GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00070548						
Field of study	Civil Engineering						
Date of commencement of studies	October 2022		Academic year of realisation of subject	2025/2026			
Education level	first-cycle studies		Subject group	Optional subject group			
Mode of study	Full-time studies		Mode of delivery	at the university			
Year of study	4		Language of instruction	Polish			
Semester of study	8		ECTS credits	2.0			
Learning profile	general academic profile		Assessment form	assessment			
Conducting unit	Department of Transportation Engineering -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Marcin Budzyński					
	Teachers	mgr inż. Tomasz Mackun					
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	15.0	0.0	30
	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	30		0.0	0.0		30
Subject objectives	The aim of the course is to prepare students to design road intersections in a full range of solution types (road classes, location, cross-sections).						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U05] Conducts research (obtaining information, simulations, experimental methods) in the field of construction in order to solve specific tasks and report research results.	The student is able to obtain data for design, process it and understand the results of analyses.	[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task
[K6_K01] Is aware of the key aspects of professional, ethical and social responsibility related to management, business operation, decision making and opinion formulation in civil engineering.	The student understands the importance of design decisions made in terms of responsibility for the safety of road users.	[SK2] Assessment of progress of work [SK3] Assessment of ability to organize work [SK4] Assessment of communication skills, including language correctness
[K6_W03] Demonstrate knowledge and understanding of the processes, established standards and design methods in the civil engineering subject area and of their limitations.	The student is able to use the Intersection Design Guidelines and is able to solve engineering problems using applicable regulations.	[SW1] Assessment of factual knowledge [SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects
[K6_K04] Engages in independent lifelong learning and individually follows the development of science and technology in the field of civil engineering.	Students gain knowledge of innovative solutions. They have a foundation for developing their competencies and knowledge in intersection design.	[SK5] Assessment of ability to solve problems that arise in practice [SK2] Assessment of progress of work
[K6_K03] Can effectively, clearly and unambiguously convey information, describe activities and communicate their results/ outcomes to engineers or a wider audience using appropriate communication methods and tools.	The student is able to present the results of his/her work and discuss the solutions presented.	[SK5] Assessment of ability to solve problems that arise in practice [SK4] Assessment of communication skills, including language correctness [SK1] Assessment of group work skills

Subject contents

Course content – lecture

1. Introduction to Intersection Design

2. Standard Intersections, Channelized Intersections, and Roundabouts - General Design Principles

3. Standard Intersections, Channelized Intersections, and Roundabouts - Detailed Design Principles

4. Safety at Intersections

Course content – project

1. Practical Design of Canalized Intersections

2. Practical Design of Roundabout Intersections

3. Selecting a Solution Option

Prerequisites and co-requisites

Knowledge acquired during classes in semesters 5 and 6 of Construction

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
projekt implementation	100.0%	100.0%

Recommended reading

Basic literature	WR-D-31-1 Guidelines for the Design of Road Intersections. Part 1: Basic Requirements WR-D-31-2 Guidelines for the Design of Road Intersections. Part 2: Standard and Channelized Intersections WR-D-31-3 Guidelines for the Design of Road Intersections. Part 3: Roundabouts
Supplementary literature	Road Traffic Engineering. Theory and Practice. Author: Stanisław Gaca, Wojciech Suchorzewski, Marian Tracz (2008)
eResources addresses	

Example issues/ example questions/ tasks being completed

None

Practical activites within the subject

Not applicable

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