Detailed Course Description - Course Plan Development and Updating Procedures/ Department of Software Engineering	QF01/0408-3.0E

Faculty	Science and IT	Department	Software engineering
Course number	0114455	Course title	Software development and documentation
Number of credit hours	3	Pre-requisite/co-requisite	0114343

This course is intended to teach fundamental software development concepts and techniques for the construction of software systems. The course focus is on software implementation, covering the following topics: mapping from models to Java code, mapping from contracts to exceptions, mapping from models to persistent storage schema, define and implement classes' interfaces, and documentation using Java API Documentation Generator.

	Course goals and learning outcomes
Goal 1	1- Student will study software development, covering all development phases from requirements elicitation to testing.
Learning outcomes	1.1 Know different software engineering processes and their components. 1.2 gain an understanding of the importance of the requirements, design and testing in software construction. 1.3 gain an understanding of OO concepts
Goal 2	2- The student will be able to construct software so that it meets delivery and deployment objectives specified by the project.
Learning outcomes	2.1 Able to perform mapping from models to Java code. 2.2 Able to perform mapping from contracts to exceptions 2.3 Able to perform mapping from models to persistent storage schema. 2.4 Able to define and implement class interfaces. 2.5 Able to analyze the observed behavior 2.6 Able to measure the implemented code
Goal 3	3- The student will be able to organize and develop software user documentation, which enhances long-term software viability.
Learning outcomes	3.1 Create documentation using Java API Documentation Generator.
Textbook	1. Bruegge, Bernd, and Allen H. Dutoit. Object-Oriented Software Engineering Using UML, Patterns and Java. Pearson Education Limited; Pearson New International ed of 3rd revised ed edition (July 23, 2013)
Supplementary references	1- Satzinger, John W., Robert B. Jackson, and Stephen D. Burd. Systems analysis and design in a changing world. Course Technology; 7 edition (January 29, 2015) 2- Walter Savitch, Absolute Java (6th ed.). Addison-Wesley Publishing Company,2015,USA. 3- Horton, John. Learning Java by building Android games. Packt Publishing Ltd,2015.

Course timeline				
Week	**Number of hours**	**Course topics**	**Pages (textbook)**	**Notes**
01	**1** **1** **1**	UML review, OO review, Java review		**Ref 2**
02	**1** **1** **1**	Review : Requirements Elicitation, Requirements Analysis, System Design, Decomposition, Architecture Organization, Addressing Design Goals	121-172 173-222	
03	**1** **1** **1**	Software life cycle	613-640	
04	**1** **1** **1**	Exceptions		**Ref 2**
05	**1** **1** **1**	Collections		**Ref 3**
06	**1** **1** **1**	**EXERSICES - Project discussion** **Review of previous chapters** **First Exam (20 %)**		
07	**1** **1** **1**	Object Design: Fundamentals, Design Patterns, Specifying Interfaces	347-390	
08	**1** **1** **1**	Implementation and mapping Models to Code	391-410	
09	**1** **1** **1**	Implementation and mapping contracts to exceptions	391-410	
10	**1** **1** **1**	Implementation and mapping Models to persistent storage schema.	391-410	
11	**1** **1** **1**	Implementation and mapping Models to Code	391-410	
12	**1** **1**	**EXERSICES** **Review of previous chapters**		

	1	**Second Exam (20 %)**		
13	**1 1 1**	Java Database Connectivity with MySQL		**Ref 2**
14	**1 1 1**	Documentation using Java API Documentation Generator		**Ref 2**
15	**1 1 1**	Defining and implementing class interfaces	347-390	
16	**1 1 1**	**Final Exam 50%**		

Theoretical course evaluation methods and weight	Participation = 10% First exam 20% Second exam 20% Final exam 50%	**Practical (clinical) course evaluation methods**	Semester students' work = 50% (Reports, research, quizzes, etc.) Final exam = 50%

Approved by head of department		**Date of approval**	

Extra information (to be updated every semester by corresponding faculty member)

Name of teacher		Office Number	
Phone number (extension)		Email	_____@zug.edu.jo
Office hours			