Jordan University of Science and Technology
Faculty of Computer & Information Technology
Software Engineering Department

SE430 Software Testing - JNQF Level: 7
Second Semester 2023-2024

Course Catalog
3 Credit Hours. This course teaches quantitative, technical, practical methods that software engineers and developers can use to test their software, both during and at the end of development. Concepts and techniques for testing and modifying (correcting problems or debugging) software in evolving environments. Topics include software testing at the unit, module, subsystem, and system levels; developer testing; automatic and manual techniques for generating test data; designing and implementing software to increase maintainability and reuse; evaluating software for change; and validating software changes. Also, It covers the various subjects, including test models, test design techniques (black box and white-box testing techniques), integration, regression, and system testing methods.

Teaching Method: On Campus

Text Book	
Title	Software Testing: An ISTQB-ISEB Foundation Guide, Second Edition
Author(s)	Brian Hambling,
Edition	2nd Edition
Short Name	Software Testing, An ISTQB-ISEB Foundation Guide
Other Information	

Instructor	
Name	**Dr. HAMZA ALKOFAHI**
Office Location	N2-L0
Office Hours	Sun : 11:30 - 13:00 Tue : 11:30 - 13:00 Wed : 08:00 - 09:30 Thu : 11:30 - 13:00
Email	hoalkofahi@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Sun, Tue, Thu : 08:30 - 09:30 Room: M2010

Prerequisites		
Line Number	**Course Name**	**Prerequisite Type**
1763200	SE320 System Analysis And Design	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Weeks 1, 2	Principles	From **Software Testing, An ISTQB-ISEB Foundation Guide**
Weeks 3, 4, 5	Testing in life cycle	From **Software Testing, An ISTQB-ISEB Foundation Guide**
Weeks 6, 7	Static Testing	From **Software Testing, An ISTQB-ISEB Foundation Guide**
Weeks 8, 9, 10, 11	Dynamic Testing Techniques	From **Software Testing, An ISTQB-ISEB Foundation Guide**
Week 12	Mutation Testing	
Week 13	Regression-Testing	
Week 14	Test Management	From **Software Testing, An ISTQB-ISEB Foundation Guide**
Week 15	Tool support for testing (CAST)	From **Software Testing, An ISTQB-ISEB Foundation Guide**

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Evaluate and critically analyze established testing concepts, the fundamental test process, test approaches, and principles across all test levels to support diverse test objectives. [1C2] [1L7K1]	15%	

Outcome	Weight	
Assess the effectiveness and efficiency of various white box testing techniques, demonstrating the ability to calculate test coverage and yield based on a range of criteria. [1C13] [1L7S1]	35%	
Design comprehensive test cases based on black box testing techniques to access complex system functionalities against its requirements. [1C5, 1C10] [1L7S1]	25%	
Evaluate software through the facilitation of software reviews and the application of inspections using a range of sophisticated static testing techniques. [1C13] [1L7S3]	10%	
Develop and implement an automated test suite for a software application, integrating various testing tools and frameworks effectively to achieve comprehensive test coverage and efficient test execution. [1C13] [1L7C2]	10%	
Formulate innovative and adaptive test strategies and plans that account for dynamic project requirements, organizational contexts, and industry best practices. [1C14] [1L7C1]	5%	

Relationship to Program Student Outcomes (Out of 100%)																							
SM1p	SM2p	SM3p	EA1p	EA2p	EA3p	EA4p	D1p	D2p	D3p	D4p	D5p	D6p	ET1p	ET2p	ET3p	ET4p	ET5p	ET6p	EP1p	EP2p	EP3p	EP4p	EP5p	EP6p

Relationship to NQF Outcomes (Out of 100%)				
L7K1	L7S1	L7S3	L7C1	L7C2
15	60	10	5	10

Evaluation	
Assessment Tool	**Weight**
Final	40%
First	20%
Second	25%
Course Work (HWs & Quizzes)	15%

Policy	
HW	1. Late work will not be accepted. 2. All work has to be done independently within the team 3. Use your e-learning account to submit a softcopy of your work with your Name, Section#, and ID
Exams	1. Exam?s format is generally (but NOT always) divided into three parts: Basic Concepts, Program Analysis, and Programming. 2. Makeup exam should not be given unless there is a valid excuse accepted by the university policies.
Attendance	1. If you miss a class, it is your responsibility to find out about any announcements, quizzes, or assignments you may have missed. 2. University policies will be applied regarding attendance (check your student book). 3. Your attendance/absence is updated weekly into your student account.

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