Course No.: 50811202 **or 50811403????** **Course Name: Software Engineering**

Academic Year: 2018 - 2019 **Time Division:(hours)**

Course Description

This course covers the fundamentals of software engineering, including system requirements, effective methods of design, and testing, teams software development, and the application of engineering tools. Also the course will initiate students to the different software process models, software requirements engineering process, systems analysis and design as a problem-solving activity, key elements of analysis and design, phases within the system development life.

Course Intended Outcomes:

At the end of the course, students are expected to learn:

- Explain the different practices that are key components of various process models.
- Apply the basic principles of software project management in a team environment.
- Understand a variety of strategies to the testing of simple programs.
- Identify the principal issues associated with software evolution and explain their impact on the software lifecycle.
- Identify methods that will lead to the creation of a software architecture that achieves a specified level of reliability, dependability and security.

Course Outline:

Week	Description depends on the Timing table(Theoretical & Practical)
1	**Introduction to Software Engineering**
2	**Software Development Life Cycle- Classical Waterfall Model**
3	**Iterative Waterfall Model, Prototyping Model, Evolutionary Model**
4	**Review some models (Boehm's spiral model)**
5	**Requirements Analysis and Specification**
6	**Problems without a SRS document, Decision Tree, Decision Table**
7	**Formal System Specification**
8	**Software Design**
9	**First exam**

10	**Software Design Strategies**
11	**Software Analysis & Design Tools**
12	**Structured Design**
13	**Object Modelling Using UML**
14	**Use Case Diagram & Class Diagrams**
15	**Second exam**
16	**Interaction Diagrams & Activity and State Chart Diagram**
17	**Coding & Testing**

Textbooks:

Sommerville, Ian. Software engineering / Ian Sommerville. — 9th ed. ISBN 10: 0-13-703515-2 ISBN 13: 978-0-13-703515-1.
Publisher: Copyright © 2011, 2006, 2005, 2001, 1996 Pearson Education, Inc., publishing as Addison-Wesley.

Suggested references:

1. Mall Rajib, Fundamentals of Software Engineering, PHI.
2. Pressman, Software Engineering Practitioner's Approach, TMH.

Marking:

1st exam	2nd exam	activity		Final exam
				70
12	12	6		

Assignments and/or Projects:

Assignment/Project	Description	Due Date	Marking
Project	**Every team has a unique project should submitted to solve one problem in real life.**	After second exam	6

Instructor information:

Lecture Room: [ ] Time:

Instructor's Name: Boshra F. Zopon Al_bayaty Office No.: **8**
E-Mail: boshraalbayatymbu@uomustansiriyah.edu.iq Or bushraalbayaty123@gmail.com

NOTES:

- ***Office Hours: Other office hours are available by appointment.***
- ***The content of this syllabus not be changed during the current semester.***

Lecturer Signature **Chairman Signature**