar / Class / Project / Laboratory

19. Syllabus description:

Lectures

Internal and external sources of indoor air pollutants

Primary and secondary emission of pollutants. Mechanisms, examples.

The impact of indoor air quality on health and productivity of people.

The mass balance of pollutants

Methods of measurement and evaluation of indoor air quality

Basics of olfaction. Odour unit, detection threshold, odor intensity. The effect of temperature, humidity and air velocity on perceived air quality

Methods of diagnosis of poor air quality and methods to improve indoor air quality

Laboratories

Determination of the exchange rate in the room based on loss of concentration CO_2

Preparation and conducting tests for evaluating panel assessing air quality

Olfaktometryczna ocena jakości powietrza w pomieszczeniach

Determination of olfactory pollution emission of bioefluents

Determination of minimum ventilation rate in lecture hall based on olfactory pollution load

20. Examination: ~~tak~~ nie[1]

21. Primary sources:

REHVA Guidebook 14 „Indoor climate quality assessment" Federation of European Heating and Air-Conditioning Associations, REHVA, Brussels, 2011

Spengler J., Samet J. i McCarthy J. "Indoor air quality handbook" McGraw-Hill, 2001

Kostyrko K. i Wargocki P. „Pomiary zapachów i ocena jakości powietrza w pomieszczeniach" Wydawnictwo Instytutu Techniki Budowlanej, Warszawa 2011

Kośmider J., Mazur-Chrzanowska B. i Wyszyński B. „Odory" Wydaw. Naukowe PWN, Warszawa 2002

22. Secondary sources:

publications in conference materials„Problemy jakości powietrza wewnętrznego w Polsce" konferencji organizowanej przez Wydział Inżynierii Środowiska Politechniki Warszawskiej

"Indoor Air Quality Guide: Best Practices for Design, Construction and Commissioning" American Society of Heating, Refrigerating and Air-Conditioning Engineers, ASHRAE 2009

REHVA Guidebook 6 „Indoor climate and productivity in offices. How to integrate productivity in life cycle costs analysis of building services" Federation of European Heating and Air-Conditioning Associations, REHVA, Brussels, 2006

standards and legal acts related to indoor air quality

23. Total workload required to achieve learning outcomes

Lp.	Teaching mode :	Contact hours / Student workload hours
1	Lecture	15/15
2	Classes	-/-
3	Laboratory	15/15
4	Project	-/-
5	BA/ MA Seminar	-/-
6	Other	-/-
	Total number of hours	30/30

24. Total hours: 60

25. Number of ECTS credits: 2

26. Number of ECTS credits allocated for contact hours: 1

27. Number of ECTS credits allocated for in-practice hours (laboratory classes, projects): 1

26. Comments:

30.08.2014 .....
(date, Instructor's signature)

Approved: 30.IX.2014

Kierownik Katedry
Ogrzewnictwa, Wentylacji i Techniki Odpylania
dr hab. inż. Zbigniew Trzeciakiewicz,
prof. nzw. w Pol. Śl.
(date , the Director of the Faculty Unit signature)