EASTERN MEDITERRANEAN UNIVERSITY
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE POLICY SHEET

Course Title	Software Engineering
Course Code	ITEC316
Type	Full Time
Semester	Fall/Spring
Category	Area Core
Workload	210 Hours
EMU Credit	(3,0,1) 3
Prerequisite	ITEC315
Language	English
Level	Third Year
Teaching Format	3 Hours Lecture, 1 Hour Tutorial per week
ECTS Credit	7
Course Web Site	http://staff.emu.edu.tr/husnubayramoglu

Instructor(s)	Asst. Prof. Dr. Hüsnü Bayramoğlu	**Office Tel**	+90 392 6302894
E-mail	husnu.bayramoglu@emu.edu.tr	**Office No**	CT103

Course Description

The aim of this course is to introduce some fundamental principles of software engineering discipline and illustrate the application of those principles in the context of the graduation project. Main topics covered are software process models, rapid software development and prototyping, software metrics, risk analysis and management, testing and quality assurance, software estimation techniques, software quality and configuration management.

General Learning Outcomes

On successful completion of this course students should be able to:

- Describe principles, concepts and practice of software engineering.
- List software engineering metrics
- List and explain different testing strategies (Blackbox/whitebox,inspection etc.)
- Apply appropriate testing strategy (statement coverage, branch coverage etc.)
- List and describe the components of a configuration management system
- Explain the software risk management process.
- Describe software quality management process
- Design a small scale project: requirements document etc.

Teaching Methodology / Classroom Procedures

- Each week there are three lecture sessions and one tutorial session.
- Class attendance is compulsory.
- Students work on a case project as part of a small team.
- Each team submits deliverables and presents their work according to the schedule announced on course web site.
- Students are encouraged to use internet to search for various related topics.
- Lecture notes, assignments, any course related materials and announcements will be posted on the course web site.
- Students are required to submit the assigned tasks on time.

Course Materials / Main References
Text Book: Pressman, Roger S., and Maxim, Bruce R., Software Engineering: A Practitioner's Approach. 8th ed., McGraw-Hill Education, 2015. ISBN: 978-0-07-802212-8

Weekly Schedule / Summary of Topics	
Week 1	The Nature of Software, Defining Software, The Changing Nature of Software: Web Apps, Mobile Apps, Cloud Computing
Week 2	Defining Software Engineering, The Software Process, Software Engineering Practice, Software Development Myths Software Process Structure, Defining a Framework Activity, Process Assessment and Improvement
Week 3	Process Models: The Waterfall Model, Incremental Process Models, Evolutionary Process Models, Unified Process, Personal and Team Process Models Agile Development, Agility Principles, Extreme Programming, Other Agile Process Models
Week 4	Human Aspects of Software Engineering, The Psychology of Software Engineering, Team Structures, Agile Teams
Week 5	Quality Concepts, Software Quality, Quality Assurance
Week 6	Review Techniques, Review Metrics and Their Use, Informal Reviews, Formal Technical Reviews
Week 7	Software Quality Assurance (SQA): SQA Tasks, Goals and Metrics, Statistical SQA, Software Reliability
Week 8-9	**Midterm Exams**
Week 10	Software Testing Strategy, Validation Testing, System Testing, The Art of Debugging
Week 11	Testing Conventional Applications, White-Box Testing, Black-Box Testing, Testing Object-Oriented Applications, Testing Web Applications, Testing MobileApps
Week 12	Software Engineering, Security Assurance, Security Risk Analysis
Week 13	Software Configuration Management (SCM), The SCM Repository, The SCM Process, Version Control
Week 14	Product Metrics, Measurement Principles, Metrics for Requirements Model, Metrics for Design Model
Week 15	Estimation for Software Projects, Resources, Decomposition Techniques Risk Management, Reactive vs. Proactive Strategies, Risk Identification, Risk Projection
Week 16-18	**Final Exams**

Requirements
▪ Each student can have only one make-up exam. ▪ One who misses an exam should provide a medical report or a valid excuse within 3 days after the missed exam. ▪ The make-up exam is done at the end of the term and covers all the topics. ▪ No make-up exam is given for any project, quiz or assignment. ▪ Students who fail to attend the lectures regularly may be given NG grade. ▪ Once the grades are announced, the students have only one week to do objection about their grades. ▪ It is the students' responsibility to follow the announcement in the course web site.

Method of Assessment			
Evaluation and Grading	**Term Project**	**Midterm Exam**	**Final Exam**
Percentage	25 %	35 %	40 %

Grading Criteria *											
A	**A-**	**B+**	**B**	**B-**	**C+**	**C**	**C-**	**D+**	**D**	**D-**	**F**
90 -100	85 - 89	80 - 84	75 - 79	70 - 74	65 - 69	60 - 64	56 - 59	53 - 55	50 - 52	40 - 49	0 - 39

* Letter grades will be decided upon after calculating the averages at the end of the semester and distribution of the averages will play a significant role in the evaluation of the letter grades.