

" حيث تصبح الرؤية واقعاً "  
"When Vision Becomes  
Reality"

" عراقة وجودة "  
**Tradition and Quality**

<b>Detailed Course Description - Course Plan Development and Updating Procedures/ Software Engineering Department</b>	<b>QF01/0408-3.0E</b>
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Faculty	Science and IT	Department	Software Engineering
Course number	0114459	Course title	Software Modeling Analysis
Number of credit hours	3	Pre-requisite/co- requisite	Software Architecture

### Brief course description

This course covers software modeling, architecture, design, and implementation using diagramming, analysis tools, and common-sense engineering methods to analyze performance of concurrent, message-driven systems.

Course goals and learning outcomes	
<b>Goal 1</b>	Gain an understanding of styles and views, and to get a glimpse of the collection of styles.
Learning outcomes	1.1 Get knowledge of the different Design Patterns 1.2 Identifying element and relationship types, styles. 1.3 Identify the architecture structure.
<b>Goal 2</b>	Gain a deeper understanding of the views.
Learning outcomes	2.1 Identify some common and important styles in the module category 2.2 Understand how it specializes the overall elements and relations found in module styles.
<b>Goal 3</b>	Learn how to choose the important views for a particular system
Learning outcomes	3.1 Choosing views to include, laying out and packaging the information, and reviewing the document. 3.2 Understand what you have to do to create and maintain the documentation artifacts.
<b>Goal 4</b>	Learn about documenting variability, context diagrams, and other helpful concepts.
Learning outcomes	4.1 Understand how the documentation is organized to serve its stakeholders. 4.2 Understand how the Architecture elements fit together to produce usable documentation.
<b>Textbook</b>	1.- <b>Documenting Software Architectures: Views and Beyond (2nd Edition)</b> , by Paul Clements, Felix Bachmann, Len Bass, David Garlan, James Ivers, Reed Little, Paulo Merson, Robert Nord, Judith Stafford. Addison-Wesley Professional (2014).
<b>Supplementary references</b>	1.- Domain-Specific Languages, by Martin Fowler. Addison-Wesley Professional; 1 edition (October 3, 2010). 2.- Software Systems Architecture: Working With Stakeholders Using Viewpoints and Perspectives, by Nick Rozanski (Author), Eóin Woods. 2013

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Course timeline				
Week	Number of hours	Course topics	Pages (textbook)	Notes
01	1 1 1	Module Views	55-65	
02	1 1 1	A Tour of Some Module Styles	65-121	
03	1 1 1	Component-and-Connector Views	123-187	
04	1 1 1	Component-and-Connector Views	123-187	continue
05	1 1 1	Allocation Views and a Tour of Some Allocation Styles	189-214	
06	1 1 1	Beyond the Basics	217-260	
07	1 1 1	Documenting Software Interfaces	261-286	
08	1 1 1	Documenting Software Interfaces	261-286	continue
09	1 1 1	Documenting Behavior	289-310	
10	1 1 1	Documenting Behavior	289-310	continue
11	1 1 1	Choosing the Views	315-335	
12	1 1 1	Choosing the Views	315-335	continue
13	1 1 1	Building the Documentation Package	337-373	
14	1	Building the Documentation Package	337-373	continue

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15	1 1 1	Reviewing an Architecture Document	375-396	
16	1 1 1	Case Study		

<b>Theoretical course evaluation methods and weight</b>	Participation = 10% First exam 20% Second exam 20% Final exam 50%	<b>Practical (clinical) course evaluation methods</b>	Semester students' work = 50% (Reports, research, quizzes, etc.) Final exam = 50%
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<b>Approved by head of department</b>		<b>Date of approval</b>	
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Extra information (to be updated every semester by corresponding faculty member)

<b>Name of teacher</b>		Office Number	
Phone number (extension)		Email	<a href="mailto:_____@zug.edu.jo">_____@zug.edu.jo</a>
Office hours			