Jordan University of Science and Technology

Faculty of Engineering

Electrical Engineering Department

EE303 Principles Of Electrical Engineering (Non Ee-Students) - JNQF Level: 7

Second Semester 2023-2024

Course Catalog
3 Credit Hours. Electrical quantities; circuit principles; DC analysis; AC analysis; polyphase circuits;Transformers; semiconductor diodes; bipolar transistors; field effect transistors; operational amplifiers.
Teaching Method: On Campus

Text Book	
Title	Engineering Circuit Analysis
Author(s)	W. H. Hayt, Jr., J. E. Kemmerly
Edition	8th Edition
Short Name	Ref # 1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref # 2	Devices and Systems	R. Smith & R. Dorf, Circuits	5th Edition	
Ref # 3	Introduction to Electric Circuits	R. C. Dorf and J. A. Svoboda	7th Edition	
Ref # 4	Fundamentals of Electric Circuits	C. K. Alexander and M. N. O. Sadiku	3rd Edition	
Ref # 5	The Analysis and Design of Linear Circuits	R. E. Thomas and A. J. Rosa	5th Edition	
Ref # 6	Basic Engineering Circuit Analysis	J. David Irwin	7th Edition	

Ref # 7	Electronic Devices and Circuit Theory	Boylestad	10th Edition	

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Class Schedule & Room

Section 1:
Lecture Time: Sun, Tue, Thu : 10:30 - 11:30
Room: E2008

Section 2:
Lecture Time: Sun, Tue, Thu : 12:30 - 13:30
Room: CH2111

Section 3:
Lecture Time: Mon, Wed : 08:30 - 10:00
Room: E2010

Section 4:
Lecture Time: Mon, Wed : 11:30 - 13:00
Room: C2007

Section 5:
Lecture Time: Sun, Tue, Thu : 12:30 - 13:30
Room: E2011

Section 6:
Lecture Time: Sun, Tue, Thu : 10:30 - 11:30
Room: LAB

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Week 1	Definitions, Circuit Laws, Simple Circuit	From **Ref # 1**
Weeks 2, 3, 4	Circuit analysis Techniques	From **Ref # 1**
Weeks 5, 6	Complete response (natural and forced) of RL and RC circuits	From **Ref # 1**
Week 7	Unit-step forcing Function	From **Ref # 1**
Week 8	Phasor Concept	From **Ref # 1**
Week 9	Sinusoidal Steady-state response	From **Ref # 1**
Weeks 10, 11	Average Power and RMS values, complex power and power factor	From **Ref # 1**
Week 12	Poly-phase circuits	From **Ref # 1**
Week 13	Transformers	From **Ref # 1**
Week 14	Semiconductor diodes and Op-Amps and application circuits	From **Ref # 1**
Weeks 14, 15	Transistors, BJT, Thyristors and application circuits	From **Ref # 7**

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	**Course Outcome Weight (Out of 100%)**	**Assessment method**

Ability to apply basic circuit laws and rules [8SO1] [8L7K1]	8%	
Understand and apply circuit theorems [32SO1] [32L7S1]	32%	
Ability to analyze first order transient circuits [18SO1] [18L7S2]	18%	
Ability to analyze circuits for power applications: ac circuits, poly-phase circuits, and transformers [32SO1] [32L7S2]	32%	
Ability to understand and analyze basic electronic circuits [10SO2] [10L7S2]	10%	

Relationship to Program Student Outcomes (Out of 100%)						
SO1	SO2	SO3	SO4	SO5	SO6	SO7
90	10					

Relationship to NQF Outcomes (Out of 100%)		
L7K1	L7S1	L7S2
8	32	60

Evaluation	
Assessment Tool	**Weight**
First Exam	30%
Second exam	30%
Final Exam	40%

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