Faculty: Information Technology	
Department: Software Engineering	**Program:** Bachelor
Academic year:	**Semester:**

Course Plan

First: Course Information

***Course No.*: 1503270**	***Course Title:*** *Introduction to software engineering*	***Credit Hours: 3***	***Theoretical: 3***	***Practical: 0***
Prerequisite No. and Title: 1501110, Computer Programming (1)	***Section No.:***	***Lecture Time:***		
Level in JNQF	***7***			
Type Of Course:	☐ ***Obligatory University Requirement*** ☐ ***Elective University Requirement*** ■ ***Obligatory Faculty Requirement*** ☐ ***Elective Faculty Requirement*** ☐ ***Obligatory Specialization Requirement*** ☐ ***Elective Specialization Requirement*** ☐ ***Ancillary course***			
Type of Learning:	☐ ***Face-to-Face Learning*** ■ ***Blended Learning (2 Face-to-Face + 1 Asynchronous)*** ☐ ***Online Learning (2 Synchronous + 1 Asynchronous)***			

Second: Instructor's Information

Course Coordinator:			
Name:	***Academic Rank: Associate Professor***		
Office Number:	***Extension Number:***		
Course Instructor:			
Name:	***Academic Rank:***		
Office Number:	***Extension Number:***	***Email:***	
Office Hours:	***Sunday Monday Tuesday Wednesday Thursday***		

Third: Course Description

This course is designed to introduce students to the fundamental concepts and topics of software engineering, including: an introduction to software engineering, software processes, software process models, agile development, software requirements, software testing, and software project and risk management.

Fourth: Course Objectives

1. Explain the fundamental concepts and topics of software engineering.
2. Explain the basic principles of software process and software process models.
3. Explain different types of Agile development and their related principles.
4. Explain the different types of SW requirements.
5. Explain of Effective ways of requirements gathering and management.
6. Explain the basic principles of software testing.

Fifth: Learning Outcomes

Level descriptor according to (JNQF)	***CILOs Code***	***CILOs*** If any CLO will not be assessed in the course, mark NA.	***Associated PILOs Code*** *Choose one PILO for each CILO**	***Assessment method*** *Choose at least two methods*
Knowledge	**K1**	Awareness about the basic of software engineering terminologies	PK2	• Mid-term Exam • Quiz
	K2	Awareness about the basic principles of software process and software process models.	PK2	• Mid-term Exam • Quiz
	K3	Recognize different types of Agile development and their related principles	PK2	• Mid-term Exam • Final Exam
	K4	Recognize the different types of SW requirements	PK2	• Final Exam Quiz
	K5	Awareness of Effective ways of requirements gathering and management	PK2	• Final Exam Quiz
	K6	Gain broad knowledge about the basic principles of software testing	PK2	• Presentation • Final Exam

*CILOs: Course Intended Learning Outcomes; PILOs: Program Intended Learning Outcomes; For each CILO, the PILO could be the same or different.

Sixth: Learning Resources

Main Reference:	*Software Engineering*		
Author: *Ian Sommerville*	***Issue No.:*** *10th edition*	***Print:***	***Publication Year: 2017***
Additional Sources &Websites:	• *Engineering Software Products: An Introduction to Modern Software Engineering 1st Edition*		
Teaching Type:	■ ***Classroom*** □ ***Laboratory*** □ ***Workshop*** ■ ***MS Teams*** ■ ***Moodle***		

Seventh: Course Structure

Week	Course Intended Teaching Outcomes (CILOs)	Topics	Teaching Procedures*	Teaching Methods**	References***
Week 1	K1	Course introduction and outline	Face-to-Face	Lecture	Course Outline
	K1	Ch1: Importance of software engineering & General issues that affect most software	Asynchronous	Video for learning activity	Course Slides, Book, External Sources
Week 2	K1	Ch1: Software costs, products, and specification Ch1: Frequently asked questions & Essential attributes for SW	Face-to-Face	Lecture	Course Slides, Book
	K1	Ch1: Application types, & Fundamental principles	Asynchronous	Video for learning activity	Course Slides, Book, External Sources
Week 3	K2	Ch2: Software process models and Waterfall development	Face-to-Face	Lecture	Course Slides, Book, External Sources
	K2	Ch2: Software process description, Plan	Asynchronous	Video for learning	Course Slides, book

