Jordan University of Science and Technology

Faculty of Engineering

Electrical Engineering Department

EE422 Digital Electronic Circuits Lab.

Summer Semester 2019-2020

Course Catalog
1 Credit Hours. logic gates, TTL, CMOS, monostable and astable multvibrators digital to analog and analog to digital converters, schmitt trigger circuits, 555 timer, sweep waveform generation circuits voltage waveform circuits, sample and hold circuits

Text Book	
Title	1. Introduction to digital microelectronic circuits
Author(s)	Gopalan
Edition	2nd Edition
Short Name	Introduction to digital microelectronic circuits
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
microelectronic circuit analysis and design	microelectronic circuit analysis and design	D. Neamen	4th Edition	

Instructor	
Name	**Dr. SARI KHATALIN**
Office Location	E1L3
Office Hours	
Email	smkhatalin@just.edu.jo

Class Schedule & Room

Section 1:
Lecture Time: Sat, Thu : 14:30 - 17:30
Room: LAB

Prerequisites		
Line Number	**Course Name**	**Prerequisite Type**
243242	EE324 Electronic Circuits Lab	Prerequisite / Study
244201	EE420 Digital Electronic Circuits	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Week 1	Intoduction to Lab	
Week 2	Transistor as a switching elements	From **Introduction to digital microelectronic circuits**
Week 3	TTL logic gates specifications	From **Introduction to digital microelectronic circuits**
Week 4	Monostable and astable multvibrators	From **Introduction to digital microelectronic circuits**
Week 5	Schmitt trigger characteristics	From **Introduction to digital microelectronic circuits**
Week 6	Digital to analog and A/D converters	From **Introduction to digital microelectronic circuits**
Week 7	Midterm Exam	From **Introduction to digital microelectronic circuits**, From **microelectronic circuit analysis and design**
Week 8	IC timers	From **Introduction to digital microelectronic circuits**
Week 9	Sweep-voltage waveform	From **Introduction to digital microelectronic circuits**
Week 10	Waveform generation	From **Introduction to digital microelectronic circuits**
Week 11	Interfacing TTL with CMOS logic gates	From **Introduction to digital microelectronic circuits**
Week 12	Sample and hold circuit	From **Introduction to digital microelectronic circuits**
Week 13	review and free lab	
Week 14	Final Exam	From **Introduction to digital microelectronic circuits**, From **microelectronic circuit analysis and design**

Mapping of Course Outcomes to Program Student Outcomes	**Course Outcome Weight (Out of 100%)**	**Assessment method**
Ability to characterize TTL and CMOS logic gates. Ability to design multivibrator, Schmitt trigger, IC timers and wave generation circuits. Ability to analyze and characterize A/D and D/A converters and sample and hold circuits. [1ABET1]	50%	

Ability to design, build and measure circuits for TTL and CMOS logic gates, multivibrator, Schmitt trigger, IC timers, wave generators, A/D and D/A converters, and sample and hold. [1ABET6]	50%	

Relationship to Program Student Outcomes (Out of 100%)						
ABET1	ABET2	ABET3	ABET4	ABET5	ABET6	ABET7
50					50	

Evaluation	
Assessment Tool	**Weight**
Mid	20%
Report	30%
Final	50%

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