DEPARTMENT OF CIVIL ENGINEERING

Course Details

Code	Academic Year			Semester
BAU303	3			Fall
Title	**T**	**A**	**L**	**ECTS**
Transportation	2	2	-	6

Language	German					
Level	**Undergraduate**	✓	**Graduate**		**Postgraduate**	
Department / Program	Civil Engineering					
Forms of Teaching and Learning	Formal					
Course Type	**Compulsory**	✓	**Elective**			
Objectives	To teach the basics of transportation engineering.					
Content	This course aims to teach students the fundamental concepts and principles of transportation engineering. It seeks to convey the basic components of highway transportation. In addition, it aims to provide knowledge on the planning, design, operation, and management of transportation systems. The course also intends to build a basic level of awareness regarding transportation infrastructure and traffic engineering. Furthermore, it aims to enable students to evaluate transportation solutions by considering environmental, economic, and social impacts. Finally, it seeks to develop the competence to plan sustainable transportation in line with fundamental engineering principles.					
Prerequisites	This course includes the fundamental principles and concepts of transportation engineering. It covers the basic components of highway transportation. Additionally, it includes the processes of planning, design, operation, and management of transportation systems. It covers topics related to traffic flow theory and an introduction to traffic engineering. Moreover, it includes the classification of transportation infrastructures and design fundamentals. It covers the environmental, economic, and social impacts on transportation. Finally, it includes essential knowledge of sustainable transportation planning and intelligent transportation systems.					
Coordinator	Asist Prof.Dr. Ömer Faruk Aydın					
Lecturer(s)	Asist Prof.Dr. Ömer Faruk Aydın					
Assistant(s)	Res. Assist. Muhammed Ademoglu					
Work Placement	--					

Recommended or Required Reading

Books / Lecture Notes	Lecture Notes Yayla, N. (2011). Karayolu mühendisliği. Kök, B. V. (2019). Karayolu mühendisliği ve tasarımı. Nobel Akademik Yayıncılık. Treiber, M., & Kesting, A. (2013). Traffic flow dynamics (Vol. 1). Berlin: Springer.
Other Sources	

Additional Course Material

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Documents		
Assignments		
Exams		
Course Composition		
Mathematics und Basic Sciences	20	%
Engineering	40	%
Engineering Design	40	%
Social Sciences		%
Educational Sciences		%
Natural Sciences		%
Health Sciences		%
Expert Knowledge		%

Assessment

Activity	Count	Percentage (%)
Midterm Exam	1	30
Quiz		
Assignments	1	30
Attendance		
Recitations		
Projects		
Final Exam	1	40
	Total	**100**

ECTS Points and Work Load

Activity	Count	Duration	Work Load (Hours)
Lectures	14	2	28
Self-Study	10	8	80
Assignments	1	28	28
Presentation / Seminar Preparation			
Midterm Exam	1	2	2
Recitations	14	2	28
Laboratory			
Projects			
Final Exam	1	2	2
		Total Work Load	**168**
		ECTS Points (Total Work Load / Hour)	**6**

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Learning Outcomes	
1	Can explain the fundamental concepts and principles of transportation engineering.
2	Can identify the components of highway transportation systems.
3	Can analyze the planning, design, and operation processes of transportation systems.
4	Can use basic knowledge of traffic flow and traffic engineering to solve problems.
5	Can develop sustainable transportation solutions considering environmental, economic, and social impacts.
6	
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12	

Weekly Content	
1	Introduction
2	Transportation Fundamentals
3	Network Planning
4	Usage Rights
5	Driving Dynamics
6	Introduction to Methodology
7	Design Flow
8	Midterm
9	Templates
10	Nodes
11	Nodes
12	Design Elements in Site Plan
13	Design elements in elevation plan and cross section
14	Routing
15	Road Construction
16	Final Exam

Contribution of Learning Outcomes to Program Objectives (1-5)

	P1	P2	P3	P4	P5	P6	P7
1	4						

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2		3					
3	4						
4	4						
5				4			
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10							
11							
12							

Contribution Level	1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High
https://obs.tau.edu.tr/oibs/bologna/progLearnOutcomes.aspx?lang=en&curSunit=5728	
Compiled by:	Res. Assist. Halit Emre Uygun
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