

<b>Course Description</b>	
Course Code	YS 442
Course Name	VIRTUAL REALITY AND APPLICATIONS
Prerequisite Courses	
Language of the Course	The English
Course Coordinator	
Instructor(s)	
Course Assistants	
The aim of the course	In this course, learn all about virtual reality (VR) and the variety of virtual worlds you can experience using this technology. We'll cover the history of VR, the relationship between VR and other mixed reality technologies, design considerations, communications, hands-on projects as well as social and ethical implications of immersive technologies. While this course is focused on VR and virtual worlds, it is primarily a communication as well as a design theory course, so no prior technical experience is required.
Course Content	

<b>Weekly Course Content</b>	
Week 1	Introduction to Virtual Reality
Week 2	History of Virtual Reality, from Greek theater to immersive worlds
Week 3	Immersion and Presence in VR
Week 4	Understanding Human Perception in virtual environments
Week 5	Virtual Reality Interfaces and Interaction
Week 6	Social Worlds and Virtual Communities
Week 7	Storytelling in Virtual Worlds
Week 8	Midterm exam
Week 9	VR for entertainment versus applied communications
Week 10	VR for entertainment versus applied communications
Week 11	The promise and peril of advanced virtual reality technologies
Week12	The promise and peril of advanced virtual reality technologies
Week 13	Future trends in virtual reality technologies
Week 14	Future trends in virtual reality technologies
Week 15	Final exam.

<b>Course Learning Outcomes</b>	
1	Define a variety of key terms associated with virtual reality technologies (such as AR, VR, XR, mixed reality)
2	Describe the origin of virtual reality technology and identify its unique features as compared with earlier communications media.
3	Analyze, differentiate, and evaluate the differences between current virtual reality devices as well as their respective environments, uses perils, and promises.
4	Identify various practical applications for virtual reality technologies in human interaction/communication
5	Explain the importance of understanding the relationship between human cognition, perception, interaction, and virtual reality technology
6	Analyze social and ethical implications of virtual reality technology
7	Describe the future of virtual reality technologies and considerations needed for creating, maintaining, and interacting with such technologies

<b>Contribution of the Course to Program Qualifications</b>			<b>Contribution Level</b>
01	The student will have the ability to apply analytical approach, mathematics and science knowledge in software and engineering issues.		4
02	The student will have the ability to identify, define, formulate and solve a problem in software and computer systems.		5
03	The student will have gains scientific research skills in software and engineering problems, has the ability to design a system, part or process.		4
04	The student will have the ability to use the design capability, techniques and tools required for engineering applications.		2
05	The student will have the ability to design, implement and interpret experimental work and software projects by analyzing the results.		4
06	The student will have the ability to work between disciplines and teamwork.		5
07	The student will have the ability to work in international environments and adapt to different cultures.		4
08	The student will have verbal and written communication skills in Turkish and English.		5
09	The student will have the awareness of the necessity of lifelong learning and the ability to realize it.		3
10	The student will gain knowledge of legal issues with the awareness of professional and ethical responsibility.		3
11	The student will have managerial skills (leadership, organization, time and risk management, quality awareness, efficiency, etc.).		5
12	The student will have the ability to participate in social activities, to acquire regular sports habits and to use time in the best way.		5
13	The student will have the ability to find unusual ways and produce projects.		3
14	The student will have professional self-confidence, being an entrepreneur and taking initiative.		3
15	It is sensitive about the problems of the age and looks after the national interests.		4

<b>ECTS WORKLOAD</b>			
	<b>Number</b>	<b>Duration (hours)</b>	<b>Number*Duration</b>
Face to face education	14	2	28
Out-of-class study time (pre-study, reinforcement)	14	1	14
Homeworks	5	2	10
Presentation / Seminar preparation	0	0	0
Quizzes	0	0	0
Preparation for midterm exams	1	10	10
midterm exams	1	2	2
Project (Semester assignment)	0	0	0
Lab	0	0	0
field work	0	0	0
Preparation for the final exam	1	12	12
Semester final exam	1	2	2
Research	5	2	10
<b>TOTAL WORKLOAD</b>			<b>88</b>
<b>ECTS</b>			<b>3</b>

<b>Evaluation</b>			
<b>SEMESTER EVALUATION</b>		<b>Number</b>	<b>Contribution Percentage</b>
Midterm		1	65
Quiz		0	0
Homework		5	35
<b>SEMESTER TOTAL</b>			<b>100</b>

Contribution rate of mid-term evaluations to success		40
Contribution rate of the final exam to success		60
<b>GRAND TOTAL</b>		<b>100</b>

<b>RESOURCES</b>	
Textbook	
Helpful Resources	