



**HASAN KALYONCU UNIVERSITY**  
**Faculty of Engineering**  
**Course Description Form**

<b>COURSE:</b> Multidisciplinary Integrated Project					
<b>CODE:</b> FE401		<b>SEMESTER:</b> FALL			
<b>LANGUAGE:</b> ENGLISH		<b>TYPE:</b> COMPULSORY			
<b>PRE-REQUISITES: -</b> <b>CO-REQUISITES: -</b>		<b>THEORY</b>	<b>PRACTICAL</b>	<b>CREDIT</b>	<b>ECTS</b>
<b>WEEKLY HOURS: 4</b>		0	8	4	5

**CONTENT OF THE COURSE:**

This course gives students the opportunity to become exposed to engineering disciplines (Civil, Electrical, Mechanical and computer engineering) by introducing problem situations that force them to link theory to practical real-world problems involving areas outside their own engineering disciplines. A multidisciplinary team environment forces students to interact with people that do not necessarily think like themselves and value the skills that other team members provide. Every graduating student will have “a multidisciplinary experience” during his or her undergraduate career. The use of a multidisciplinary integrated project provides one appealing pathway to achieve such experience.

In this course, real world multidisciplinary design experiences are used to prepare HKU graduates to enter today’s workforce.

Undergraduate students from different engineering departments may sign performance contracts (for some modest team task) in turn with faculty advisers. Such “vertical and horizontal integration” of student participants allows an early preview of design team organization, and first-hand experience in viewing both good and poor team behaviour. The team may design both the product and the company, the former as a typical engineering product or process and the latter through development of a corporate business plan.

**OBJECTIVE OF THE COURSE:**

The objective of the course is to broaden the students’ concept of engineering problems to include more than one engineering discipline, to encourage students’ creativity, to enhance their communication skills, and to provide a valuable educational experience for students to function in multidisciplinary teams.

**WEEKLY SCHEDULE AND PRE-STUDY PAGES**

<b>Week</b>	<b>Topics</b>
1	Introduction to the Module and Coursework briefing: the activities, targets, expectations
2	Introduction to the Project Concept: Transport and Traffic Management
3	Sustainable Urban Mobility
4	Visit of the project site on the field. Take real measurements and plan
5	Project Management Method Introduction
6	Project Management Method Introduction
7	Student Group Workshops
8	Interim Group Project Poster Presentations
9	Students Group Workshops
10	Students Group Workshops
11	Students Group Workshops

12	Students Group Workshops
13	Final Group Presentations and reporting
14	Final Group Presentations and reporting

**TEXTBOOK:**

Class notes and google class notes.

<b>EVALUATION SYSTEM:</b>		
<b>IN-TERM STUDIES</b>	<b>QUANTITY</b>	<b>PERCENTAGE (%)</b>
Midterm Exam	1	40
Homework		
Laboratory works		
Quiz		
Final Exam	1	60
<b>TOTAL</b>		
CONTRIBUTION OF INTERM STUDIES TO OVERALL GRADE		
CONTRIBUTION OF FINAL EXAMINATION TO OVERALL GRADE		
<b>TOTAL</b>	6	100

<b>COURSE CATEGORY:</b>	<b>PERCENTAGE (%)</b>
Mathematics and Basic Sciences	25%
Engineering	25%
Engineering Design	50%
Social Sciences	

<b>TABLE OF ECTS / WORKLOAD:</b>			
<b>Activities</b>	<b>QUANTITY</b>	<b>Duration (Hour)</b>	<b>Total Workload</b>
Course Duration	13	4	52
Hours for off-the-classroom study (Pre-study, practice)	14	6	84
Laboratory works			
Mid-term	1	1	1
Final examination	1	1	1
Homework			
Quiz			
<b>Total Work Load</b>			<b>138</b>

<b>Total Work Load / 30</b>			<b>4,6</b>
<b>ECTS Credit of the Course</b>			<b>5</b>

	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO10</b>	<b>PO11</b>
<b>LO1</b>	3	0	0	0	0	3	2	0	0	0	0
<b>LO2</b>	3	0	0	0	0	3	2	0	0	0	0
<b>LO3</b>	3	0	0	0	0	3	2	0	0	0	0
<b>LO4</b>	3	0	0	0	0	3	2	0	0	0	0
<b>LO5</b>	3	0	0	0	0	3	2	0	0	0	0
PO: Program Outcomes   LO: Learning Outcomes Values: 0: None   1: Low   2: Medium   3: High											

<b>INSTRUCTOR(S):</b>	Prof.Dr.Yusuf ARAYICI
<b>FORM PREPARATION DATE:</b>	17.03.2020

<b>LEARNING OUTCOMES OF THE COURSE:</b>	<b>PROGRAM OUTCOMES:</b>
<p><b>LO1:</b> Learning significance and accuracy concepts in science and especially in engineering.</p> <p><b>LO2:</b> Applying knowledge of math, science, and engineering to everyday problems.</p> <p><b>LO3:</b> Learning how to communicate and share scientific ideas.</p> <p><b>LO4:</b> Learning concept of engineering and its application to one and multi-dimension problems.</p> <p><b>LO5:</b> Application of scientific principles and laws to broad range of problems including their application to life</p>	<p><b>PO1:</b> Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied knowledge in these areas in complex engineering problems.</p> <p><b>PO2:</b> Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.</p> <p><b>PO3:</b> Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.</p> <p><b>PO4:</b> Ability to devise, select, and use modern techniques and tools needed for analyzing and solving complex problems encountered in engineering practice; ability to employ information technologies effectively.</p> <p><b>PO5:</b> Ability to design and conduct experiments, gather data, analyze and interpret results for investigating complex engineering problems or discipline specific research questions.</p> <p><b>PO6:</b> Ability to work efficiently in intra-disciplinary and multi-disciplinary teams; ability to work individually.</p> <p><b>PO7:</b> Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language; ability to write effective reports and comprehend written reports, prepare design and production reports, make effective presentations, and give and receive clear and intelligible instructions.</p> <p><b>PO8:</b> Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.</p>

	<p><b>PO9:</b> Consciousness to behave according to ethical principles and professional and ethical responsibility; knowledge on standards used in engineering practice.</p> <p><b>PO10:</b> Knowledge about business life practices such as project management, risk management, and change management; awareness in entrepreneurship, innovation; knowledge about sustainable development.</p> <p><b>PO11:</b> Knowledge about the global and social effects of engineering practices on health, environment, and safety, and contemporary issues of the century reflected into the field of engineering; awareness of the legal consequences of engineering solutions.</p>
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