

AGU Department of Computer Engineering
COMP 104 Exploring Computer
Engineering

COURSE RECORD

Code	COMP 104
Name	Exploring Computer Engineering
Hour per week	5 (3+2)
Credit	4
ECTS	5
Level/Year	Undergraduate
Semester	Spring
Type	Compulsory
Prerequisites	
Description	The course aims to introduce the field of computer engineering to the students via investigating fundamental topics. The material covered in this course includes different specializations of Computer engineering such as machine learning, computer networks, image processing, bioinformatics, computer organization, blockchain technologies, text mining. Lectures will be supplemented by the talks given by the experts from the field of computer engineering. The topics covered in this course also include ethics and professional responsibility; written and oral communication; concepts of design and analysis; awareness of the legal consequences of engineering solutions.
Objectives	<ul style="list-style-type: none"> • Providing an understanding of the computer engineering, with a focus on practical aspects and ethical issues • Having knowledge for different specialties in computer engineering • Studying the basic commands and building blocks of different programming languages • Getting familiarized with the computer engineering industry by meeting with the experts from the field • Having knowledge about the engineering ethics, laws, and professional responsibility.
Learning Outcomes	<p><i>By the end of the course, the student will be able to</i></p> <ul style="list-style-type: none"> • L01 Explain different specialties and ethical issues in computer engineering • L02 Use different programming languages such as C • L03 Use Linux/Unix environment (e.g., Bash scripting) • L04 Have knowledge about ethical principles and responsibility and have awareness of the legal consequences of engineering solutions

CONTRIBUTION TO PROGRAMME OUTCOMES*

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012	P013	P014	P015
L01	5	5	4	5	4	5	5	5	4	4	4	4	5	5	4
L02	5	4	5	4	4	5	4	4	4	4	4	4	4	4	4
L03	5	5	5	4	4	5	5	4	4	5	4	4	4	4	4
L04	0	0	0	5	0	0	0	5	5	3	0	0	0	0	0

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topics	Outcomes
Introduction to Linux Environment (Bash Scripting, make, vim)	L03
Fundamentals of C	L02
Dynamic Memory Allocation & Pointers in C	L02
Debugging, GitHub	L02
Projection to a Computer Engineer's Life (Computer Architecture, Machine Learning, Text mining, Computer Networks, Bioinformatics)	L01

Law and Ethics in Computer Engineering: Introduction to Ethical Conflicts and Values; Fundamentals of Computer Engineering Profession, Ethics, Liability and Legal Issues; Origins of the Computing-related controversies and disputes; Resolution of Disputes L04

DERS BİLGİLERİ

Kodu	COMP 104
İsmi	Bilgisayar Mühendisliğini Keşif
Haftalık Saati	5 (3+2)
Kredi	4
AKTS	5
Seviye/Yıl	Lisans
Dönem	Bahar
Dersin Dili	İngilizce
Tip	Zorunlu
Ön Şart	
İçerik	Bu ders, programlama dilleri, algoritma tasarımı ve temel robot programlama gibi temel konuları inceleyerek, bilgisayar mühendisliği alanını öğrencilere tanıtmayı amaçlamaktadır. Bu derste kapsanan materyal, makine öğrenimi, bilgisayar ağları, görüntü işleme, biyoinformatik, bilgisayar organizasyonu, blok zincir teknolojileri, metin madenciliği gibi Bilgisayar mühendisliğinin farklı uzmanlıklarını içerir. Dersler, bilgisayar mühendisliği alanından uzmanların yapacağı konuşmalarla desteklenecektir. Bu ders aynı zamanda, etik ve mesleki sorumluluk, yazılı ve sözlü iletişim, analiz ve tasarım, mühendislik çözümlerinin hukuki sonuçları hakkındaki farkındalığı içerir.
