



Course Weekly Outline

Course Lecturer	MSc. Fatima Tariq Hussein				
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Title	Advance Digital Electronics				
Course Coordinator					
Course Objective	The course aims to study advanced digital electronics represented by programmable logic gates and the use of object-oriented language (VHDL) to design digital circuits.				
Course Description	How to deal with advanced digital electronics represented by programmable logic gates and using object-oriented language (VHDL) to design digital circuits.				
Textbook	<ol style="list-style-type: none"> 1. Circuit design with VHDL by pedroni Digital Design with CPLD Application and VHDL by Dueck 2. Circuit design with VHDL by pedroni Digital Design with CPLD Application and VHDL by Dueck 				
References					
Course Assessment	Term Exam	Project	practical	Quizzes and Attendance	Final Exam
General Notes					



Week	Date	Topics Covered	Number of Hours	Notes
1	2024/9/18	Introduction to FPGA	4	
2	2024/9/25	Programming technologies	4	
3	2024/10/2	Programming technologies	4	
4	2024/10/9	Types of FPLDs	4	
5	2024/10/16	Types of FPLDs	4	
6	2024/10/23	Types of FPLDs	4	
7	2024/10/30	FPGA architecture	4	
8	2024/11/6	Programing (Configuring) an FPGA	4	
9	2024/11/13	Introduction to VHDL Fundamental VHDL Units: <ul style="list-style-type: none"> • Library • Entity • Architecture 	4	
10	2024/11/20	Data types: pre- defined data types, user- defined data types	4	
11	2024/11/27	Data types: pre- defined data types, user- defined data types	4	
12	2024/12/4	attributes, sign al data Operators, attributes	4	
13	2024/12/11	Concurrent code	4	
14	2024/12/18	Concurrent code	4	

15	Exam	Exam	2	
16	2024/1/22	Sequential code	4	
17	2024/1/29	Sequential code	4	
18	2024/2/5	State machine	4	
19	2024/2/12	State machine	4	
20	2024/2/19	Packages and components	4	
21	2024/2/26	Packages and components	4	
22	2024/3/5	Packages and components	4	
23	2024/3/12	Functions and procedures	4	
24	2024/3/19	Functions and procedures	4	
25	2024/3/26	Functions and procedures	4	
26	2024/4/2	Design examples	4	
27	2024/4/9	Design examples	4	
28	2024/4/16	Design examples	4	
29	2024/4/23	Design examples	4	
30	2024/4/30	Design examples	4	
31	Final exam	Final exam	2	

Lecturer signature

Head of Department Signature