

# POLITECHNIKA KRAKOWSKA IM. TADEUSZA KOŚCIUSZKI

## KARTA PRZEDMIOTU

obowiązuje studentów rozpoczynających studia w roku akademickim 2023/2024

Wydział Inżynierii Lądowej

Kierunek studiów: Budownictwo

Profil: Ogólnoakademicki

Forma studiów: stacjonarne

Kod kierunku: BUD

Stopień studiów: II

Specjalności: Structural Design and Management in Civil Engineering (profile: Construction Technology and Management), Structural Design and Management in Civil Engineering (profile: Structural Design)

### 1 INFORMACJE O PRZEDMIOCIE

NAZWA PRZEDMIOTU	Zarządzanie przedsiębiorstwami budowlanymi
NAZWA PRZEDMIOTU W JĘZYKU ANGIELSKIM	Management of Building Projects
KOD PRZEDMIOTU	WIL BUD oIIS C10 23/24
KATEGORIA PRZEDMIOTU	Major subjects
LICZBA PUNKTÓW ECTS	2.00
SEMESTRY	3

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

SEMESTR	WYKŁAD	ĆWICZENIA AUDYTORYJNE	LABORATORIA	LABORATORIA KOMPUTERO- WE	PROJEKTY	SEMINARIUM
3	15	0	0	0	15	0

### 3 CELE PRZEDMIOTU

**Cel 1** To familiarize students with the general problems of construction project management. To discuss issues related to processes of construction project management.

**Cel 2** To prepare students to solve basic problems in the field on construction project management. To present

selected methods of analysis applied in construction project management. To prepare students for taking part in research (at a basic level) on problem within the field of construction project management.

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

- 1 Fulfillment of the requirements according to the the study regulations at Cracow University of Technology.  
Fulfillment of formalities and procedures at Faculty of Civil Engineering, Cracow University of Technology.

#### 5 EFEKTY KSZTAŁCENIA

**EK1 Wiedza** Student has a general knowledge about construction project management.

**EK2 Wiedza** Student knows selected methods of analysis applied in construction project management problems.

**EK3 Umiejętności** Student is able to define correctly and solve simple problems within the field of construction project management. Student is able to use selected methods applied for analyses of simple problems in the field of construction project management.

**EK4 Kompetencje społeczne** Student is able to work individually or in team on problems in the field of construction project management.

#### 6 TREŚCI PROGRAMOWE

PROJEKTY		
LP	TEMATYKA ZAJĘĆ OPIS SZCZEGÓŁOWY BLOKÓW TEMATYCZNYCH	LICZBA GODZIN
<b>P1</b>	Time-cost trade-off analysis for an exemplary model of construction project.	5
<b>P2</b>	Development and elaboration of a cash-flow financial analysis for given model of a construction project.	5
<b>P3</b>	Application of Earned Value analysis for cost and progress monitoring for given model of a construction project.	5

WYKŁAD		
LP	TEMATYKA ZAJĘĆ OPIS SZCZEGÓŁOWY BLOKÓW TEMATYCZNYCH	LICZBA GODZIN
<b>W1</b>	Characteristics of a construction project; determinants of success in managing construction projects. Multidimensionality of construction project management - different aspects of managing construction projects.	3
<b>W2</b>	Organisational models and schemes applied for construction projects. Relationships between the participants of construction project regarding the chosen organisational model.	3
<b>W3</b>	Processes related to construction project management. Analyses carried out in different phases of construction project regarding key management processes.	3

WYKŁAD		
LP	TEMATYKA ZAJĘĆ OPIS SZCZEGÓŁOWY BLOKÓW TEMATYCZNYCH	LICZBA GODZIN
<b>W4</b>	Budget of a construction project. Construction projects procurement.	2
<b>W5</b>	Monitoring cost and progress of construction projects. Earned Value Management for construction projects.	2
<b>W6</b>	Selected problems of modern technologies applied for management of construction projects.	2

