The Hashemite University

الجامعــــــة الهاشميـــــــة

**Deanship of Academic Development
and International Outreach**

عمادة التطوير الأكاديمي
والتواصل الدولي

Fundamentals of Software Engineering (2010031260)

Second Semester 2021/2022

COURSE INFORMATION	
Course Name: Fundamentals of Software Engineering **Semester:** Second Semester 2021/2022 **Department:** Department of Software Engineering **Faculty:** Prince Al-Hussein Bin Abdullah II Faculty for Information Technology	**Course Code: 2010031260** **Section:** Mandatory **Core Curriculum:**
Day(s) and Time(s): Sunday: 10:00-11:00 Tuesday: 10:00-11:00 Thursday: 10:00-11:00 **Classroom:** Phar A-115	**Credit Hours:** 3 **Prerequisites**: 1910011110 Object Oriented (1)

COURSE DESCRIPTION
Three credit hours is counted for this course. 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.

DELIVERY METHODS
The course will be delivered through a combination of active learning strategies. These will include: • PowerPoint lectures and active classroom-based discussion • Video lectures • E-learning resources: e-reading assignments and practice quizzes through Model and Microsoft Team

FACULTY INFORMATION	
Name	**Bashar Al shboul**
Academic Title:	**Assistant Professor**
Office Location:	**IT 131**
Telephone Number:	
Email Address:	**Bashar.Alshboul@hu.edu.jo**
Office Hours:	**Sunday** 12:00-13:00 **Tuesday** 12:00-13:00

ASAS

| | | Thursday | 10:00-11:00 | |
| | | *Please send an e-mail to meet at any other time.* | | |

REFERENCES AND LEARNING RESOURCES

Required Textbook:
- Ian Sommerville. 2015. Software Engineering (10th. ed.). Pearson.

Suggested Additional Resources:
- Software Engineering: A Practitioner's Approach (8th Edition), Roger PressMan and Bruce Maxim, McGraw-Hill Education, 2014.
- Software Engineering: Principles and Practice (3rd Edition). Hans van Vliet, Wiley, 2008.

STUDENT LEARNING OUTCOMES MATRIX*

Core Curriculum Learning Outcomes	Program Learning Outcomes	Course Objectives	Course Student Learning Outcomes	Assessment Method
	[SM1] Knowledge and understanding of scientific principles and methodology necessary to underpin their education in their engineering discipline, to enable appreciation of its scientific and engineering context, and to support their understanding of relevant historical, current and future developments and technologies. .	• Introduce essential concepts in Software Engineering. • Explain Requirement Engineering process and explain its major concepts. • Explain Software Engineering Design and Implementation processes and its activities. • Describe Software Testing, validation and evaluation and their respective stages. • Introduce Software Evolution Process including maintenance, reengineering, and refactoring.	• [CLO1] Recognize essential concepts in software engineering and software development processes. •	• Exams • Quizzes • "On-line" reading assignments • homework assignments
	[D4] Apply advanced problem-solving skills, technical knowledge and understanding, to establish rigorous and creative solutions that are fit for purpose for all aspects of the problem including production, operation, maintenance, and disposal.		• [CLO3] Apply (UML) as a modelling technique in software engineering to analyse, design and develop object-oriented software [D4]. • [CLO4] Recognize the main design activities in the software development process. • [CLO6] Describe software evolution processes as an important part of software engineering.	• Exams • Quizzes • "On-line" reading assignments • homework assignments
	[D5] Plan and manage the design process, including cost drivers, and evaluate Outcomes.		• [CLO5] Recognize the stages of testing from testing during software development to acceptance testing by system customers.	• Exams • Quizzes • "On-line" reading

ASAS

			• assignments • homework assignments
	[ET1] Understanding of the need for a high level of professional and ethical conduct in engineering and a knowledge of professional codes of conduct.		• [CLO2] Explain the major concepts of software requirement engineering process.	• Exams • Quizzes • "On-line" reading assignments • homework assignments
	[ET5] Awareness of relevant legal requirements governing engineering activities, including personnel, health & safety, contracts, intellectual property rights, product safety and liability issues.		• [CLO1] Recognize essential concepts in software engineering and software development processes.	• Exams • Quizzes • "On-line" reading assignments • homework assignments
	[EP4] Understanding of the use of technical literature and other information sources.		• [CLO2] Explain the major concepts of software requirement engineering process.	• Exams • Quizzes • "On-line" reading assignments • homework assignments

ACADEMIC SUPPORT

It is The Hashemite University policy to provide educational opportunities that ensure fair, appropriate and reasonable accommodation to students who have disabilities that may affect their ability to participate in course activities or meet course requirements. Students with disabilities are encouraged to contact their Instructor to ensure that their individual needs are met. The University through its Special Need section will exert all efforts to accommodate for individual's needs.

