İZMİR UNIVERSITY OF ECONOMICS

Faculty of Engineering
Computer Engineering
SE 344 - Software Testing

COURSE INTRODUCTION AND APPLICATION INFORMATION

Course Name	**Software Testing**

Code	Semester	Theory (hour/week)	Application/Laboratory (hour/week)	Local Credits	ECTS
SE 344	Fall/Spring	3	0	3	5

Prerequisites	None
Course Language	English
Course Type	Elective
Course Level	First Cycle
Mode of Delivery	-
Teaching Methods and Techniques	-
Course Coordinator	* Yrd. Doç. Dr. Kaan KURTEL
Course Lecturer(s)	* Yrd. Doç. Dr. Kaan KURTEL
Course Assistants	-

Course Objectives	The primary objective of this course is to introduce students to, and provide core competencies in the fundamentals and principles of software testing. The secondary objective is to make the students familiar with the basic testing methods and technologies which are necessary for applying the concepts of quality assurance to obtain a high quality software product. The third objective of this course is to provide delegates with the necessary skills to implement software testing qualifications compliant with the requirements of the international software testing certifications. Both goals are addressed by recognizing software test processes, test documentation, test techniques, test management and supporting tools.

Course Learning Outcomes	The students who succeeded in this course; * apply the software testing terminology * explain test concepts and test types * identify the testing objectives * explain specific test techniques * identify test management
Course Description	It is generally accepted that it is not possible to create perfect software. It is therefore necessary to test software before it is released to the users to reduce the risk of mistakes in software production having a negative impact when the software is used. It is equally necessary to ensure that testing is performed well. This course specifies definitions and concepts, test processes, test documentation, test techniques in software engineering.

Course Category	Core Courses	
	Major Area Courses	X
	Supportive Courses	
	Media and Managment Skills Courses	
	Transferable Skill Courses	

WEEKLY SUBJECTS AND RELATED PREPARATION STUDIES

Week16	Subjects	Related Materials
1	Review of the Semester	
2	Review of the Semester	
3	Review of the Semester	
4	Review of the Semester	
5	Review of the Semester	
6	Review of the Semester	
7	Review of the Semester	
8	Review of the Semester	
9	Review of the Semester	
10	Review of the Semester	
11	Review of the Semester	
12	Review of the Semester	
13	Review of the Semester	
14	Review of the Semester	
15	Review of the Semester	
16	Review of the Semester	

SOURCES

Course Notes / Textbooks	Sommerville I. Software Engineering. 10th ed. Addison Wesley, 2016. Black R., van Veenendaal E. and Graham D. Foundations of Software Testing. 3rd ed. Cengage Learning, 2012.
Suggested Readings/Materials	Bath G., McKay J. The Software Test Engineer's Handbook: A Study Guide for the ISTQB Test Analyst and Technical Analyst Advanced Level Certificates. Rocky Nook, 2008. Bourque, P. and R.E. Fairley (eds.). 2014. Guide to the Software Engineering Body of Knowledge (SWEBOK). Los Alamitos, CA, USA: IEEE Computer Society. IEEE 829-2008 - IEEE Standard for Software and System Test Documentation.

ISO/IEC/IEEE 29119-1Software testing - Part 1: Concepts and definitions.

ISO/IEC/IEEE 29119-2 Software testing - Part 2: Test processes.

ISO/IEC/IEEE 29119-3 Software testing - Part 3: Test documentation.

ISO/IEC/IEEE P29119-4 DIS May 2013 Draft IEEE Standard Software testing -Part 4: Test techniques

EVALUATION SYSTEM		
Semester Activities	**Number**	**Percentage of Grade**
Participation	-	-
Laboratory / Application	-	-
Field Work	-	-
Quiz/Studio Critic	4	60
Portfoilo	-	-
Homework Assignment	-	-
Presentation/Jury	-	-
Project	-	-
Seminar/Workshop	-	-
Oral Exam	-	-
Midterm	-	-
Final	1	40
Total	5	100
WEIGHTING OF SEMESTER ACTIVITIES ON THE FINAL GRADE	**4**	**60**
WEIGHTING OF END-OF-SEMESTER ACTIVITIES ON THE FINAL GRADE	**1**	**40**
Total	5	100

ECTS / WORKLOAD TABLE

Semester Activities	Number	Duration (Hours)	Total Workload
Course Hours (Including Exam Week: 16 x Total Hours)	16	3	48
Laboratory / Application Hours	16	-	-
Study Hours Out of Class	15	3	45
Field Work	-	-	-
Quiz / Studio Critique	4	10	40
Portfolio	-	-	-
Homework / Assignment	-	-	-
Presentation / Jury	-	-	-
Project	-	-	-
Seminar / Workshop	-	-	-
Oral Exam	-	-	-
Midterm	-	-	-
Final	1	17	17
		Total Workload	**150**

THE RELATIONSHIP BETWEEN COURSE LEARNING OUTCOMES AND PROGRAM QUALIFICATIONS

#	Program Qualifications / Outcomes	* Level of Contribution				
		1	2	3	4	5
1	To have adequate knowledge in Mathematics, Science and Computer Engineering; to be able to use theoretical and applied information in these areas on complex engineering problems.				X	
2	To be able to identify, define, formulate, and solve complex Computer Engineering problems; to be able to select and apply proper analysis and modeling methods for this purpose.				X	
3	To be able to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the requirements; to be able to apply modern design methods for this purpose.				X	
4	To be able to devise, select, and use modern techniques and tools needed for analysis and solution of complex problems in Computer Engineering applications; to be able to use information technologies effectively.					X
5	To be able to design and conduct experiments, gather data, analyze and interpret results for investigating complex engineering problems or Computer Engineering research topics.					X
6	To be able to work efficiently in Computer Engineering disciplinary and multi-disciplinary teams; to be able to work individually.					X
7	To be able to communicate effectively in Turkish, both orally and in writing; to be able to author and comprehend written reports, to be able to prepare design and implementation reports, to present effectively, to be able to give and receive clear and comprehensible instructions.					
8	To have knowledge about global and social impact of Computer Engineering practices on health, environment, and safety; to have knowledge about contemporary issues as they pertain to engineering; to be aware of the legal ramifications of Computer Engineering solutions.		X			
9	To be aware of ethical behavior, professional and ethical responsibility; to have knowledge about standards utilized in engineering applications.			X		
10	To have knowledge about industrial practices such as project management, risk management, and change management; to have awareness of entrepreneurship and innovation; to have knowledge about sustainable development.					
11	To be able to collect data in the area of Computer Engineering, and to be able to communicate with colleagues in a foreign language. ("European Language Portfolio Global Scale", Level B1)					
12	To be able to speak a second foreign language at a medium level of fluency efficiently.					

13	To recognize the need for lifelong learning; to be able to access information, to be able to stay current with developments in science and technology; to be able to relate the knowledge accumulated throughout the human history to Computer Engineering.		**X**			

*1 Lowest, 2 Low, 3 Average, 4 High, 5 Highest