Hashemite University
Faculty of Prince Al-Hussein Bin Abdullah II
for Information Technology
Department of Software Engineering

Course Syllabus

Year: 2018/2019 **Semester: Spring**

Course No.	Course Title	Designation	Prerequisite	Credit Hours Lectures /Lab
121003752	Advanced Software Methodologies	Elective	-	3/0

Instructor Name	E-mail	Office No.	Office ext.	Office Hours
Dr. Khaled Almakadmeh	khaled.almakadmeh @hu.edu.jo	321	-	T.B.A. on Moodle

Course Description	This course provide theoretical and practical principles of software process improvement. It presents the Capability Maturity Model Integration (CMMI) as vehicle for software process improvement and for implementing best practice in software engineering. Further, this course discuss foundations, principles of Six Sigma and Quality Management.

Learning References:

Textbook:

- Introduction to Software Process Improvement, Gerard O'Regan, Springer London Dordrecht Heidelberg, 2011.
- An Introduction to Six Sigma and Process Improvement, 2nd edition, James R. Evans, William M. Lindsay, Cengage Brain Education, 2015.

Course Objectives

1- Explain the motivation for software process improvement
2- Illustrate models that support software process improvement.
3- Discuss different maturity levels and process areas in Capability Maturity Model Integration (CMMI).
4- Describe the activities and teams required to set up a CMMI improvement initiative for an organization.
5- Illustrate how to implement CMMI model at level 2.
6- Discuss how to conduct a SCAMPI appraisal.
6- Discuss the foundations and principles of Six Sigma.

Course Schedule:

Week	Topic Details	Reference
1	Course Planning	-
2	Motivation for Software Process Improvement	1
3	Software Engineering	2
4	Capability Maturity Model Integration	3
5	Setting Up a CMMI Initiative	4
6	Midterm Exam	-
7	Prelimenary Presentations	-

8, 9	CMMI Level 2 Implementation	5
10	SCAMPI Apraisals	9
11	The Foundations of Six Sigma: Principles of Quality Management	1*
12	Principles of Six Sigma	2*
13	Industrial case studies	-
14	Term Paper discussions and presentations	-

* 2nd Textbook

Assessment Methods and Grading Policy:

Assessment method	Grade	Comments
Midterm Exam	30%	Covers Chapters 1, 2, 3 and 4
Term Paper	30%	-
Final Exam	40%	Covers All Chapters