Special Needs Section:

ASAS

Tel:
Location:
Email:

COURSE REGULATIONS

Participation

Class participation and attendance are important elements of every student's learning experience at The Hashemite University, and the student is expected to attend all classes. A student should not miss more than 15% of the classes during a semester. *Those exceeding this limit of 15% will receive a failing grade regardless of their performance*. It is a student's responsibility to monitor the frequency of their own absences. **Attendance record begins on the first day of class irrespective of the period allotted to drop/add and late registration. It is a student's responsibility to sign-in; failure to do so will result in a non-attendance being recorded.**

In exceptional cases, the student, with the instructor's prior permission, could be exempted from attending a class provided that the number of such occasions does not exceed the limit allowed by the University. The instructor will determine the acceptability of an absence for being absent. A student who misses more than 25% of classes and has a valid excuse for being absent will be allowed to withdraw from the course.

Plagiarism

Plagiarism is considered a serious academic offence and can result in your work losing marks or being failed. HU expects its students to adopt and abide by the highest standards of conduct in their interaction with their professors, peers, and the wider University community. As such, a student is expected not to engage in behaviours that compromise his/her own integrity as well as that of the Hashemite University.

Plagiarism includes the following examples and it applies to all student assignments or submitted work:

- **Use of the work, ideas, images or words of someone else without his/her permission or reference to them.**
- **Use of someone else's wording, name, phrase, sentence, paragraph or essay without using quotation marks.**
- **Misrepresentation of the sources that were used.**

The instructor has the right to fail the coursework or deduct marks where plagiarism is detected

Late or Missed Assignments

In all cases of assessment, students who fails to attend an exam, class project or deliver a presentation on the scheduled date without prior permission, and/or are unable to provide a medical note, will automatically receive a fail grade for this part of the assessment.

ASAS

- Submitting a term paper on time is a key part of the assessment process. Students who fail to submit their work by the deadline specified will automatically receive a 10% penalty. Assignments handed in more than 24 hours late will receive a further 10% penalty. Each subsequent 24 hours will result in a further 10% penalty.
- In cases where a student misses an assessment on account of a medical reason or with prior permission; in line with University regulations an incomplete grade for the specific assessment will be awarded and an alternative assessment or extension can be arranged.

Student Complaints Policy

Students at The Hashemite University have the right to pursue complaints related to faculty, staff, and other students. The nature of the complaints may be either academic or non-academic. For more information about the policy and processes related to this policy, you may refer to the students' handbook.

COURSE ASSESSMENT

Course Calendar and Assessment

Students will be graded through the following means of assessment and their final grade will be calculated from the forms of assessment as listed below with their grade weighting taken into account. The criteria for grading are listed at the end of the syllabus

Assessment	Grade Weighting	Deadline Assessment
Mid Exam	35 %	
Assignments, quizzes	20%	
Final Exam	45%	

Description of Exams

Test questions will predominately come from material presented in the lectures. Semester exams will be conducted during the regularly scheduled lecture period. Exam will consist of a combination of multiple choice, short answer, writing code or descriptive questions.

No make-up exams, homework or quizzes will be given. Only documented absences will be considered as per HU guidelines.

Grades are not negotiable and are awarded according to the following criteria*:

Letter Grade	Description	Grade Points
A+	Excellent	4.00
A		3.75
A-		3.50
B+	Very Good	3.25
B		3.00
B-		2.75

ASAS

C+	Good	2.50
C		2.25
C-		2.00
D+	Pass	1.75
D	Pass	1.50
F	Fail	0.00
I	Incomplete	-

WEEKLY LECTURE SCHEDULE AND CONTENT DISTRIBUTION		
Topic	**Chapter in Text**	**Week #**
Introduction	Chapter 1	Week1
Software processes	Chapter 2	Week2
Requirements Engineering	Chapter 4	Week3, Week4, Week5
System Modeling	Chapter 5	Week6, Week7, Week8
Design and Implementation	Chapter 7	Week9, Week10
Software Testing	Chapter 8	Week11, Week12
Software Evolution	Chapter 9	Week 13, Week14

ASAS