



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

<b>COURSE:</b> Object Oriented Programming					
<b>CODE:</b> CENG211		<b>SEMESTER:</b> FALL			
<b>LANGUAGE:</b> ENGLISH		<b>TYPE:</b> COMPULSORY			
<b>PRE-REQUISITES:</b> CENG111		<b>THEORY</b>	<b>PRACTICAL</b>	<b>CREDIT</b>	<b>ECTS</b>
<b>CO-REQUISITES:</b> CENG112					
<b>WEEKLY HOURS:</b>		3	2	4	6

**CONTENT OF THE COURSE:** Introduces concepts of Object Oriented Programming. Presents tools, structures, syntax, and basic OOP techniques for designing well-formed programs. Studies concepts such as classes, objects, methods, inheritance, polymorphism exception handling and template.

**OBJECTIVE OF THE COURSE:**

- To provide the concepts of Object Oriented Programming
- To give an ability to use C# programming language to develop classes and to write Object Oriented Programs
- To give an ability to re-use existing classes to write Object Oriented Programs

**WEEKLY SCHEDULE**

<b>Week</b>	<b>Topics</b>
1	Introduction to C# ◦ Encapsulation
2	Introduction to C# ◦ Classes
3	Introduction to C# ◦ Objects
4	Introduction to C# ◦ Inheritance
5	Introduction to C# ◦ Polymorphism
6	Introduction to C# ◦ Encapsulation ◦ Classes ◦ Objects ◦ Inheritance ◦ Polymorphism
7	Midterm I
8	Programming in C# ◦ object-oriented programming
9	Programming in C# ◦ object-oriented programming
10	Programming in C# ◦ Structures

11	Midterm II
12	Programming in C# ◦ Exception Handling
13	Programming in C# ◦ Storage (Files & Databases)
14	Programming in C# ◦ Dynamic memory allocation

**TEXTBOOK:** Beginning C# 3.0 An introduction to object oriented programming *Jack Purdum*  
**REFERENCE BOOKS:** Douglas Bell and Mike Parr: *C# for Students*, Addison Wesley, 2004

<b>EVALUATION SYSTEM:</b>		
<b>IN-TERM STUDIES</b>	<b>QUANTITY</b>	<b>PERCENTAGE (%)</b>
Midterm Exam	1	30
Homework		
Laboratory works	13	30
Quiz		
Final Exam	1	40
<b>TOTAL</b>	15	100
CONTRIBUTION OF INTERM STUDIES TO OVERALL GRADE	14	60
CONTRIBUTION OF FINAL EXAMINATION TO OVERALL GRADE	1	40
<b>TOTAL</b>	15	100

<b>COURSE CATEGORY:</b>	<b>PERCENTAGE (%)</b>
Mathematics and Basic Sciences	30
Engineering	30
Engineering Design	40
Social Sciences	0

<b>TABLE OF ECTS / WORKLOAD:</b>			
<b>Activities</b>	<b>QUANTITY</b>	<b>Duration (Hour)</b>	<b>Total Workload</b>
Course Duration	13	3	39
Hours for off-the-classroom study (Pre-study, practice)	14	7	98
Laboratory works	13	2	26
Mid-term	1	2	2
Final examination	1	2,5	2,5
Homework			
Quiz			
<b>Total Work Load</b>			<b>167,5</b>
<b>Total Work Load / 30</b>			<b>5,58</b>
<b>ECTS Credit of the Course</b>			<b>6</b>

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
LO1	2	3	3	1	0	0	0	0	0	0	0
LO2	2	3	3	1	0	0	0	0	0	0	0
LO3	2	3	3	1	0	0	0	0	0	0	0
LO4	2	3	3	1	0	0	0	0	0	0	0
LO5	2	3	3	1	0	0	0	0	0	0	0
LO6	2	3	3	1	0	0	0	0	0	0	0
PO: Program Outcomes		LO: Learning Outcomes									
Values: 0: None		1: Low		2: Medium		3: High					

<b>INSTRUCTOR(S):</b>	Asst. Prof. Dr. Bülent HAZNEDAR
<b>FORM PREPARATION DATE:</b>	24.05.2019

LEARNING OUTCOMES OF THE COURSE:	PROGRAM OUTCOMES:
<p><b>LEARNING OUTCOMES OF THE COURSE:</b></p> <p><b>LO1:</b> Know the difference between functional and object oriented programming</p> <p><b>LO2:</b> Design class structures by using encapsulation principles and create objects</p> <p><b>LO3:</b> Design new classes using inheritance</p> <p><b>LO4:</b> Define polymorphic methods</p> <p><b>LO5:</b> Create exception handlers</p> <p><b>LO6:</b> Design template functions and classes</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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