AGU Department of Cumputer Engineering

COURSE RECORD

Code	**COMP 413**
Name	**Internet of Things**
Hour per week	3 (Theory + Practice)
Credit	3
ECTS	5
Level/Year	Undergraduate / 4
Semester	Fall
Type	Elective
Prerequisites	
Description	This course will give an overview of the fundamental concepts and enabling technologies for the Internet of Things. The course helps students to understand basic concepts and methods in related areas and will enhance the student's ability in applying them to solve real-world problems. The theoretical knowledge will be supported with practical sessions by applying programming skills to implement various IoT use cases and applications.
Objectives	01. Learn the common applications and architecture models of the Internet of Things.
	02. Understand various technologies and systems which integrate the Internet of Things data and services into Internet.
	03. Gain transferable practical skills for real-world IoT environment.
Learning Outcomes	LO1. Explain the basis of the Internet of Things and its enabling technologies
	LO2. Describe the fundemantals of design and development of IoT systems and applications
	LO3. Explain techniques and concepts involved in the basic software development for embedded Internet-of-Things systems
	LO4. Implement algorithms for practical use-cases in programming environment

CONTRIBUTION TO PROGRAMME OUTCOMES*

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14	PO15
LO1	4	0	4	3	0	4	4	0	5	5	4	0	0	0	0
LO2	4	0	4	3	0	4	4	0	3	2	4	0	0	4	0
LO3	5	4	5	5	0	4	4	0	5	2	4	4	4	4	0
LO4	5	5	5	5	5	0	4	4	5	5	5	4	4	4	3

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

COURSE CONTENT DETAILS

W	Topic	Outcomes
1	Introduction to IoT	L01 LO2 L03 L04
2	System Overview	L01 LO2 L03
3	Hardware Platform I (Sensor & Node Architecture)	L01 LO2 L03 L04
4	Hardware Platform II (Communication Architecture)	L01 LO2 L03 L04
5	Network I (Solutions)	L01 LO2 L03 L04
6	Network II (Technologies)	L01 LO2 L03 L04
7	Semester break	
8	Midterm exam	L01 LO2 L03
9	IoT Security	L01 LO2 L03 L04

10	Software Platforms and Services	L01 LO2 L03 L04
11	IoT Data Processing	L01 LO2 L03 L04
12	Semantic Technologies and Interoperability	L01 LO2 L03 L04
13	IoT System Models and Applications	L01 LO2 L03
14	Revision	
15	Final Exam + Assignemnt Submission	L01 LO2 L03 L04

DERS BİLGİLERİ

Kodu	**COMP XXX**
İsmi	**Nesnelerin Interneti**
Haftalık Saati	3 (Teori + Pratik)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans / 4
Dönem	Güz
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	
İçerik	Bu ders, Nesnelerin İnterneti için temel kavramlara ve etkinleştiren teknolojilere genel bir bakış sunacaktır. Ders, öğrencilerin ilgili alanlardaki temel kavramları ve yöntemleri anlamalarına yardımcı olur ve öğrencinin bunları gerçek dünya problemlerini çözmek için uygulama becerisini geliştirir. Teorik bilgiler, çeşitli IoT kullanım durumlarını ve uygulamalarını hayata geçirmek için programlama becerileri uygulanarak pratik oturumlarla desteklenecektir.