ESOGU ELECTRICAL-ELECTRONICS ENGINEERING DEPARTMENT

COURSE INFORMATION FORM

Course Name	Course Code
HISTORY OF ENGINEERING II	801212062

Semester	Number of Course Hours per Week		ECTS
	Theory	Practice	
2	2	0	3

Course Credit Distribution				
Basic Sciences	Engineering Sciences	Design	General Education	Social
				X

Course Language	Course Level	Course Type
English	Undergraduate	Elective

Prerequisite(s) if any	
Objectives of the Course	To explain the developments in engineering
Short Course Content	This course examines the historical evolution of modern engineering practices from 18th-century factory systems and steam technologies through material science, electrical and telecommunications engineering; extends to computing and control, environmental sustainability, railways and aeronautics, digital manufacturing and automation; and culminates in intelligent systems and future engineering trends.

Learning Outcomes of the Course	Contributed PO(s)	Teaching Methods *	Measuring Methods **
1 Learning developments in engineering	7a, 7d	1, 15	A, G
2 Learning engineering applications in different fields	7a, 7d	1, 15	A, G
3			
4			
5			
6			
7			

***Teaching Methods** **1:**Expression, **2:**Discussion, **3:**Experiment, **4:**Simulation, **5:**Question-Answer, **6:**Tutorial, **7**:Observation, **8**:Case Study, **9:**Technical Visit, **10:**Trouble/Problem Solving, **11:**Induvidual Work, **12**:Team/Group Work, **13**:Brain Storm, **14:**Project Design / Management, **15:**Report Preparation and/or Presentation

****Measuring Methods** **A:**Exam, **B:**Quiz, **C:**Oral Exam, **D:**Homework, **E:**Report, **F:**Article Examination, **G:**Presentation, **I:**Experimental Skill, **J:**Project Observation, **K**:Class Attendance; **L**:Jury Exam

Main Textbook	A history of engineering in classical and medieval times, Donald Hill, 1996, Routledge
Supporting References	1) A History of mechanical engineering, Ce Zhang, Jinaming Yang, 2020, Springer 2) Documentary films and videos
Necessary Course Material	

Weekly Course Schedule	
1	Industrial Engineering: Factory Systems
2	Thermal and Steam Technologies
3	Material Science and Structural Innovation
4	Electrical Engineering
5	Telecommunications Engineering
6	Computing and Control Systems
7	Environmental and Sustainable Engineering
8	Mid-Term Exam
9	Transportation Engineering II: Railways & Aeronautics
10	Digital Manufacturing and Automation
11	Intelligent Systems and Future Engineering
12	Presentations
13	Presentations
14	Presentations
15	Presentations
16,17	Final Exam

Calculation of Course Workload			
Activities	**Number**	**Time (Hour)**	**Total Workload (Hour)**
Course Time (number of course hours per week)	14	2	28
Classroom Studying Time (review, reinforcing, prestudy,….)	14	1	14
Homework			
Quiz Exam			
Studying for Quiz Exam			
Oral exam			
Studying for Oral Exam			
Report (Preparation and presentation time included)			
Project (Preparation and presentation time included)	1	10	10
Presentation (Preparation time included)			
Mid-Term Exam	1	1	1
Studying for Mid-Term Exam	1	5	5
Final Exam	1	1	1
Studying for Final Exam	1	10	10
		Total workload	**69**
		Total workload / 30	**2.3**
		Course ECTS Credit	**3**

Evaluation	
Activity Type	**%**
Mid-term	30
Presentation	40
Final Exam	30
Total	100

COURSE CONTRIBUTION TO THE PROGRAM OUTCOMES (5: Very high, 4: High, 3: Middle, 2: Low, 1: Very low)		
NO	**PROGRAM OUTCOMES**	**Contribution**
1	a. Sufficient knowledge of mathematics	
	b. Sufficient knowledge of basic sciences	
	c. Sufficient basic engineering and Electrical-Electronics engineering knowledge	
	d. Skill of applying all these knowledge and experience to complicated Electrical-Electronics engineering problems	
2	Skill of defining, identifying, formulating and solving the complicated problems in Electrical-Electronics engineering and related areas by applying appropriate analysis and modelling methods.	
3	Skill of designing a complicated process, system, equipment or product by applying modern design methods under realistic constraints and conditions.	
4	To analyze and solve the complicated engineering problems: a. skill of developing, selecting and applying the required techniques and devices	
	b. skill of using information technologies effectively	
5	To study the complicated on the complicated Electrical-Electronics engineering problems and research subjects: a. skill of experimental design	
	b. skill of performing the experiments, collecting the data and analyzing and interpreting the results	
6	a. Skill of performing individual studies	
	b. Skill of performing intra and interdisciplinary and multidisciplinary teamwork and studies	
7	a. Skill of effective oral and written communication in Turkish and English	3
	b. Skill of improving and using foreign language knowledge	
	c. Skill of effective reporting, understanding the reports and preparing the design and production reports	
	d. Skill of effective presentation and giving and getting clear and understandable instructions.	3
8	Awareness of the necessity of life-long learning and skill of accessing to information and following the improvements in contemporary science and technology	
9	a. Awareness of necessity of behaving in accordance with the ethical principles and awareness of the importance of having professional ethical responsibilities	
	b. Knowledge about legal regulations and standards of engineering	
10	a. Knowledge about project management, risk management and change management	
	b. Awareness of the significance of entrepreneurship and innovation	
	c. Knowledge about sustainable development	
11	Knowledge about the effects of engineering applications and practices on the global and social health, ecology and safety, knowledge about the current problems in relation to the working areas of Electrical-Electronics engineering; and awareness of the legal issues resulting from engineering solutions	
12	Knowledge about modern problems in local and universal scale	

LECTUTER(S)				
Prepared by	Asst. Prof. Dr. Gülin Elibol Seçil			

Date: 12.05.2025