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## جامعة المنوفية كلية الهندسة الإلكترونية قسم هندسة الالكترونيات الصناعية والتحكم



## **Course Syllabus**

**Department offering the program**: Industrial electronics and Control Engineering **Department offering the course**: Industrial electronics and Control Engineering

Course basic information:		
Course Code: AC445	Course Title: Elective-3 (Advanced Programming Languages-2)  Level: (4) Semester:1	
Department requirement	Teaching hours: Lecture [3] Tutorial [1] - Lab [0]	
Course objectives	<ol> <li>To explain the basic principles of sequential processing, state machine, and timing and simulation.</li> <li>To learn the basic element in VHDL.</li> <li>To study the structural and the behavioral modeling of 4.VHDL synthesis techniques and recommendations.</li> <li>To study design of complex systems containing both FBGA and microprocessors.</li> </ol>	
Course Contents	Sequential Processing Using VHDL- State Machine - Timing and Simulation - Basic Elements in VHDL - Behavioral Modeling - Structural Modeling VHDL Synthesis Techniques and Recommendations - Logic Systems Design Cycle - Timing Issues in FPGA Synchronous Circuits - Design issues in Complex Systems containing both FPGA and Microprocessors.	
Assessment		
Weighting of Assessment	- Class tutorial and quizzes: 16 % - Mid-term examination: 16 % - Case study and/or practical exam: % - Final – term examination: 68 % - Other types of assessment: % Total 100 %	
List of text books and	references:	
Text books	Industrial Network Security, Second Edition: Securing	



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	<ul> <li>Critical Infrastructure Networks for Smart Grid, SCADA,</li> <li>Dec 29, 2014.</li> <li>Brogan, Modern control Theory , MacGraw Hill 2002</li> </ul>
Recommended books	<ul> <li>W.J Grantham, T.L. Vincent, System analysis and design, John Wiley &amp; Sons, 1993</li> </ul>

