

## Module: Software Testing 262

Module name:	Software Testing 262
Code:	SWT262
NQF level:	6
Type:	Elective – Diploma in Information Technology (Software Development Stream)
Contact time:	48 hours
Structured time:	8 hours
Self-directed time:	64 hours
Notional hours:	120 hours
Credits:	12
Prerequisites:	Software Testing 261

### Purpose

The main focus of this course is on practical implementation of software testing techniques.

### Outcomes

Upon successful completion of this module, the student will be able to demonstrate:

- Knowledge of specific and suitable software development and testing tools, with a sound understanding of each tool's extent of applicability and capabilities
- The ability to plan and apply the appropriate level of testing within the context of a software development application, gathering evidence and applying solutions, based on evidence and appropriate software testing procedures, to meet the requirements of the project beneficiaries
- The ability to make decisions and act appropriately in familiar and in new testing contexts, demonstrating an understanding in the relation between software systems, and of how actions or developments in one system impact on other systems
- The ability to work effectively in a team and to take responsibility for their decisions and actions and the decisions and actions of others within the context of this team, including the responsibility for the use of resources where appropriate

### Assessment




Assessment is performed using a variety of instruments:

- Continuous evaluation of theoretical work through a written assignment, a formative test, and a summative test.
- Continuous evaluation of project work.
- Final assessment through a written examination.
- The assignments or projects collectively will count 30% of your class mark.
- All tests will collectively account for 70% of your class mark.
- Your class mark contributes 30% towards your final mark for the subject, while the final assessment accounts for 70% of your final mark.

## Teaching and Learning

### Learning materials

#### Prescribed books (EBSCO)

-  **Rex Black et al. (2017) Agile Testing Foundations : An ISTQB Foundation Level Agile Tester Guide. Swindon, UK: BCS, The Chartered Institute for IT.**
-  **Hass, A. M. J. (2014) Guide to Advanced Software Testing. Boston: Artech House.**
-  **Satheesh Kumar, N. and Subashni S. (2013) Software Testing Using Visual Studio 2012. Birmingham, UK: Packt Publishing. Learning activities**

### Learning activities

Learning will be facilitated by the lecturer with student centred activities that involve problem-based learning where pupils are presented with challenges that replicate the situation in the real-world environment. One mandatory assignment and one project must be completed during the course. This will be achieved through a combination between presentation of theoretical concepts, guided exercises, group work and discussions during the module.

### Notional learning hours

Activity	Units	Contact Time	Structured Time	Self-Directed Time
Lecture		40.0		28.0
Formative feedback		5.0		
Project	1	3.0		9.0
Assignment	1			3.0
Test	3		6.0	11.0
Exam	1		2.0	13.0
		<b>48.0</b>	<b>8.0</b>	<b>64.0</b>

### Syllabus

- Static Testing and static analysis tools
- Dynamic analysis and test design techniques, including Black Box testing, White Box testing
- Testing Tools: Types and selection of tools
- Automation testing