

# Assessment Task: Software Testing Project

## Assessment Overview

You will prepare and present analysis of a software failure

### Assessment Table

Assessment	Learning Outcome	Component	Due	Weighting
Software Failure Implications	2	Presentation		15%
<b>Applied Testing</b>	<b>1, 2</b>	Lab work, <b>project</b>	<b>Week 16</b> <b>19<sup>th</sup> November</b>	55% (Labs 15%, <b>Project 40%</b> )
Theory Exam	2	Multi-choice Exam		30%

### Learning Outcomes

1. Plan, apply and document the testing process using automated and manual tests.
2. Analyse and critique industry standard software testing theory, the significance of software testing and its place in the software development life cycle.

### Authenticity

All parts of your assessment must be your own work.

### Late Submission, Reassessment, Extensions

The School process in relation to Submissions, Extensions, Resubmissions and Resits complies with Otago Polytechnic Policies. Students can view policies on the Otago Polytechnic Website located at <http://www.otagopolytechnic.ac.nz/>.

Resubmission is where an original assessment is returned to the student for minor reworking and then being resubmitted for final grade. Where a student achieves a D grade for any assessment, an application for resubmission may be made to the Head of School. A maximum of two resubmissions will be permitted in any one year for any student.

Resubmissions are completed within a short time frame (usually no more than five working days) and usually must be completed within the timing of the course to which the assessment relates. Resubmissions will be available only to students who have made a genuine attempt at the first assessment opportunity. The maximum grade awarded for a resubmission will be C-.

Information about late submission and extensions can be located in the Course Outline

**Assignment: Software Test Project**

This assessment can be done individually or in pairs. Paired assessments require significantly more work/testing than an individual one. All members must contribute equally, and it should be clear in the deliverables who did what. A group mark will be issued, except in the case where it is obvious the work hasn't been carried out equally.

**General**

Issued Wednesday 29<sup>th</sup> September 2021

Contributes **40%** towards your final IN733 course mark.

**Submission**

This assignment is to be submitted to our Team assignments section.

No late submissions will be accepted without prior arrangement with your lecturer, and will only be agreed after presentation of a set of extremely extenuating personal circumstances.

A penalty of 10% per day will apply to submissions received after the due date.

## Task: Applied Testing

You are to create test documentation and processes for an **approved piece of software\***. You will develop a test plan – test procedures and test cases and run the tests you have developed against the software chosen.

All documents should follow the appropriate IEEE-829 standard, so it is recommended that you use templates from a reputable source – not every section of the templates has to be completed – use your common sense (or check with Paul) when deciding which sections to include/leave out.

You are expected to use a variety of techniques as presented in class.

The following deliverables are expected:

### 1. Test Plan (Use IEEE 829 Standard: Test Plan Template)

Test plan identifier	Test deliverables
Introduction	Test tasks
Test items	Environmental needs
Features to be tested	Responsibilities
Features not to be tested	Staffing and training needs
Approach	Schedule
Item pass/fail criteria	Risks and contingencies
Suspension and resumption criteria	Approvals

### 2. Test Execution Documentation: (Use IEEE 829 Standard when applicable)

Provide evidence of:

- ✓ Static testing –Static analysis, reviews ...
- ✓ Dynamic – Structure, Experience and Specification based testing

Evidence can be – review documentation, decision coverage and statement coverage stats, test cases, control flow diagrams, decision tables, state table, state transition diagrams, boundary value analysis, equivalence partition, test incident reports, automated testing etc...

### 3. Test Summary Report (Use IEEE 829 Standard: Test Summary Report template)

Test summary report identifier	Evaluation
Summary	Summary of activities
Variances	Approvals
Comprehensive assessment	
Summary of results	

\*Approved piece of software

I will try to be flexible with this. You can use your Studio project or your Year 3 project. Another option is to develop your own software. If you choose the latter, discuss the matter with Paul.

**Marking Guide**

Content	Comments	Marks
<ul style="list-style-type: none"><li>• Test Plan<ul style="list-style-type: none"><li>- follows template</li><li>- content is appropriate</li><li>- follows good professional practice – good grammar, layout etc...</li></ul></li></ul>		/30
<ul style="list-style-type: none"><li>• Test Execution<ul style="list-style-type: none"><li>- variety of evidence</li><li>- appropriate testing</li><li>- documentation quality</li><li>- links to application tested and/or copy of software tested</li></ul></li></ul>		/40
<ul style="list-style-type: none"><li>• Test Summary Report<ul style="list-style-type: none"><li>- follows template</li><li>- follows good professional practice</li><li>- use of charts/graphs</li><li>- sensible evaluation/ recommendation/ conclusion/ summary</li></ul></li></ul>		/30
<b>Total</b>		<b>/100</b>