Course Information

COURSE INFORMATION

Course Title	Code	Semester	L+U Hour	Credits	ECTS
Basic Electronics	FZK225	3. Semester	4 + 2	5.0	6.0

Prerequisites	None

Language of Instruction	English
Course Level	Bacheclor's Degree (First Cycle)
Course Type	Compulsory
Mode of delivery	Face to face
Course Coordinator	Prof. Dr. Serhat ÖZDER
Instructors	Prof. Dr. Serhat ÖZDER
Assistants	
Course Objectives	This course aims to teach basic electronic circuit analysis methods.
Course Content	There are two main parts for this course: DC circuits and AC circuits. DC part includes Kirchhoff, Mesh, Norton and Theven in circuit analysis methods; in AC part, AC practise of mentioned methods, filters and transformators are explored
Course Learning Outcomes	1) identify circuits 2) identify circuit components 3) analyze circuits by using kirchhoff mesh, norton and thevenin methods 4) analyze circuit devices 5) explore filters for circuits 6) explore how simple electronic devices work 7) build simple electronic devices

WEEKLY COURSE CONTENT

Week	Topics	Teaching and Learning Methods and Techniques	Study Materials
1. Week	Ohm’s Law, kirchhoff’s equations, mesh’s equations	lecture	
2. Week	Voltage current sources, voltage current dividers	lecture, homework	
3. Week	Thevenin and norton theorems	lecture, homework	
4. Week	Süperpozisyon teoremi, dirençsel devrelerde güç ve enerji	lectue homework	
5. Week	Maximum power transform	lecture homework	
6. Week	RC circuits	lecture homework	
7. Week	RC circuits	lecture homework	

Quick Access

Physics
Qualification Awarded
Level of Qualification
Qualification Requirements and Regulations
Specific Admission Requirements
Recognition of Prior Learning
Profile of the Program
Program Key Learning Outcomes
Occupational Profile of Graduates
Access to Further Studies
Course Structure & Credits
Exam Regulations & Assessment & Grading
Graduation Requirements
Mode of Study
Programme Director(or Equivalent)
Evaluation Questionnaire
TYYÇ

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ECTS credits and course workload

8. Week	Characteristics of sinusoids, phasor presentation, kirchhoff's law in frequency domain	lecture	
9. Week	Impedance, Sinusoidal steady state solutions by phasor algebra, average, rms values of current, voltage and power	lecture homework	
10. Week	Real and reactive power in time domain, real and reactive power in frequency domain, maximum power transfer theorem	lecture homework	
11. Week	RC, RL filters	lecture homework	
12. Week	RLC filters, the resonance phenomenon	ders anlatımı	
13. Week	Mutual inductance	lecture	
14. Week	Transformers	lecture homework	
15. Week	General Review	lecture	
16. Week	Final Exam	written exam	

RESOURCES

Recommended Sources
• Brophy, J.J., (In Turkish: Zengin, M.), (1984) "Fenciler İçin Temel Elektronik ", Ankara Universitesi Basımevi

ASSESSMENT

Measurement and Evaluation Methods and Techniques		
midterm %40 final%60		
In-Term Studies	**Quantity**	**Percentage**
Mid Term Exam 1	1	30
Mid Term Exam 2	1	30
Total	2	60
End-Term Studies	**Quantity**	**Percentage**
Final Exam	1	40
Total	1	40
Contribution Of In-Term Studies To Overall Grade		60
End-Term Studies		40
Total		100

COURSE CATEGORY

Course Category	Percentage
Support Courses	% 50
Transferable Skills Courses	% 50

CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME OUTCOMES

Programme Outcomes	Contribution Level	DK1	DK2	DK3	DK4	DK5	DK6	DK7
PY1	5	5	5	5	4	4	5	4
PY2	4	4	4	4	4	4	4	4
PY3	4	4	4	4	4	4	4	4
PY4	4	4	4	4	4	4	4	4

PY5	4	4	4	4	4	4	4	4
PY6	0	0	0	0	0	0	0	0
PY7	0	0	0	0	0	0	0	0
PY8	0	0	0	0	0	0	0	0
PY9	4	4	4	4	4	4	4	4
PY10	0	0	0	0	0	0	0	0
PY11	0	0	0	0	0	0	0	0
PY12	0	0	0	0	0	0	0	0
PY13	0	0	0	0	0	0	0	0
PY14	0	0	0	0	0	0	0	0
PY15	0	0	0	0	0	0	0	0

*DK = Course's Contrubution.

	0	1	2	3	4	5
Level of contribution	None	Very Low	Low	Fair	High	Very High

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ECTS CREDITS AND COURSE WORKLOAD

Event	Quantity	Duration (Hour)	Total Workload (Hour)
Final Exam	1	2	2
Mid Term Exam 2	1	2	2
Mid Term Exam 1	1	2	2
Class Hours (14 weeks)	14	6	84
Assignment 1	5	6	30
Mid Term Exam Preparation	1	5	5
Final Exam Preparation	1	5	5
Preliminary Study	14	2	28
		Total Workload	158
		Total Workload / 25.5 (s)	6.20
		ECTS Credit of the Course	6