

# POLITECHNIKA KRAKOWSKA IM. TADEUSZA KOŚCIUSZKI

## KARTA PRZEDMIOTU

obowiązuje studentów rozpoczynających studia w roku akademickim 2022/2023

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	Organizacja, kier. budową i BHP
NAZWA PRZEDMIOTU W JĘZYKU ANGIELSKIM	Construction Supervision, Occupational Safety and Health
KOD PRZEDMIOTU	WIL BUD oIS C43 22/23
KATEGORIA PRZEDMIOTU	Przedmioty kierunkowe
LICZBA PUNKTÓW ECTS	4.00
SEMESTRY	6

### 2 RODZAJ ZAJĘĆ, LICZBA GODZIN W PLANIE STUDIÓW

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

### 3 CELE PRZEDMIOTU

**Cel 1** Acquainting students with the basic principles and methods of organizing the construction process and planning construction projects

**Cel 2** Acquainting students with the rights and duties of participants in the construction process in accordance with construction law

**Cel 3** To get students acquainted with the principles of occupational health and safety during construction works, basic threats occurring during the execution of works, rules of conduct in the event of accident and methods of estimating the level of occupational risk

**Cel 4** Preparing students to work in a team to solve problems related to the organization of effective and safe work at the construction site

**Cel 5** Preparation students for scientific work, critical assessment of obtained results and presentation of a given problem regarding planning and organization of a construction project in accordance with health and safety rules

## 4 WYMAGANIA WSTĘPNE W ZAKRESIE WIEDZY, UMIEJĘTNOŚCI I INNYCH KOMPETENCJI

1 Fundamental knowledge of building technologies and preparing bill of quantities

## 5 EFEKTY KSZTAŁCENIA

**EK1 Wiedza** Student has knowledge of: principles and methods of planning and organization of construction works, rights and obligations of participants in the construction process, hazards that may occur during the performance of construction works, the principles of health and safety in construction works, methods of occupational risk assessment in construction

**EK2 Umiejętności** The student is able to organize construction works using network models and construction schedules

**EK3 Umiejętności** The student is able to identify the basic hazards that may occur during the execution of construction works, analyze the possibilities of their prevention and estimate the level of risk in a basic range  
The student is able to design the development of the construction site according to the safety rules

**EK4 Kompetencje społeczne** Student is aware of the responsibility for the reliability of the results of their work and their interpretation and can work in a group

## 6 TREŚCI PROGRAMOWE

PROJEKTY		
LP	TEMATYKA ZAJĘĆ OPIS SZCZEGÓŁOWY BLOKÓW TEMATYCZNYCH	LICZBA GODZIN
<b>P1</b>	Description and assumptions of the project. Presenting the scope of the project.	2
<b>P2</b>	Analysis of construction documentation. Division into working plots	2
<b>P3</b>	Analysis of the technological order of construction works execution	2
<b>P4</b>	Bill of quantities	4
<b>P5</b>	Calculation of the number of work teams and the time of completion of construction works	4
<b>P6</b>	Modeling of the activity network for investments. CPM method and critical path analysis	6
<b>P7</b>	Construction schedules	6

PROJEKTY		
LP	TEMATYKA ZAJĘĆ OPIS SZCZEGÓŁOWY BLOKÓW TEMATYCZNYCH	LICZBA GODZIN
<b>P8</b>	Construction site development plan according to the safety rules	4

ĆWICZENIA AUDYTORYJNE		
LP	TEMATYKA ZAJĘĆ OPIS SZCZEGÓŁOWY BLOKÓW TEMATYCZNYCH	LICZBA GODZIN
<b>C1</b>	Creating and analyzing networks using the CPM method. Analysis of the critical path. Calculation of simple CPM examples	4
<b>C2</b>	Construction schedules	2
<b>C3</b>	Working sections, works organization methods on the building site	2
<b>C4</b>	Organization of the construction site. Temporary roads on the construction site. Case studies	2
<b>C5</b>	Identification of hazards that may occur during construction works and occupational risk assessment. Documents related to OSH at the construction site.	5