## 7 NARZĘDZIA DYDAKTYCZNE

**N1** Lectures, presentations, discussion

**N2** Design exercises

**N3** E-learning

## 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	30
Konsultacje przedmiotowe	0
Egzaminy i zaliczenia w sesji	4
<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	10
Przygotowanie raportu, projektu, prezentacji, dyskusji	6
<b>SUMARYCZNA LICZBA GODZIN DLA PRZEDMIOTU WYNIKAJĄCA Z CAŁEGO NAKŁADU PRACY STUDENTA</b>	<b>60</b>
SUMARYCZNA LICZBA PUNKTÓW ECTS DLA PRZEDMIOTU	2.00

## 9 SPOSOBY OCENY

**OCENA FORMUJĄCA**

**F1** Completion of design exercises

**F2** Individual and/or team assignments

**OCENA PODSUMOWUJĄCA**

**P1** Final exam

**WARUNKI ZALICZENIA PRZEDMIOTU**

**W1** Completion of all design exercises within given deadlines and according to requirements specified for each of the assignments and tasks.

**W2** Positive final exam grade.

**KRYTERIA OCENY**

EFEKT KSZTAŁCENIA 1	
NA OCENĘ 2.0	x
NA OCENĘ 3.0	Student is able to present and discuss characteristics of a construction project. Student has knowledge on management functions and their applicability for construction projects. Student is able to mention and discuss key factors of success and failure of construction project. Student is able to mention and discuss determinants of success in managing construction projects. Student is able to explain and discuss multidimensionality of construction project management. Student has knowledge on processes related to construction project management. Student has knowledge on organisational models of construction projects. Student is able to describe and discuss relationships between the participants of construction project. Student has knowledge on analyses carried out in different phases of construction project. Student has knowledge on construction projects procurement. Student has knowledge on monitoring cost and progress of construction projects. Student is able to mention and discuss key factors of success and failure of construction project. Student is able to mention and discuss determinants of success in managing construction projects. Student is able to explain and discuss multidimensionality of construction project management. Student has satisfactory knowledge on processes related to construction project management. Student has satisfactory knowledge on organisational models of construction projects. Student is able to describe and discuss relationships between the participants of construction project. Student has satisfactory knowledge on analyses carried out in different phases of construction project. Student has satisfactory knowledge on construction projects procurement. Student has satisfactory knowledge on monitoring cost and progress of construction projects.

NA OCENĘ 3.5	<p>Student is able to present and discuss characteristics of a construction project. Student has knowledge on management functions and their applicability for construction projects. Student is able to mention and discuss key factors of success and failure of construction project. Student is able to mention and discuss determinants of success in managing construction projects. Student is able to explain and discuss multidimensionality of construction project management. Student has knowledge on processes related to construction project management. Student has knowledge on organisational models of construction projects. Student is able to describe and discuss relationships between the participants of construction project. Student has knowledge on analyses carried out in different phases of construction project. Student has knowledge on construction projects procurement. Student has knowledge on monitoring cost and progress of construction projects.</p>
NA OCENĘ 4.0	<p>Student is able to present and discuss characteristics of a construction project. Student has knowledge on management functions and their applicability for construction projects. Student is able to mention and discuss key factors of success and failure of construction project. Student is able to mention and discuss determinants of success in managing construction projects. Student is able to explain and discuss multidimensionality of construction project management. Student has knowledge on processes related to construction project management. Student has knowledge on organisational models of construction projects. Student is able to describe and discuss relationships between the participants of construction project. Student has knowledge on analyses carried out in different phases of construction project. Student has knowledge on construction projects procurement. Student has knowledge on monitoring cost and progress of construction projects.</p>
NA OCENĘ 4.5	<p>Student is able to present and discuss characteristics of a construction project. Student has knowledge on management functions and their applicability for construction projects. Student is able to mention and discuss key factors of success and failure of construction project. Student is able to mention and discuss determinants of success in managing construction projects. Student is able to explain and discuss multidimensionality of construction project management. Student has knowledge on processes related to construction project management. Student has knowledge on organisational models of construction projects. Student is able to describe and discuss relationships between the participants of construction project. Student has knowledge on analyses carried out in different phases of construction project. Student has knowledge on construction projects procurement. Student has knowledge on monitoring cost and progress of construction projects.</p>
NA OCENĘ 5.0	<p>Student is able to present and discuss characteristics of a construction project. Student has knowledge on management functions and their applicability for construction projects. Student is able to mention and discuss key factors of success and failure of construction project. Student is able to mention and discuss determinants of success in managing construction projects. Student is able to explain and discuss multidimensionality of construction project management. Student has knowledge on processes related to construction project management. Student has knowledge on organisational models of construction projects. Student is able to describe and discuss relationships between the participants of construction project. Student has knowledge on analyses carried out in different phases of construction project. Student has knowledge on construction projects procurement. Student has knowledge on monitoring cost and progress of construction projects.</p>

