

Flow up the implementation of course syllabus

Course Instructor	Ahmed K. Jameil				
E_mail	ahmedkhudaer@yahoo.com				
Title	Digital Electronic				
Course Coordinator	٢ hours(lecture) and ٢ hours (laboratory) per week				
Course Objective	The purpose of the course is to teach principles of digital electronics. The material covers a variety of topics including flip-flops, registers, arithmetic circuits, counters, interfacing with analog devices, and computer memory, ect.				
Course Description	(٦ units). Fundamentals of digital circuits, Asynchronous Counter. Synchronous Counter. Up-Down Synchronous counter , counter Applications , Shift Register Kinds of Shift . register , Shift register Applications ,Digital Synchronous circuits ,Operation of Digital Synchronous circuits ,Applications of Digital Synchronous circuits ,Operational Amplifiers (OPA),Applications an Operational Amplifiers Introduction to Microprocessor ,Microprocessor Unit, Digital Circuits Transistor-Transistor -Logic (T.T.L) ,Complementary -Metal-Oxide Semiconductors ,Applications of T.T.L ,Applications of CMOS				
Textbook	M.Morris Mano, “Digital Design”, ٣rd edition, Pearson Education, ٢٠٠٧.				
Course Assessment	First Term	Mid-Year	٢nd Term	Lab.	Final Exam
	١٠ %	٢٠ %	١٠ %	١٠%	٦٠ %
General Notes	<ul style="list-style-type: none"> • R.J. Tocci., N.S.Widmer, G.L. Moss. <u>Digital Systems, Principles and Applications</u>, Pearson/Prentice Hall. • T.L.Floyd. <u>Digital Fundamentals</u>, ٨th Ed. Prentice Hall. • N.P. Cook. <u>Practical Digital Electronics</u>, Pearson/Prentice Hall. • W. Kleitz. <u>Digital Electronics. A Practical Approach</u>. Prentice Hall. 				

Course Weekly Outline

week	Date	Topics Covered	Lab. Experiment Assignments	Notes
١	٠٩/١٠/٢٠١٤	Introduction in latch & flip-flop	Implementation of J-K latch	
٢	١٦/١٠/٢٠١٤	Asynchronous Counter.	Implementation of R-S latch	
٣	٢٣/١٠/٢٠١٤	Synchronous Counter.	Implementation of D latch	
٤	٣٠/١٠/٢٠١٤	Up-Down Synchronous counter Counter Applications	Implementation of T latch	
٥	٠٦/١١/٢٠١٤		Implementation of J-K ff	
٦	١٣/١١/٢٠١٤	Register	Implementation of R-S ff	
٧	٢٠/١١/٢٠١٤	Kinds of Shift register	Implementation of D ff	
٨	٢٧/١١/٢٠١٤	Shift register Applications	Implementation of T ff	
٩	٠٤/١٢/٢٠١٤	Test ١ ٥%	Implementation of Asynchronous Counter	
١٠	١١/١٢/٢٠١٤	Digital Synchronous circuits Operation of Digital Synchronous circuits	Implementation of synchronous Counter	
١١	١٨/١٢/٢٠١٤		Implementation of Up-Down Synchronous counter	
١٢	٢٥/١٢/٢٠١٤		Counter Applications	
١٣	٣١/١٢/٢٠١٤	Test ٢ ٥%		
١٤	٠٦/٠١/٢٠١٥	Holiday		
١٥	--	--		
١٦	--	--		
Half-Year Break				
١٧	١٨/٠٢/٢٠١٥	Applications of Digital Synchronous circuits <u>Operational Amplifiers (OPA):</u>	Implementation of Kinds of Shift register	
١٨	٢٥/٠٢/٢٠١٥	١١.١ Non-inverting OPA ١١.٢ Inverting OPA ١١.٣ Summing Amplifier		
١٩	٠٤/٠٣/٢٠١٥	١١.٤ Difference Amplifier ١١.٥ Instrumentation Amplifier ١١.٦ OPA as an Integrator ١١.٧ OPA as a Differentiator		

٢٠	١١/٠٣/٢٠١٥	Test ١ ٥%		
٢١	١٨/٠٣/٢٠١٥	Applications an Operational Amplifiers	Implementation of Operational Amplifiers (OPA): ١١.١ Non-inverting OPA ١١.٢ Inverting OPA ١١.٣ Summing Amplifier ١١.٤ Difference Amplifier ١١.٥ Instrumentation Amplifier ١١.٦ OPA as an Integrator ١١.٧ OPA as a Differentiator	
٢٢	٢٥/٠٣/٢٠١٥			
٢٣	١/٠٣/٢٠١٥			
٢٤	٠٨/٠٤/٢٠١٥			Introduction to Microprocessor
٢٥	١٥/٠٤/٢٠١٥	Microprocessor Unit		
٢٦	٢٢/٠٤/٢٠١٥	Digital Circuits		
٢٧	٢٩/٠٤/٢٠١٥	Transistor-Transistor -Logic (T.T.L)		
٢٨	٠٦/٠٥/٢٠١٥	Complementary -Metal-Oxide		
٢٩	١٣/٠٥/٢٠١٥	Semiconductors		
٣٠	٢٠/٠٥/٢٠١٥	Applications of T.T.L		
٣١	٢٧/٠٥/٢٠١٥	Applications of CMOS		
٣٢	٠٣/٠٦/٢٠١٥	Test ٢ ٥%		

Republic of Iraq

The Ministry of Higher Education

& Scientific Research



University: Diyala

College: Engineering

Department: Computer and S/W

Stage: Second

Lecturer name: ahmed k. jameil

Academic Status: Lecturer

Qualification: M.Sc

Place of work: Computer Dept.

Instructor Signature:

Dean Signature: