

POLITECHNIKA KRAKOWSKA IM. TADEUSZA KOŚCIUSZKI

KARTA PRZEDMIOTU

obowiązuje studentów rozpoczynających studia w roku akademickim 2021/2022

Wydział Inżynierii Lądowej

Kierunek studiów: Budownictwo

Profil: Ogólnoakademicki

Forma studiów: stacjonarne

Kod kierunku: BUD

Stopień studiów: I

Specjalności: Bez specjalności - studia w języku angielskim

1 INFORMACJE O PRZEDMIOCIE

NAZWA PRZEDMIOTU	Sieci oraz instalacje w obiektach budowlanych
NAZWA PRZEDMIOTU W JĘZYKU ANGIELSKIM	Municipal Systems and Installations in Building Objects
KOD PRZEDMIOTU	WIL BUD oIS D53 21/22
KATEGORIA PRZEDMIOTU	Przedmioty profilowe
LICZBA PUNKTÓW ECTS	3.00
SEMESTRY	6

2 RODZAJ ZAJĘĆ, LICZBA GODZIN W PLANIE STUDIÓW

SEMESTR	WYKŁAD	ĆWICZENIA AUDYTORYJNE	LABORATORIA	LABORATORIA KOMPUTERO- WE	PROJEKTY	SEMINARIUM
6	30	0	0	0	15	0

3 CELE PRZEDMIOTU

Cel 1 Presenting to students basic knowledge of indoor and outdoor installations

Cel 2 Presenting to students alternative energy sources

Cel 3 Presenting to students the rules of making the documentation of indoor and outdoor installations in buildings

Kod archiwizacji:

4 WYMAGANIA WSTĘPNE W ZAKRESIE WIEDZY, UMIEJĘTNOŚCI I INNYCH KOMPETENCJI

1 General construction

5 EFEKTY KSZTAŁCENIA

EK1 Wiedza Student describes and explains the principles and characteristics of indoor and outdoor installations

EK2 Wiedza Student describes and explains the rules of designing indoor and outdoor installations in buildings

EK3 Umiejętności Student can explain and make the documentation of indoor and outdoor installations

EK4 Kompetencje społeczne Student can coordinate the different installations inside and outside the building

6 TREŚCI PROGRAMOWE

PROJEKTY		
LP	TEMATYKA ZAJĘĆ OPIS SZCZEGÓŁOWY BLOKÓW TEMATYCZNYCH	LICZBA GODZIN
P1	Water plumbing system design in a single family housing: analysis of the existing plumbing system, plumbing dimensioning	5
P2	Water distribution system design for small agglomeration	5
P3	Ventilation and air-conditioning systems. Reading and correcting the documentation	5

WYKŁAD		
LP	TEMATYKA ZAJĘĆ OPIS SZCZEGÓŁOWY BLOKÓW TEMATYCZNYCH	LICZBA GODZIN
W1	Source of water in the household, water service lines, water plumbing in single family and multistory buildings: pipe materials, valves, meters, plumbing fixtures and appliances, pressure zones, hydrophore units, hot water plumbing systems	4
W2	Wastewater disposal solutions in the household, sewer line, gravity drain system in single family and multistory buildings: pipe materials, plumbing fixture and appliance connections, drain equipments, drain system venting	4
W3	Water supply systems: water intakes, water demand, water distribution systems, piping materials, pipeline construction, reliability and maintenance, pumping stations, water tanks, water treatment plants.	4
W4	Sewerage systems: sanitary sewers and storm water drainage systems, pipeline construction, repair and maintenance, sewage pumping stations, storm water detention tanks, vacuum and pressure systems, wastewater treatment plants.	4

WYKŁAD		
LP	TEMATYKA ZAJĘĆ OPIS SZCZEGÓŁOWY BLOKÓW TEMATYCZNYCH	LICZBA GODZIN
W5	The structures of LV and MV power supply systems (IT, TN-C, TN-S), example of buildings (public and residential) wiring diagrams and description of basic symbols. Connecting of electrical equipment into electric installation. Determination of wires colours Layout of electrical installation inside the walls and construction divisions. Layout of electrical installation over the surface of the walls	2
W6	The calculation of circuit loads and currents for LV circuits. Apparent power, active and reactive powers calculation of the currents for various types of loads Installed and required power for residential buildings. Basic protection system and the selection of proper protection devices (selection of fuses, safety switches, thermal protection devices) and the requirements they have to satisfy. Documents: Required by standards records from the tests and measurements Basic of the design and installation of lighting and voltage surge protection equipment and grounding circuitry	2
W7	Air properties, standards, natural ventilation characteristics, advantages and disadvantages	4
W8	Mechanical ventilation, hybrid ventilation, Air conditioning systems, methods of energy saving in ventilation and air conditioning systems	4
W9	Renewable energy sources, alternative systems (solar, heat pumps)	2

7 NARZĘDZIA DYDAKTYCZNE

N1 Wykłady

N2 Ćwiczenia projektowe