MEU | جامعة الشرق الأوسط
MIDDLE EAST UNIVERSITY
Amman - Jordan

كلية تكنولوجيا المعلومات
Faculty of Information Technology

Course Syllabus

General Information:

Faculty	Information Technology	Department	Computer Science
Academic Year	2022-2023	Semester	First

Course Information:

Course Title	Graduation Project I	Course Code	0414501
Pre-requisite	90 Credit hours	Co-requisite	
Credit/Contact Hours (Theory, Practical)	1/1-2	Designation (Req. or Elec.)	Required
Course Day/Time		Classroom	
Web Address			

Instructor/ Coordinator Information:

Instructor Name	Dr. Ala Abu-Samaha Mr. Laith Shehab	E-mail	aabusamaha@meu.edu.jo lshehab@meu.edu.jo
Office No.		Office Hours	

Course Description:

This is the first part of a real-life like experience where a team of students solves a real-world problem delivered as an information/software system by applying an incremental iterative software engineering approach. In this part of the graduation project, the team arrives at a baseline architecture and designs for the given problem. The team performs requirements gathering, analysis, and design. The development process applied is either RUP simplified or DevOps. The team should be able to perform at least three iterations covering the inception and elaboration phases or their equivalent if DevOps is used. The minimum deliverables include a running partial prototype, and a series of documents (requirements, analysis, design, testing) detailing each iteration and iterations integrations.

References:

Textbook(s): Author, A. A. (Year published). *Book title* (Edition). City, State: Publisher.

1. Craig Larman (2004), Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and the Unified Process (3rd Ed.). Pearson.
2. L. Bass, P. Clemens, R. Kasman (2012), Software Architecture in Practice (SEI Series in Software Engineering) (3rd Ed.). Addison-Wesley Professional.

Other Required Material(s):

1. Gerardus Blokdyk (2021). Rational Unified Process: A Complete Guide. 5STARCooks. ISBN-13: 978-0655168751.

2. Gerardus Blokdyk (2021). Agile Unified Process: A Complete Guide - 2020 Edition. 5STARCooks. ISBN-13: 978-0655941446.

3. E. Gamma, et. al (1995). Design Patterns: Elements of Reusable Object-Oriented Software (1995). Addison-Wesley Professional.

4. S. McConnell (2004). Code Complete: A Practical Handbook of Software Construction (2nd Ed.). Microsoft Press. ISBN-13: 978-0735619678.

5. V. Khorikov (2020). Unit Testing Principles, Practices, and Patterns: Effective testing styles, patterns, and reliable automation for unit testing, mocking, and integration testing with examples in C# (1st Ed.). Manning. ISBN-13: 978-1617296277.

6. David Thomas and Andrew Hunt (2019). The Pragmatic Programmer (2nd Ed.). David Thomas.

7. G. Kim, et. al. (2021). The DevOps Handbook, Second Edition: How to Create World-Class Agility, Reliability, & Security in Technology Organizations (2nd Ed.). IT Revolution Press. ISBN-13: 978-1950508402.

8. S. Chaon and B. Straub (2014). Pro Git (2nd ed.) Apress. ISBN-13: 978-1484200773.

9. K. Wiegners and J. Beatty (2013). Software Requirements (Developer Best Practices) (3rd Ed.). Microsoft Press. ISBN-13: 978-0735679665.

Online Resources:

1. Stack Overflow Questions
2. Code Forum
3. Software Architecture and Design Forum.
4. Software Testing and QA.

Course Learning Outcomes:	
Upon successful completion of this course students will be able to:	
CLO 1	Ability to apply knowledge of mathematics, computing, science, and engineering appropriate to the discipline.
CLO 2	Ability to analyze a problem and identify and define the computing requirements appropriate to its solution.
CLO 3	Apply mathematical foundations, algorithmic principles, and computer science theory in the modelling and design of computer-based systems/software in a way that demonstrates comprehension of the tradeoffs involved in the design choices.
CLO 4	Ability to function effectively on teams to accomplish a common goal.
CLO 5	Recognition of the need, and the ability to engage continuing professional development.

Topics and Timeline of the Course:

Week #	Topic	Assignments/ Quizzes/ Project/ Exams Due	Ref	CLO
Week 1	Meeting with supervisor Selecting a project			
Week 2	Meeting with supervisor Discussion of the Project scope			CLO 1
Week 3	Meeting with supervisor Inception: Iteration #1			
Week 4	Meeting with supervisor Iteration: Iteration #1			
Week 5	Business modeling lecture Iteration: Iteration #1	Presentation of scope document		CLO 2
Week 6	Documents in the inception phase Inception: Iteration #2			
Week 7	Meeting with supervisor Inception: Iteration #2			
Midterm Test				CLO 3, CLO 4, CLO 5
Week 8	Documents in the inception phase Inception: Iteration #2			
Week 9	Meeting with supervisor Construction: Iteration #3	Presentation of Inception phase documents		
Week 10	Analysis Lecture Transition: Iteration #3			
Week 11	Analysis Lecture Transition: Iteration #3			CLO 4, CLO 5
Week 12	Analysis Lecture Transition: Iteration #4	Presentation of analysis documents Demo Iteration #3		
Week 13	Meeting with supervisor Transition: Iteration #4			CLO 5
Week 14	Design Lecture			CLO 5

