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| | Hashemite University<br>Prince Al-Hussein bin Abdullah II Faculty for Information Technology<br>Department of Software Engineering | |

# Course Syllabus

**Year: 2018-2019** **Semester: (2)**

| Course No. | Course Title | Designation | Prerequisite | Co-requisite | Credit Hours Lectures /Lab. |
|---|---|---|---|---|---|
| 111003260 | Fundamentals of Software Engineering | Compulsory | 111001110 | - | 3 / 0 |

| Instructor Name | E-mail | Office No. | Office ext. | Office Hours |
|---|---|---|---|---|
| Dr. Abdel-Rahman Al-Ghuwairi | ghuwairi@hu.edu.jo | | 4591 | Sun, Tue, Thur (10-11) |
| Dr. Aladdin Baarah | aladdin.baarah@hu.edu.jo | 246 | 4786 | Sun, Tue, Thur (10-11) |

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| **Coordinator's Name:** | Dr. Abdel-Rahman Falah Aqil Al-Ghuwairi |

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| **Course Description** | This course covers the software development process, from requirements elicitation and analysis, through specification and design, to implementation, integration, testing, and maintenance (evolution). A variety of concepts, principles, techniques, and tools are presented, encompassing topics such as software processes, software requirements, system models, architectural design, user interface design, verification and validation, and software evolution. |

## Learning References:

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| **a- Textbook:** |
| 1. Software Engineering (10th Edition). Ian Sommerville, Addison Wesley, 2015 |
| **b- Additional References:** |
| 1. Software Engineering: A Practitioner's Approach (8th Edition), Roger PressMan and Bruce Maxim, McGraw-Hill Education, 2014 |
| 2. Software Engineering: Principles and Practice (3rd Edition). Hans van Vliet, Wiley, 2008 |

## Course Learning Outcomes (CLOs)

**Upon successful completion of this course, students are expected to achieve the following learning outcomes:**

| Course Learning Outcomes (CLOs) |
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| 1- **Understand** essential concepts in software engineering. (1) |
| 2- **Explain** the major concepts of requirement engineering process. (1,3) |
| 3- Be able to **apply** (UML) as a modeling technique in software engineering to design and develop object oriented software. (2,3) |
| 4- **Distinguish** stages of testing from testing, during software development to acceptance testing by system customers. (2) |
| 5- **Demonstrate** software evolution processes as an important part of software engineering.(2) |
| **6- Prepare** coherent and structured technical report in a group and deliver oral presentation. (3) |
| **Addressed Student Learning Outcomes (SLOs)** |
| **(1,2,3)** |

| Topic Details | CLO number | Reference | No. of Weeks | Contact hours* |
|---|---|---|---|---|
| **Introduction** | 1 | Ch1 | 1 | 3 |
| **Software processes** | 1 | Ch2 | 1 | 3 |
| **Requirements Engineering** | 2 | Ch4 | 3 | 9 |
| **System Modeling** | 3 | Ch5 | 3 | 9 |
| **Design and Implementation** | 3 | Ch7 | 2 | 6 |
| **Software Testing** | 4 | Ch8 | 2 | 6 |
| **Software Evolution** | 5 | Ch9 | 2 | 6 |
| **Project Presentations** | 6 | - | 1 | 3 |
| **Total** | | | **15** | **45** |

## Assessment Methods and Grading System:

| Assessment method | Grade | Comments |
|---|---|---|
| **First Exam** | 25% | Covers Chapters 1, 2, 4 |
| **Second Exam** | 20% | Covers Chapters 5 and 7 |
| **Project** | 15% | TBA |
| **Final Exam** | 40% | Covers all topics that were discussed during the semester |
| **Total** | 100% | |