		driven & Agile driven development		activity	
Week 4	K2	Ch2: Incremental development &Reuse oriented SE Ch2: Coping with change and Prototyping	Face-to-Face	Lecture	Course Slides, Book
	K3	Ch3: The need for rapid development and Agile methods	Asynchronous	Quiz (ch1 and 2), Video for learning activity	Course Slides, Book, External Sources
Week 5	K3	Ch3: Principles of Agile methods, Applicability, and Problems	Face-to-Face	Lecture	Course Slides, Book
	K3	Ch3: Scrum	Asynchronous	Video for learning activity	Course Slides, Book, External Sources
Week 6	K4, K5	Ch4: Ch4: Introduction to requirements engineering	Face-to-Face	Lecture	Course Slides, book
	K4, K5	Ch4: Introduction to requirements engineering	Asynchronous	Video for learning activity	Course Slides, book
Week 7	K4, K5	Ch4: Domain requirements; Software requirements document	Face-to-Face	Lecture	Course Slides, book, External Sources
	K4, K5	Ch4: Software requirements & Metrics	Asynchronous	Video for learning activity	Course Slides, book
Week 8	**Midterm Exam**				
Week 9	K4, K5	Ch4: Requirements validation and Management	Face-to-Face	Lecture	Course Slides, book, External Sources
	K4, K5	Ch4: Requirements elicitation techniques	Asynchronous	Quiz (ch4), Video for learning activity	Course Slides, book

Week 10	K6	Ch8: Program testing and Goals	Face-to-Face	Lecture	Course Slides, book
	K6	Ch8: Verification & Validation; V&V confidence	Asynchronous	Video for learning activity	Course Slides, book, External Sources
Week 11	K6	Ch8: Development testing Ch8: Test-driven development	Face-to-Face	Lecture	Course Slides, book
	K6	Ch8: Release testing	Asynchronous	Video for learning activity	Course Slides, book, External Sources
Week 12	K6	Ch8: User testing Ch8: Program testing	Face-to-Face	Lecture	Course Slides / book
	K6	Ch8: Program testing goals	Asynchronous	Video for learning activity	Course Slides / book / External Sources
Week 13	K6	Ch8: Validation and defect testing Ch8: Testing process goals	Face-to-Face	Lecture	Course Slides, book
	K6	Ch8: An input-output model of program testing	Asynchronous	Video for learning activity	Course Slides, Book / External Sources
Week 14	K6	Ch8: Verification vs validation	Face-to-Face	Lecture	Course Slides, Book
	K6	Ch8: Software inspections	Asynchronous	Presentation, Lecture	Course Slides, Book, External Sources
Final Exam					

*Teaching procedures: (Face-to-Face, synchronous, asynchronous). ** Teaching methods: (Lecture, video….).
*** Reference: (Pages of the book, recorded lecture, video….)

Eighth: Assessment Methods

Methods	Online Learning	Blended Learning	Face-To-Face Learning	Measurable Course (CILOs); **Specific Course Output to be measured** *State the score identified for each CILO for each method of assessment out of 100 **If any CILO will not be assessed in the course, mark NA.					
				K1	K2	K3	K4	K5	K6
First Exam									
Second Exam									
Mid-term Exam		**30**		✓	✓	✓	✓		
Participation									
Asynchronous Activities		**5**		✓	✓	✓	✓	✓	
Quizzes		**5**		✓	✓		✓		
Assignments									
Group presentation		**10**		✓	✓		✓	✓	✓
Final Exam		**50**				✓	✓	✓	✓
Total out of 100		**100**							

Ninth: Course Policies

- All course policies are applied on all teaching patterns (online, blended, and face-to-face Learning) as follows:
  a. Punctuality.
  b. Participation and interaction.
  c. Attendance and exams.
- Academic integrity: (cheating and plagiarism are prohibited).