Topics and Timeline of the Course:

Week #	Topic	Assignments/ Quizzes/ Project/ Exams Due	Ref	CLO
	Transition: Iteration #4			
Week 15	Design Lecture Discussion of baseline architecture	Demo Iteration #4		
Week 16	**Submission of System/Software and Baseline architecture**			

Assessment Methods: Outline the methodologies used to assess the students learning outcome

Methods	Qty.	Weight	Description
Iteration	3	50%	If more than 5 iterations, 50% is divided equally among all iterations (per student).
Analysis	1	15%	Final document of the project (per team)
Design	1	15%	Per student
Architecture	1	20%	Per team.
Total		**100%**	

Mapping of Learning Outcomes with Assessment Methods:

	Inception phase		Elaboration phase	
	Iteration 1	Iteration 2	Iteration 3	Iteration …
CLO	CLO 1	CLO 2	CLO 3, CLO 4, CLO 5	CLO 4, CLO 5
SLO				

Course Polices:

1. **Class Attendance:**
   - MEU recognizes that class attendance is an important element of students' classroom success. Students are expected to attend all classes, laboratories, and/or required fieldwork. Because excessive absences prevent students from receiving full course benefit and disrupt orderly course progress.
   - Any student who misses MORE THAN 15% of the class sessions of any course during a semester will be illegible to sit for the final exam and will receive a grade of "F" in the course.
   - In the case (b) above, if a student submits official documented evidence of inpatient medical care authenticated by the Medical Services Department or an accepted excuse by the Dean of his/her faculty, he/she will be considered as withdrawn from the course, and a "W" will be shown in the transcript for this course.
   - If you miss class, it is your responsibility to find out about any announcements or assignments you

Course Polices:
may have missed.

2. **Tardy:** Students are not allowed to come late to classes. If a student is ten (10) minutes or later *he/she will be reported absent*.

Course Polices:

3. **Exams:**
   - Failure in attending a course exam other than the final exam will result in zero mark unless the student provides an official acceptable excuse to the instructor who approves a makeup exam.
   - Failure in attending the final exam will result in zero mark unless the student presents an official acceptable excuse to the Dean of his/her faculty who approves an incomplete exam, normally scheduled to be conducted during the first two weeks of the successive semester.
   - A student who is late more than 15 minutes will not be permitted to sit the exam (midterm exams).
   - A student who is late more than 30 minutes will not be permitted to sit to final exam, and no student will be permitted to leave the exam center before the elapse of 30 minutes.
   - No makeup exam will be given unless all of the following three steps are performed: (1) The student notifies the course instructor about the reasons for missing the exam at least 24 hours after the set exam date, (2) The instructor permits the makeup exam at another date and lists the papers (medical or otherwise) required for the makeup, and (3) The student submits the required papers.

4. **Assignments & Projects:** Assignments and projects should be submitted to the instructor on the due date. Zero mark will be given for late submissions unless the student has an acceptable excuse approved by the instructor of the course.

5. **Plagiarism:** The term "plagiarism" includes, but is not limited to:
   - An attempt of an individual to claim the work of another as the product of his/her own thoughts, regardless of whether that work has been published.
   - Quoting improperly or paraphrasing text or other written materials without proper citation on an exam, term paper, homework, or other written material submitted to an Instructor as one's own work.
   - Handing in a paper to an Instructor that was purchased from a term paper service or downloaded from the Internet and presenting another person's academic work as one's own.

6. **Cheating:** The term "cheating," includes but is not limited to:
   - Copying homework assignments from another student.
   - Working together with another individual on a take-home test or homework when specifically prohibited from doing so by the instructor.
   - Looking at and/or copying text, notes or another person's paper during an examination when not permitted to do so.
   - Giving of work information to another student to be copied and/or used as his/her own.
   - Giving someone answers to exam questions either when the exam is being given or after having taken an exam.
   - Informing another student of specific questions that appear or have appeared on an exam in the same academic semester.
   - Giving or selling a term paper, report, project or other restricted written materials to another student.

7. **Penalty for Cheating:** The minimum penalty for cheating is an automatic Zero for the test or assignment leading to a possible "F" for the course. The exam invigilator will produce a report on the case to the examination committee chairman. The report will be kept in the student file. The student may remain seated in the exam center, but in case that causes a disturbance to other students, the student will be expelled out of the exam center if approved by the examination committee chairman. A second offense will result in the

immediate suspension of the student for the remainder of the current semester. A copy of the decision will be kept in the student file.

8. **Mobile Phones:** All mobile phones and/or other communication devices should be turned off before entering the classroom.

Responsible Staff Signature:					
Course Instructor/ Coordinator		**Date**		**Signature**	
Head of Department		**Date**		**Signature**	