WYKŁAD		
LP	TEMATYKA ZAJĘĆ OPIS SZCZEGÓŁOWY BLOKÓW TEMATYCZNYCH	LICZBA GODZIN
<b>W1</b>	Organization and characteristic of the construction process. Law regulations	2
<b>W2</b>	Methods of organizing construction works. Estimating task execution time.	2
<b>W3</b>	Planning methods and organization of a construction project. Construction Critical Path Method (CPM) and network model analysis	4
<b>W4</b>	Construction schedules - types and rules of performance	2
<b>W5</b>	Health and safety rules at the construction site	8
<b>W6</b>	Construction site development: construction site development elements, their location and order of implementation	4
<b>W7</b>	Health and safety plan.occupational risk assessment	2
<b>W8</b>	Rights and duties of participants in the construction process. Construction documentation	6

## 7 NARZĘDZIA DYDAKTYCZNE

N1 Design exercises

N2 Discussion

N3 Multimedia presentations

N4 Lectures

N5 Panel tasks

N6 Films

N7 Consultations

## 8 OBCIĄŻENIE PRACĄ STUDENTA

FORMA AKTYWNOŚCI	ŚREDNIA LICZBA GODZIN NA ZREALIZOWANIE AKTYWNOŚCI
<b>Godziny kontaktowe z nauczycielem akademickim, w tym:</b>	
Godziny wynikające z planu studiów	75
Konsultacje przedmiotowe	4
Egzaminy i zaliczenia w sesji	6
<b>Godziny bez udziału nauczyciela akademickiego wynikające z nakładu pracy studenta, w tym:</b>	
Przygotowanie się do zajęć, w tym studiowanie zalecanej literatury	10
Opracowanie wyników	5
Przygotowanie raportu, projektu, prezentacji, dyskusji	20
<b>SUMARYCZNA LICZBA GODZIN DLA PRZEDMIOTU WYNIKAJĄCA Z CAŁEGO NAKŁADU PRACY STUDENTA</b>	<b>120</b>
SUMARYCZNA LICZBA PUNKTÓW ECTS DLA PRZEDMIOTU	4.00

## 9 SPOSOBY OCENY

### OCENA FORMUJĄCA

F1 positive grade from the project (design exercise)

F2 positive grade from the test

F3 positive grade from the exam

### OCENA PODSUMOWUJĄCA

P2 Weighted average of forming grades 60%exam+20%design exercise+20% auditorium exercises

**WARUNKI ZALICZENIA PRZEDMIOTU**

**W1** Positive grades from the design exercise, test and the exam. the student may take the exam after passing all the classes included in the course

**OCENA AKTYWNOŚCI BEZ UDZIAŁU NAUCZYCIELA**

**B1** design exercise, test and exam

**KRYTERIA OCENY**

EFEKT KSZTAŁCENIA 1	
NA OCENĘ 2.0	The student doesn't know principles and methods of planning and organization of construction works, rights and obligations of participants in the construction process, hazards that may occur during the performance of construction works, the principles of health and safety in construction works, methods of occupational risk assessment in construction. Student makes serious mistakes
NA OCENĘ 3.0	Student has knowledge of: principles and methods of planning and organization of construction works, rights and obligations of participants in the construction process, hazards that may occur during the performance of construction works, the principles of health and safety in construction works, methods of occupational risk assessment in construction at the very primary level. Student makes some serious mistakes
NA OCENĘ 3.5	Student has knowledge of: principles and methods of planning and organization of construction works, rights and obligations of participants in the construction process, hazards that may occur during the performance of construction works, the principles of health and safety in construction works, methods of occupational risk assessment in construction at the more than primary level. Student makes some serious mistakes
NA OCENĘ 4.0	Student has knowledge of: principles and methods of planning and organization of construction works, rights and obligations of participants in the construction process, hazards that may occur during the performance of construction works, the principles of health and safety in construction works, methods of occupational risk assessment in construction at the good level. Student makes some minor mistakes
NA OCENĘ 4.5	Student has knowledge of: principles and methods of planning and organization of construction works, rights and obligations of participants in the construction process, hazards that may occur during the performance of construction works, the principles of health and safety in construction works, methods of occupational risk assessment in construction at the more than good level. Student makes little minor mistakes
NA OCENĘ 5.0	Student has knowledge of: principles and methods of planning and organization of construction works, rights and obligations of participants in the construction process, hazards that may occur during the performance of construction works, the principles of health and safety in construction works, methods of occupational risk assessment in construction at the very good level. Student doesn't make mistakes or very little minor mistakes
EFEKT KSZTAŁCENIA 2	

