INFS 7006 SOFTWARE TESTING AND AUTOMATION

Credit Points 10

Legacy Code 300770

Coordinator Simi Kamini Bajaj (https://directory.westernsydney.edu.au/search/name/Simi Kamini Bajaj/)

Description Software Testing and Automation will cover topics in two sections - Fundamentals of Software Testing and Test Automation. Section 1 will enable students to get a good understanding of different types of testing, the entire life cycle of Testing; how to design and prepare Test Cases, Test Data, execute these Test Cases and manage the defects. Students will also learn the importance of exclusive Test Environment for Testing and how to create a Traceability Matrix relating Requirements to Test Cases. Since approaches to testing software have also evolved with rigorous systematic approaches and advanced tools to automate some of the testing tasks. Section 2 will expose students to Test Automation using an automation tool, Object mapping and repository creation, Exception handling, logging and reporting, and Creation and Execution of Automation scripts.

School Computer, Data & Math Sciences

Discipline Information Systems, Not Elsewhere Classified.

Student Contribution Band HECS Band 2 10cp

Level Postgraduate Coursework Level 7 subject

Restrictions

Students must be enrolled in a postgraduate program.

Assumed Knowledge

Knowledge about: Software Development Life Cycle; Programming knowledge in one of the Object Oriented programming language for e.g. Java, C++; Scripting Language such as Java Script.

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Design and prepare Test Cases as part of the test preparation phase of testing life cycle
2. Prepare Test Data for the Test Cases
3. Execute Test Cases and Capture Test Evidences as part of test execution phase of testing life cycle
4. Create defect reports, assign severity levels, manage defects and track defects to closure as part of the defect life cycle
5. Create Traceability Matrix (relating Requirements to Test Cases)
6. Demonstrate an understanding of the syntax of automation tool scripting
7. Create Test automation scripts using an automation tool
8. Conduct regression testing using the test automation scripts
9. Demonstrate a broader understanding of importance and state-or-the art of software testing as practiced in the industry

Subject Content

Section I - Fundamentals of Software Testing:
1. Basics of software testing
2. Types of testing
3. Testing life cycle
4. Test Design
5. Defect management life cycle
6. Test Execution
7. Traceability Matrix
Section II - Automation Testing:
1. Overview of test automation tool, Record and Playback
2. Object map and Object repository creation, Verification Points
3. Global & Environment Variables
4. Data Pool Creation & Using External Data Sources
5. Exception Handling
6. Logging & reporting
7. Creation of Test Automation Scripts
8. Execution of Test Automation Scripts

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Item	Length	Percent	Threshold	Individual/ Group Task
Quizzes and lab work	3 (90 Minutes) quizzes	35	N	Individual
Mini Project Part A	15 hours	25	N	Group
Mini Project Part B	20 hours	25	N	Individual
Technical Report	2000 words	15	N	Individual

Teaching Periods

Sydney City Campus - Term 1
Sydney City
Day
Subject Contact Mahsa Razavi (https://directory.westernsydney.edu.au/search/name/Mahsa Razavi/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=INFS7006_22-SC1_SC_D#subjects)

Spring
Parramatta - Victoria Rd
Evening
Subject Contact Simi Kamini Bajaj (https://directory.westernsydney.edu.au/search/name/Simi Kamini Bajaj/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=INFS7006_22-SPR_PS_E#subjects)