EFEKT KSZTAŁCENIA 2	
NA OCENĘ 2.0	x
NA OCENĘ 3.0	Student has knowledge on analyses carried out in different phases of construction project. Student has knowledge on time-cost trade-off analyses of construction works and construction projects. Student has knowledge on cash-flow financial analyses of construction projects. Student has knowledge on Earned Value method and analysis of cost and progress monitoring for construction project.
NA OCENĘ 3.5	Student has knowledge on analyses carried out in different phases of construction project. Student has knowledge on time-cost trade-off analyses of construction works and construction projects. Student has knowledge on cash-flow financial analyses of construction projects. Student has knowledge on Earned Value method and analysis of cost and progress monitoring for construction project.
NA OCENĘ 4.0	Student has knowledge on analyses carried out in different phases of construction project. Student has knowledge on time-cost trade-off analyses of construction works and construction projects. Student has knowledge on cash-flow financial analyses of construction projects. Student has knowledge on Earned Value method and analysis of cost and progress monitoring for construction project.
NA OCENĘ 4.5	Student has knowledge on analyses carried out in different phases of construction project. Student has knowledge on time-cost trade-off analyses of construction works and construction projects. Student has knowledge on cash-flow financial analyses of construction projects. Student has knowledge on Earned Value method and analysis of cost and progress monitoring for construction project.
NA OCENĘ 5.0	Student has knowledge on analyses carried out in different phases of construction project. Student has knowledge on time-cost trade-off analyses of construction works and construction projects. Student has knowledge on cash-flow financial analyses of construction projects. Student has knowledge on Earned Value method and analysis of cost and progress monitoring for construction project.
EFEKT KSZTAŁCENIA 3	
NA OCENĘ 2.0	x
NA OCENĘ 3.0	3.0 Student is able to complete time-cost trade-off analysis of certain scope of construction works within construction project. Student is able to complete cash-flow financial analysis of a given model of construction project. Student is able to complete analysis of cost and progress of construction works for a given model of construction project with the use of Earned Value method.
NA OCENĘ 3.5	3.0 Student is able to complete time-cost trade-off analysis of certain scope of construction works within construction project. Student is able to complete cash-flow financial analysis of a given model of construction project. Student is able to complete analysis of cost and progress of construction works for a given model of construction project with the use of Earned Value method.
NA OCENĘ 4.0	3.0 Student is able to complete time-cost trade-off analysis of certain scope of construction works within construction project. Student is able to complete cash-flow financial analysis of a given model of construction project. Student is able to complete analysis of cost and progress of construction works for a given model of construction project with the use of Earned Value method.