NA OCENĘ 2.0	The student is not able to perform the work schedule and network model as well as perform basic calculations of the project time. Lack of compliance with the project time frame and correctness at the minimum level. Student makes serious mistakes
NA OCENĘ 3.0	The student is able to perform the work schedule and network model as well as perform basic calculations of the project time at the very primary level. Compliance with the project time frame and correctness at the minimum level. Student makes some serious mistakes
NA OCENĘ 3.5	The student is able to perform the work schedule and network model as well as perform basic calculations of the project time at the more than primary level. Compliance with the project time frame and correctness at the more than minimum level. Student makes some minor mistakes
NA OCENĘ 4.0	The student is able to perform the work schedule and network model as well as perform basic calculations of the project time at the good level. Compliance with the project time frame and correctness on a regular basis. Student makes some minor mistakes
NA OCENĘ 4.5	The student is able to perform the work schedule and network model as well as perform basic calculations of the project time at the more than good level. Compliance with the project time frame and correctness on a regular basis. Student makes little minor mistakes
NA OCENĘ 5.0	The student is able to perform the work schedule and network model as well as perform basic calculations of the project time at the very good level. Compliance with the project time frame and correctness on up to dates. Student makes very little minor mistakes
EFEKT KSZTALCENIA 3	
NA OCENĘ 2.0	The student is not able to identify the basic hazards that may occur during the execution of construction works, analyze the possibilities of their prevention and estimate the level of risk in a basic range The student is not able to design the development of the construction site according to the safety rules. Lack of compliance with the project time frame and correctness. Student makes very serious mistakes
NA OCENĘ 3.0	The student is able to identify the basic hazards that may occur during the execution of construction works, analyze the possibilities of their prevention and estimate the level of risk in a basic range at the very primary level. The student is able to design the development of the construction site according to the safety rules at the very primary level. Compliance with the project time frame and correctness at the minimum level. Student makes some serious mistakes
NA OCENĘ 3.5	The student is able to identify the basic hazards that may occur during the execution of construction works, analyze the possibilities of their prevention and estimate the level of risk in a basic range at the more than primary level. The student is able to design the development of the construction site according to the safety rules at the very primary level. Compliance with the project time frame and correctness at the more than minimum level. Student makes some minor mistakes

NA OCENĘ 4.0	The student is able to identify the basic hazards that may occur during the execution of construction works, analyze the possibilities of their prevention and estimate the level of risk in a basic range at the good level. The student is able to design the development of the construction site according to the safety rules at the good level. Compliance with the project time frame and correctness on a regular basis. Student makes some minor mistakes
NA OCENĘ 4.5	The student is able to identify the basic hazards that may occur during the execution of construction works, analyze the possibilities of their prevention and estimate the level of risk in a basic range at the more than good level. The student is able to design the development of the construction site according to the safety rules at the more than good level. Compliance with the project time frame and correctness on a regular basis. Student makes little minor mistakes
NA OCENĘ 5.0	The student is able to identify the basic hazards that may occur during the execution of construction works, analyze the possibilities of their prevention and estimate the level of risk in a basic range at the very good level. The student is able to design the development of the construction site according to the safety rules at the very good level. Compliance with the project time frame and correctness on up to dates. Student makes very little minor mistakes
EFEKT KSZTAŁCENIA 4	
NA OCENĘ 2.0	Student doesn't prepare the project and presentation. Student doesn't work in a group. Lack of compliance with the project time frame and correctness.
NA OCENĘ 3.0	The student prepares the presentation of the next stages of the project in the basic scope. Compliance with the project time frame and correctness at the minimum level.
NA OCENĘ 3.5	The student prepares the presentation of the next stages of the project in the more than basic scope. Compliance with the project time frame and correctness at the minimum level.
NA OCENĘ 4.0	The student prepares the presentation of the next stages of the project in the required scope but makes some minor mistakes. Compliance with the project time frame and correctness on regular basics.
NA OCENĘ 4.5	The student prepares a presentation of the next stages of the project in the required scope but makes little minor mistakes. Compliance with the project time frame and correctness on regular basics.
NA OCENĘ 5.0	The student prepares a presentation of the next stages of the project in the required scope. Compliance with the project time frame and correctness on regular basics.

