IUL151 INTRODUCTION TO UNIVERSTY LIFE

Course Code	Course Name	Semester	
IUL151	INTRODUCTION TO UNIVERSTY LIFE	Fall ☒ Spring ☐ Summer ☐	
Hours		**Credit**	**ECTS**
Theory	**Practice** / **Lab**	2	3
2	0 / 0		

Course Details	
Department	ELECTRICAL & ELECTRONICS ENGINEERING
Course Language	English
Course Level	Undergraduate ☒ Graduate ☐
Mode of Delivery	Face to Face ☒ Online ☐ Hybrid ☐
Course Type	Compulsory ☒ Elective ☐
Lecturer(s)	Dr. Hüseyin KÖSE
Course Objectives	Learn the history of electrical and electronics engineering. Be provided with an overview of the EE profession, careers, and the field in general, learn the current research areas and career opportunities and will be more equipped to make career decisions. Develop engineering ethics, and understand the impacts of unethical engineering decisions on the environment, society, public health, privacy etc. Develop active communication with graduates of the department by means of seminars, discussions Gain a practical perspective to main engineering systems and challenges prior to theoretical courses of the following years with practical design projects.
Course Content	An orientation course introducing the students to engineering in general and to electrical and electronics engineering in particular with a discussion of the past, present and future of major areas. The course also aims to emphasize the ethical issues and current debates in electrical engineering and bring career and research opportunities to the attention of students. A general portrayal of electrical engineering is presented by means of practical, hands-on design projects and technical tutorials.
Course Method/ Techniques	Lecture ☒ Question & Answer ☒ Presentation ☒ Discussion ☐
Prerequisites/ Corequisites	

Work Placement(s)	Classroom

Textbook/References/Materials

- 1. Foundations of Engineering, Holtzapple, Reece, McGraw Hill, 2nd ed.
- 2. Lecturer notes, internet notes.
- 3. Student Presentations.

Course Category				
Mathematics and Basic Sciences	☐		Education	☐
Engineering	☒		Science	☐
Engineering Design	☒		Health	☒
Social Sciences	☒		Profession	☒

Weekly Schedule

No	Topics	Materials/Notes
1	Course Content and Objectives. What is electrical & electronics engineering? History. Milestones and Fundamentals of Electricity. Important expertise knowladges about electrc energy like earthing, grounding, safety etc.	Lecturer presentations and notes.
2	Fundamentals of electric & electronics. Important expertise knowladges about electric energy DC & AC.	Lecturer presentations and notes.
3	Scientific Research Methods for engineers.	Lecturer presentations and notes.
4	Scientific Research Methods for engineers.	Lecturer presentations and notes.
5	Engineering ethics, responsibilities, example crimes and court decisions etc., lecturer explanations, class arguments.	Lecturer presentations and notes.
6	Engineering ethics, responsibilities, example crimes and court decisions etc., lecturer explanations, class arguments	Lecturer presentations and notes.
7	Presentations, lecturer explanations, class arguments, example questions and solutions.	Lecturer presentations and notes.
8	Midterm Exam	
9	Embedded circuit designing and programming for EEE. Renewable Energy types, their circuit and applications. Presentations, lecturer explanations, class arguments.	Lecturer presentations and notes.
10	Hydroelectric power plants, generators and working principles. Electromagnetic theory and industrial applications. Presentations, lecturer explanations, class arguments.	Lecturer presentations and notes.

11	Solar power plants, including parts and working principles. Renewable Energy types, their circuit and applications. Presentations, lecturer explanations, class arguments.	Lecturer presentations and notes.
12	Batteries, types and their different applications. Wind turbine power plants, genrators and working principles. Presentations, lecturer explanations, class arguments.	Lecturer presentations and notes.
13	Batteries, types and their different applications. Wind turbine power plants, genrators and working principles. Presentations, lecturer explanations, class arguments.	Lecturer presentations and notes.
14	lecturer explanations, class arguments.	Lecturer presentations and notes.
15	lecturer explanations, class arguments.	Lecturer presentations and notes.
16	Final Exam	

Assessment Methods and Criteria		
In-term studies	**Quantity**	**Percentage**
Attendance		
Lab		
Practice		
Fieldwork		
Course-specific internship		
Quiz/Studio/Criticize		
Homework		
Presentation / Seminar		
Project		
Report		
Seminar		
Midterm Exam	1	40
Final Exam	1	60
	Total	**100%**
Contribution of Midterm Studies to Success Grade		
Contribution of End of Semester Studies to Success Grade		
	Total	**100%**

ECTS Allocated Based on Student Workload			
Activities	**Quantity**	**Duration (Hrs)**	**Total Workload**
Course Hours	14	2	28
Lab			
Practice			
Fieldwork			
Course-specific Work Placement			
Out-of-class study time			
Quiz/Studio/Criticize			
Homework			
Presentation / Seminar			
Project			
Report			
Midterm Exam and Preparation for Midterm	1	30	30
Final Exam and Preparation for Final Exam	1	30	30
Total Workload			**88**
Total Workload / 25			**88/25**
ECTS Credit			**3.52**

Course Learning Outcomes	
No	**Outcome**
L1	an ability to communicate effectively with a range of audiences.
L2	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
L3	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
L4	An ability to research and understand engineering life, job roles, different disciplines etc.
L5	An ability understand science progress steps; theory, hypothesis, rules, laws, ethics, morals etc.

Contribution of Course Learning Outcomes to Program Competencies/Outcomes

Contribution Level: 1: Very Slight, 2: Slight, 3: Moderate, 4: Significant, 5: Very Significant

	P1	**P2**	**P3**	**P4**	**P5**	**P6**	**P7**	**P8**	**P9**	**P10**	**P11**					**Total**
L1						5	5				5					-10
L2								5	5							-10
L3						5	5									-10
L4				5	5					5	5					-20
L5	5	5	5				5	5	5							30
															Total	80

i. Sufficient knowledge in the fields of mathematics, natural sciences, and related engineering disciplines; the ability to apply theoretical and practical knowledge in solving complex engineering problems.

ii. The ability to identify, formulate, and solve complex engineering problems; the ability to select and apply appropriate analysis and modeling methods for this purpose.

iii. The ability to design a complex system, process, device, or product to meet specific requirements under realistic constraints and conditions; the ability to apply modern design methods for this purpose.

iv. The ability to select and use modern techniques and tools required for the analysis and solution of complex problems encountered in engineering applications; the ability to effectively use information technologies.

v. The ability to design experiments, conduct experiments, collect data, analyze results, and interpret findings for the investigation of complex engineering problems or discipline-specific research topics.

vi. The ability to work effectively in intra-disciplinary and multidisciplinary teams; the ability to work independently.

vii. The ability to communicate effectively both orally and in writing; proficiency in at least one foreign language; the ability to write effective reports, understand written reports, prepare design and production reports, make effective presentations, and give and receive clear and understandable instructions.

viii. Awareness of the necessity of lifelong learning; the ability to access information, track developments in science and technology, and continuously renew oneself.

ix. Acting in accordance with ethical principles, knowledge of professional and ethical responsibilities, and the standards used in engineering applications.

x. Knowledge of business practices such as project management, risk management, and change management; awareness of entrepreneurship and innovation; knowledge of sustainable development.

xi. Knowledge of the impact of engineering practices on health, environment, and safety at global and societal levels, and awareness of contemporary engineering issues; awareness of the legal consequences of engineering solutions.