COMPUTER AIDED POWER SYSTEM ANALYSIS

1	Course Title:	COMPUTER AIDED POWER SYSTEM ANALYSIS
2	Course Code:	EEM5604
3	Type of Course:	Optional
4	Level of Course:	Second Cycle
5	Year of Study:	1
6	Semester:	2
7	ECTS Credits Allocated:	6.00
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:	Doç. Dr. MURAT UYAR
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	E-posta: muratuyar@uludag.edu.tr Tel: (224) 294 0769 Adres: Elektrik-Elektronik Müh. Bölüm Binası, 322
17	Website:	http://ee.uludag.edu.tr/?page_id=7
18	Objective of the Course:	This course provides the necessary theoretical materials for the calculation and analysis of power systems.
19	Contribution of the Course to Professional Development:	To be able to follow innovations and apply them in the field by using the competence of collecting information, researching and analyzing them.
20	Learning Outcomes:	

		1	Modeling balanced and unbalanced power systems
		2	Providing the ability to make failure analysis in power systems
		3	Knowledge and ability to use modern engineering tools and methods
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21	Course Content:	

Course Content:	

Week	Theoretical	Practice
1	Computer Modeling Techniques of Power Systems	

2	Matlab Simpower Interface	
3	Modeling Power Systems in Matlab	
4	Computer Applications of Symmetrical Components	
5	Obtaining the Bus Admittance Matrix	
6	Obtaining Bus Impedance Matrix	
7	Usage and Applications of Bus Matrices	
8	Computer Aided Symmetric Fault Analysis	
9	Computer Aided Asymmetric Failure Analysis	
10	Computer Aided Asymmetric Failure Analysis	
11	Load Flow Analysis and Numerical Methods	
12	Load Flow Analysis and Numerical Methods	
13	Load Flow Analysis and Numerical Methods	
14	Computer Aided Stability Analysis	

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	12	7.00	84.00
Homeworks	5	4.00	20.00
Projects	6	5.00	30.00
Field Studies	0	0.00	0.00
Midterm exams	1	2.00	2.00
Others	0	0.00	0.00
Final Exams	1	2.00	2.00
Total Work Load			182.00
Total work load/ 30 hr			6.00
ECTS Credit of the Course			6.00

Crow, M., Computational Methods for Electric Power Systems, CRC Press, 2003

Alfa Basım Yayım, 2009

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Quiz	1	15.00
Final Exam	1	60.00

Contribution of Term (Year) Learning Activities to Success Grade	40.00
Contribution of Final Exam to Success Grade	60.00
Total	100.00
Measurement and Evaluation Techniques Used in the Course	Measurement and evaluation is carried out according to the priciples of Bursa uludag University Associate and Undergraduate Education Regulation.

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	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	5	0	0	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