## 10 MACIERZ REALIZACJI PRZEDMIOTU

EFEKT KSZTAŁCENIA	ODNIESIENIE DANEGO EFEKTU DO SZCZEGÓLOWYCH EFEKTÓW ZDEFINIOWANYCH DLA PROGRAMU	CELE PRZEDMIOTU	TREŚCI PROGRAMOWE	NARZĘDZIA DYDAKTYCZNE	SPOSOBY OCENY
EK1	K_W15	Cel 1 Cel 2 Cel 3	c1 c2 c3 c4 c5 w1 w2 w3 w4 w5 w6 w7 w8	N1 N2 N3 N4 N5 N6 N7	F2 F3 P2
EK2	K_U05 K_U15 K_U16 K_U19 K_U21	Cel 1 Cel 2 Cel 3 Cel 4 Cel 5	p1 p2 p3 p4 p5 p6 p7 p8 c1 c2 c3 c4 c5	N1 N2 N3 N4 N5 N6 N7	F1 F2 F3 P2
EK3	K_U16 K_U19	Cel 3 Cel 4 Cel 5	p8 c5	N1 N2 N3 N5 N6 N7	F1 F2 F3 P2
EK4	K_K01 K_K02 K_K06 K_K09 K_K10	Cel 5	p2 p3 p4 p5 p6 p7 p8 c5	N1 N2 N3 N4 N5 N6 N7	F1 F2 P2

## 11 WYKAZ LITERATURY

### LITERATURA PODSTAWOWA

- [1 ] **Jaworski K.** — *Metodologia projektowania realizacji budowy*, Warszawa, 2009, PWN
- [2 ] **Korzeniowski W.** — *Kierowanie i nadzór nad budową w świetle prawa*, Warszawa, 2009, Polcen Sp. z o.o.
- [3 ] **Harris F., McCaffer R, Edum-Fotwe F** — *Modern construction management*, Oxford, 2006, Blackwell
- [4 ] **Cooke B., Williams P** — *Construction planning, programming and control*, Oxford, 1998, Blackwell
- [5 ] **Jaworski K.** — *Podstawy organizacji budowy*, Warszawa, 2005, Wydawnictwo Naukowe PWN
- [6 ] 737788, 143184, 1, 6, Prawo budowlane, , , 0, www.sejm.gov.pl,
- [7 ] **Illingworth J.R.** — *Construction Methods and Planning*, London, 2000, E&FN Spoon

### LITERATURA UZUPEŁNIAJĄCA

- [1 ] **Świdarska Grażyna** — *BIOZ w budownictwie*, Warszawa, 2008, Polcen Sp. z o.o.

### LITERATURA DODATKOWA

- [1 ] Polish Building Act, 1994

## 12 INFORMACJE O NAUCZYCIELACH AKADEMICKICH

### OSOBA ODPOWIEDZIALNA ZA KARTĘ

dr inż. Renata Kozik (kontakt: rkozik@izwbit.pk.edu.pl)



**OSOBY PROWADZĄCE PRZEDMIOT**

- 1 dr inż. prof. PK Renata Kozik (kontakt: renata.kozik@pk.edu.pl)
- 2 dr inż. Jarosław Malara (kontakt: jaroslaw.malara@pk.edu.pl)
- 3 dr inż. Damian Wieczorek (kontakt: damian.wieczorek@pk.edu.pl)
- 4 dr inż. Grzegorz Śladowski (kontakt: grzegorz.sladowski@pk.edu.pl)
- 5 mgr inż. Ewelina Mitera-Kiełbasa (kontakt: e.mitera@pk.edu.pl)
- 6 mgr inż. Patrycja Karcińska (kontakt: patrycja.karcinska@pk.edu.pl)
- 7 mgr inż. Monika Górka (kontakt: monika.gorka@pk.edu.pl)
- 10 mgr inż. Jakub Grącki (kontakt: jakub.gracki@pk.edu.pl)

**13 ZATWIERDZENIE KARTY PRZEDMIOTU DO REALIZACJI**

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(miejsowość, data)

(odpowiedzialny za przedmiot)

(dziekan)

**PRZYJMUJĘ DO REALIZACJI** (data i podpisy osób prowadzących przedmiot)

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