OSTIM TECHNICAL UNIVERSITY
FACULTY OF ENGINEERING

COURSE SYLLABUS FORM
2020-2021
Instructor: Dr. Güney GÜRSEL, guney.gursel@ostimteknik.edu.tr

CENG 101 Introduction to Computer Engineering

Course Name	Course Code	Period	Hours	Application	Laboratory	Credit	ECTS
Introduction to Computer Engineering Concepts	CENG101	1	3	0	0	3	4

Language of Instruction	English
Course Status	Compulsory
Course Level	Bachelor
Learning and Teaching Techniques of the Course	Lecture, Discussion, Question Answer, Practice

Course Objective

The objective of this course is to learn about how hardware, software, and systems operate, to introduce the subjects, working areas, terminology and concepts of Computer Engineering; to inform about the working principles of computers, binary numbers, Software types, Hardware techniques; to arouse consciousness about network systems such as the internet and security issues.

Learning Outcomes

1. Represent and manipulate information in binary form
2. Design, physically implement, and debug basic combinational and sequential logic circuits
3. Write structural and data flow models of logic circuits in a hardware description language
4. Implement designs represented in a register transfer language
5. Discuss the organization and operation of a basic digital computer
6. Discuss the execution of machine language computer programs by a basic computer
7. Write elementary assembly language programs and discuss their translation to machine language programs
8. Write reports on hardware and software design projects

Course Outline

This course provides the basic concepts of computer design and operation, both hardware and software, to new computer and electrical engineering students. Students need the background on computer engineering provided by this class before advancing to more complex topics in computer engineering.

Weekly Topics and Releated Preparation Studies		
Weeks	**Topics**	**Preparation Studies**
1	Introduction and Basic Concept	Chapter 1
2	The History of Computers	Chapter 2
3	Software and Hardware Concepts	Chapter 2
4	Properties of Pure Substances	Chapter 3
5	Binary Numbers and General Computer Architecture	Chapter 4
6	Operating System Concepts	Chapter 4
7	Internet and Computer Networks	Chapter 5
8	Midterm Exam	
9	Internet and Computer Networks	Chapter 6
10	Second Law of Thermodynamics	Chapter 6
11	Database Concepts	Chapter 7
12	Computer Security	Chapter 7
13	Soft Computing Methodologies	Chapter 7
14	Computer Ethics and organized crime	Chapter 8
15	Software Engineering	Chapter 8
16	**Final Exam**	

Textbook(s)/References/Materials:

Invitation to Computer Science   G.Michael Schneider & Judith Gersting, 5th Ed, 2012

https://goo.gl/TJiTE4

Computer Science An Overview J. Glenn Brookshear, Addison-Wesley; 11th Ed, 2012

https://goo.gl/TJiTE4

Assessment

Studies	Number	Contribution margin (%)
Continuity	10	80
Lab		
Application		
Field Study		
Course-Specific Internship (if any)		
Quizzes / Studio / Critical	6	60
Homework		
Presentation		
Projects		
Report		
Seminar		
Midterm Exams / Midterm Jury		
General Exam / Final Jury	1	40
Total		**100**
Success Grade Contribution of Semester Studies		
Success Grade Contribution of End of Term		
Total		**100**

Relationship Between Course Learning Outcomes and Program Competencies

Nu	Learning Outcomes	Contribution Level				
		1	2	3	4	5
1	An ability to apply knowledge of science, mathematics, and engineering.				x	
2	An ability to design energy systems, components, or processes to meet industrial needs.					x
3	An ability to work with multi-disciplinary teams.			x		
4	An ability to identify, formulate, and solve engineering problems.				x	
5	Take responsibility to solve unpredictable and complex problems encountered in applications as an individual and as a member of a team				x	
6	plan and manage activities in teamwork				x	
7	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.				x	
8	Can do research on interdisciplinary fields.			x		

ECTS / Workload Table

Activities	Number	Duration (Hours)	Total Workload
Course hours (Including the exam week: 16 x total course hours)	16	3	48
Laboratory			
Application			
Course-Specific Internship			
Field Study			
Study Time Out of Class	14	2	28
Presentation / Seminar Preparation			
Projects			
Reports			
Homeworks	5	6	30
Quizzes / Studio Review	6	2	12
Preparation Time for Midterm Exams / Midterm Jury	2	15	30
Preparation Period for the Final Exam / General Jury	1	15	15
Total Workload			**163**