NA OCENĘ 4.5	3.0 Student is able to complete time-cost trade-off analysis of certain scope of construction works within construction project. Student is able to complete cash-flow financial analysis of a given model of construction project. Student is able to complete analysis of cost and progress of construction works for a given model of construction project with the use of Earned Value method.
NA OCENĘ 5.0	3.0 Student is able to complete time-cost trade-off analysis of certain scope of construction works within construction project. Student is able to complete cash-flow financial analysis of a given model of construction project. Student is able to complete analysis of cost and progress of construction works for a given model of construction project with the use of Earned Value method.
EFEKT KSZTAŁCENIA 4	
NA OCENĘ 2.0	x
NA OCENĘ 3.0	Student is able to complete time-cost trade-off analysis of certain scope of construction works within construction project. Student is able to complete cash-flow financial analysis of a given model of construction project. Student is able to complete analysis of cost and progress of construction works for a given model of construction project with the use of Earned Value method.
NA OCENĘ 3.5	Student is able to complete time-cost trade-off analysis of certain scope of construction works within construction project. Student is able to complete cash-flow financial analysis of a given model of construction project. Student is able to complete analysis of cost and progress of construction works for a given model of construction project with the use of Earned Value method.
NA OCENĘ 4.0	Student is able to complete time-cost trade-off analysis of certain scope of construction works within construction project. Student is able to complete cash-flow financial analysis of a given model of construction project. Student is able to complete analysis of cost and progress of construction works for a given model of construction project with the use of Earned Value method.
NA OCENĘ 4.5	Student is able to complete time-cost trade-off analysis of certain scope of construction works within construction project. Student is able to complete cash-flow financial analysis of a given model of construction project. Student is able to complete analysis of cost and progress of construction works for a given model of construction project with the use of Earned Value method.
NA OCENĘ 5.0	Student is able to complete time-cost trade-off analysis of certain scope of construction works within construction project. Student is able to complete cash-flow financial analysis of a given model of construction project. Student is able to complete analysis of cost and progress of construction works for a given model of construction project with the use of Earned Value method.

## 10 MACIERZ REALIZACJI PRZEDMIOTU

EFEKT KSZTAŁCENIA	ODNIESIENIE DANEGO EFEKTU DO SZCZEGÓLOWYCH EFEKTÓW ZDEFINIOWANYCH DLA PROGRAMU	CELE PRZEDMIOTU	TREŚCI PROGRAMOWE	NARZĘDZIA DYDAKTYCZNE	SPOSOBY OCENY
EK1		Cel 1 Cel 2	p1 p2 p3 w1 w2 w3 w4 w5 w6	N1 N2 N3	F1 F2 P1
EK2		Cel 1 Cel 2	p1 p2 p3 w1 w2 w3 w4 w5 w6	N1 N2 N3	F1 F2 P1
EK3		Cel 1 Cel 2	p1 p2 p3 w1 w2 w3 w4 w5 w6	N1 N2 N3	F1 F2 P1
EK4		Cel 1 Cel 2	p1 p2 p3 w1 w2 w3 w4 w5 w6	N1 N2 N3	F1 F2 P1

## 11 WYKAZ LITERATURY

### LITERATURA PODSTAWOWA

- [1] | **Brian Cooke, Peter Williams** — *Wyniki wyszukiwania Construction Planning Programming and Control*, 1998, Palgrave
- [2] | **Praca zbiorowa** — *Kierowanie budowlanym procesem inwestycyjnym*, Warszawa, 2009, Wydawnictwo SGGW
- [3] | **Biruk S., Jaskowski P., Sobotka A.** — *Zarządzanie w budownictwie*, Lublin, 2003, Wydawnictwo Politechniki Lubelskiej
- [4] | **Calvert R.E., Bailey B., Coles D.D** — *Introduction to building management*, Oxford, London, Boston, 1995, Butterworth&Heinemann
- [5] | **Bennet J.** — *Construction Project Management*, London, Boston, Singapore ..., 1990, Butterworths

### LITERATURA UZUPEŁNIAJĄCA

- [1] | **Kaplinski O. - red. (praca zbiorowa)** — *Metody i modele badan w inzynierii przedsiwziec budowlanych*, Warszawa, 2007, Wydawnictwo PAN
- [2] | **Potts K.** — *Construction Cost Management*, London, New York, 2008, Taylor and Francis

## 12 INFORMACJE O NAUCZYCIELACH AKADEMICKICH

### OSOBA ODPOWIEDZIALNA ZA KARTĘ

dr inż. Michał Juszczyk (kontakt: [mjuszczuk@L7.pk.edu.pl](mailto:mjuszczuk@L7.pk.edu.pl))

### OSOBY PROWADZĄCE PRZEDMIOT

3 dr hab. inż. Michał Juszczyk (kontakt: [mjuszczuk@L7pk.edu.pl](mailto:mjuszczuk@L7pk.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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