ANALOG FILTERS

1	Course Title:	ANALOG FILTERS
2	Course Code:	EEM5101
3	Type of Course:	Optional
4	Level of Course:	Second Cycle
5	Year of Study:	1
6	Semester:	1
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:	Prof. Dr. FAHRİ VATANSEVER
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	Adres: Elektrik-Elektronik Mühendisliği bölümü, No:311 Tel: (224) 294 09 05 Web: http://home.uludag.edu.tr/~fahriv E-posta:fahriv@uludag.edu.tr
17	Website:	http://home.uludag.edu.tr/~fahriv
18	Objective of the Course:	To gain ability to understand analog filters' types, usage areas, basic analysis and design, and using this information theoretical and practical applications
19	Contribution of the Course to Professional Development:	Ability to perform analysis and designs of analog filters
20	Learning Outcomes:	
	1	To gain ability to analyze analog filters
	2	To gain ability to design analog filters
	3	To gain ability to realize analog filters
	4	To gain ability to analyze analog filters with software
	5	To gain ability to design analog filters with software
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21	Course Content:	

Course Content:

Week	Theoretical	Practice
1	Filtering, the types of analog filters and their usage areas	
2	Circuit elements which use in designing analog filter, their principle and characteristics	
3	Computer programs for filter analysis and design	
4	Normalization and sensitivity	

5	Time and frequency response	
6	Poles and zeros	
7	Analog low-pass filter analysis and design	
8	General review	
9	Analog high-pass filter analysis and design	
10	Analog band-pass filter analysis and design	
11	Analog band-stop filter analysis and design	
12	Analog all-pass filter analysis and design	
13	The other filter types' analysis and design	
14	The other filter types' analysis and design	

22	Textbooks, References and/or Other Materials:	1. Schaumann, R., Valkenburg, M.A.V., Design of Analog Filters, Oxford University Press, 2001. 2. Winder, S., Analog and Digital Filter Design, Newnes, 2002. 3. Huelsman, L.P., Active and Passive Analog Filter Design: An Introduction, McGraw-Hill Inc., Int. Ed., 1993. 4. Williams, A., Taylor, F., Electronic Filter Design Handbook, McGraw-Hill, 2006.
23	Assesment	

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Midterm Exam	1	40.00
Final Exam	1	60.00
Total	2	100.00
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		Midterm and final exams

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	6.00	84.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	24.00	24.00
Others	0	0.00	0.00
Final Exams	1	30.00	30.00
Total Work Load			180.00
Total work load/ 30 hr			6.00
ECTS Credit of the Course			6.00

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	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	5	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	5	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0

ÖK5	5	5	5	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