

Department of Computer Engineering			
Digital Circuits Design II Lab. (66391)			
Total Credits		1	
major compulsory			
Prerequisites		P1 : Digital Circuit Design II (66321)	
Course Contents			
Clock generator, oscillators, Asynchronous Circuits and VHDL experiments.			
Intended Learning Outcomes (ILO's)		Student Outcomes (SO's)	Contribution
1	The ability to represent a digital system in different forms such as a behavioral model or a structural model, to drive multiple components with different clocking.	C	50 %
2	The ability to develop drivers for hardware components (e.g. LCD) and to use components and IP cores developed by different parties	K	30 %
3	The ability to deal with and develop complex systems, which involves hardware/software co-design.	B	20 %
Textbook and/ or References			
Lab Experiments, Kits User guide (from Xilinx), Books and materials used in the Prerequisite course.			
Assessment Criteria		Percent (%)	
Laboratory Work		60 %	
Final Exam		40 %	
Course Plan			
Week	Topic		
1	Exp1:Overview Of Spartan 3E		
2	Exp2:Two Bit Adder		
3	Exp3:Counter		
4- 5	Exp4:FSM Sequence Detector		
6- 8	Exp5:LCD Driver		
9- 10	Exp6:IP Core and Serial		
11	Exp7:VGA Controller-part1		
12	Exp7:VGA Controller-Part2		
13- 14	Exp8: Building a MicroBlaze System		
15	Exp9: Adding IP and Device Drivers to MicroBlaze System		
16	Exp10: Timers and Interrupts in MicroBlaze system.		