HIGH VOLTAGE TECHNIQUES

1	Course Title:	HIGH VOLTAGE TECHNIQUES
2	Course Code:	EEM4502
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	4
6	Semester:	8
7	ECTS Credits Allocated:	4.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Öğr. Gör. OKAN SÜLE
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	Öğr. Gör. Dr. Okan SÜLE E-posta:osule@uludag.edu.tr Tel: (224) 294 21 53 Adres: Elektrik-Elektronik Mühendisliği bölümü, No: 519
17	Website:	
18	Objective of the Course:	Introduction to events occurring at high voltages, realization of analysis and design of equipment which operating at high voltage. To teach overvoltage sources and its protections methods
19	Contribution of the Course to Professional Development:	To have extensive knowledge about the strength and charging and discharging phenomena of electrical cables carrying high currents.
20	Learning Outcomes:	

	1	Adequate knowledge about high voltage topics (issues) Skills for modeling and solving engineering problems using theoretical and practical information in these fields
	2	Detection, description formulation and solving skills of problems in the field of high voltage; to this end, selection and application skills of appropriate analyzing and modeling methods
	3	Designing skill, process, equipment or product in the field of high voltage by fulfilling specific requirements in realistic criterions. to this end, application skills of modern designing methods
	4	Development, selection and using skills of modern techniques and equipments for high voltage applications. Ability to use information technologies effectively
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21	Course Content:	
	Course Content:	

Week	Theoretical	Practice
1	Electrostatic fields	
2	Planar electrode system	
3	Spherical electrode system	
4	Cylindrical electrode system	
5	Layered electrode systems	
6	Multilayered electrode systems	
7	Conform transform	
8	Conform transform	
9	Ionization and discharge	
10	Discharge events	
11	High voltage measurement	
12	Overvoltage and protection	
13	High-voltage transmission system elements	
14	High voltage generation and transmission	

22	Textbooks, References and/or Other Materials:	1. Özkaya, M., Yüksek Gerilim Tekniği 1, Birsen Yayınevi, İstanbul, 2008. 2. Özkaya, M., Yüksek Gerilim Tekniği 2, Birsen Yayınevi, İstanbul, 2005. 3. Kalenderli, Ö., Kocatepe, C., Arıkan, O., Çözümlü Problemlerle Yüksek Gerilim Tekniği, Birsen Yayınevi, İstanbul, 2014.

Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical		14	3.00	42.00
Practicals/Labs		0	0.00	0.00
Self study and preperation		14	3.00	42.00
Homeworks		0	0.00	0.00
Projects		0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm exams		1	16.00	16.00
Others		0	0.00	0.00
Final Exams		1	20.00	20.00
Total Work Load				120.00
Total work load/ 30 hr				4.00
ECTS Credit of the Course				4.00

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Quiz	0	0.00
Project	1	60.00
Midterm exams		
Contribution of Term (Year) Learning Activities to	40	100
Contribution of Final Exam to Success Grade	60	100
	100	

Measurement and Evaluation Techniques Used in the	It is carried out according to the principles of Bursa Uludağ
24	**ECTS / WORK LOAD TABLE**

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications				
Contribution Level:	1 very low	2 low	3 Medium	4 High	5 Very High

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