



University of Tehran
School of Electrical and Computer Engineering

Course:	8101471 – Object Oriented Systems Design									
Course type:	EE*						CE*			Credit: 3
	Com	E	P	B	Con	D	SW	HW	IT	
	Required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Elective	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Level:	Undergraduate <input checked="" type="checkbox"/> Graduate <input type="checkbox"/>									
Co-requisite(s):	None.									
Prerequisite(s):	Advanced Programming (8101119)									
Prerequisite by topic:	Object-oriented programming									
Textbook(s):	<p>[1] J. Arlow and I. Neustadt, <i>UML 2 and the Unified Process, 2nd ed.</i>, Addison-Wesley, 2005.</p> <p>[2] R. Martin, <i>Agile Principles, Patterns, and Practices in C#</i>, Prentice Hall, 2006.</p> <p>[3] E. Gamma, R. Helm, R. Johnson, J. Vlissides, <i>Design Patterns: Elements of Reusable Object-Oriented Software</i>. Addison Wesley, 1995.</p> <p>[4] E. Evans, <i>Domain Driven Design</i>, Addison-Wesley, 2003.</p>									
Coordinator:	Khosravi, Professor, School of ECE									
Goals:	The goal of this course is to familiarize undergraduate students with the concepts, principles, and methods of analyzing and designing the object-oriented software systems. Students will get familiar with design patterns after learning the principles of object-oriented design. The introduction of domain logic design patterns will also be considered in this lesson.									
Outcome:	Students who will successfully complete this lesson will be able to <ol style="list-style-type: none"> 1. Choose consciously between different design choices, 2. Produce more flexible programs, by using design patterns. 3. achieve high maintainability in enterprise softwares, with using object-oriented design for domain logic 									
Topics:	<ol style="list-style-type: none"> 1) Introduction and Principles of Object-Oriented Design 2) Introducing the Evolutionary History of Object Oriented Analysis and Design 3) Introduction to the Unified Modeling Language (UML) 4) Design patterns 5) Domain Driven Design 									
Computer usage:	A UML modeling tool									
Assignments:	4 to 5 homework assignments									

Projects:	An object-oriented design project
Grading:	Assignments: 20% Projects: 10% Midterm exams: 30% Final exam: 30%
Further readings:	[1] C. Larman, <i>Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and Iterative Development</i> . 3 rd Edition, Prentice-Hall, 2004.
Prepared by:	
Date:	

*EE: Electrical Engineering		CE: Computer Engineering	
Com	Communications	SW	Software
E	Electronics	HW	Hardware
P	Power	IT	Information Technology
B	Bioelectronics		
Con	Control		
D	Digital System		