Sarawak Campus

Faculty of Engineering, Computing and Science

Higher Education Division

Portfolio Format and Assessment Criteria

COS20007

Object Oriented Programming

Semester 2, 2019

Portfolio Format and Assessment Criteria

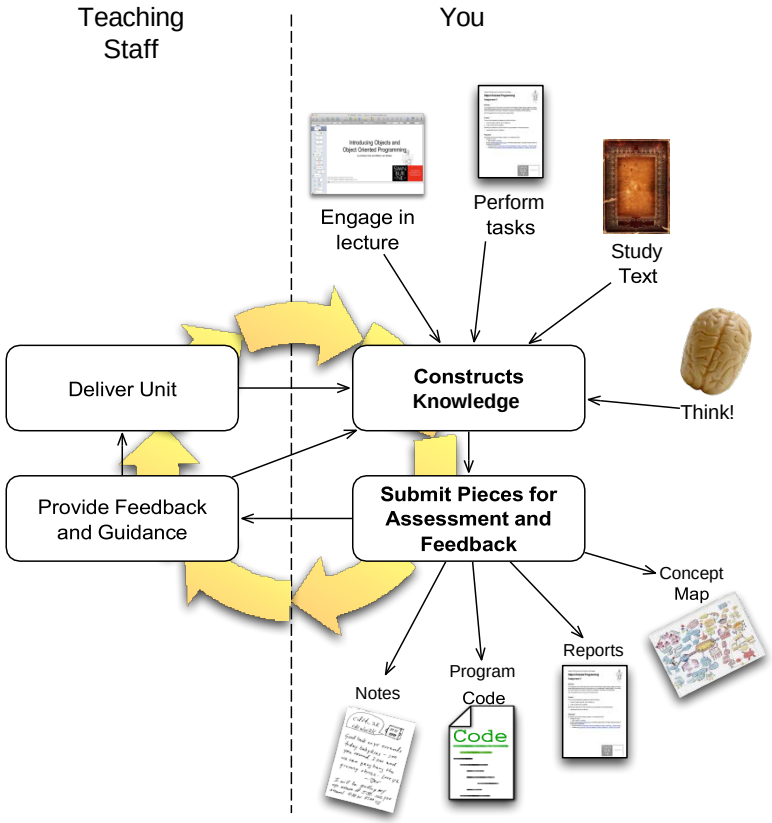
Overview

Results in this unit are determined from a portfolio of work that you submit at the end of the unit. This is designed to help you achieve the best result possible, with lots of support to help you learn. This document outlines the portfolio assessment process, the format of the portfolio, and its assessment criteria.

Learning and the Portfolio Assessment Process

Effective learning requires you to actively try to understand the topics being covered. The tasks that we provide you can help you develop your understanding, but do require you to think about how the tasks relate to the underlying concepts and practices. One way that we can assist you with this task is to provide you with feedback on your progress, and to answer your questions about aspects you are unsure of.

With portfolio assessment you have many opportunities to receive feedback. Each week you will have the opportunity to submit work to your tutor for feedback. They will look at your work and give you advice that you can use to improve your understanding, and the quality of the work you submit in your final portfolio.



As shown in the image above, this process is iterative. Each week we will help you learn by introducing topics, working through tasks with you, providing resources and tasks you can complete (Deliver Unit). Using these resources you can develop your understanding. In this process you will create pieces of work that demonstrate your understanding. You can submit these to us so that we can help ensure that you have understood each topic correctly. The feedback we provide should then help you develop your understanding, while also providing us with ideas we can use to improve the way the unit is delivered.

At the end of the semester you can select your best pieces of work to submit in your portfolio. Your grade is then determined from what you have submitted - which should have incorporated all of the feedback you have received throughout the teaching period.

Portfolio Format

In this unit the portfolio you submit needs to contain the following items:

1. A **Learning Summary Report** that reflects on what you have learnt, and shows how your portfolio addresses the unit's learning outcomes and its assessment criteria.

2. A number of **pieces of work** that provide evidence that you have met all of the unit's learning outcomes. As a minimum this will include:

   a. Your answers to the Semester Test

   b. A selection of answers, code, and reports from the weekly tasks

   c. A program of your own design if you are aiming for a Distinction grade (or above)

   d. A research report if you are aiming for a High Distinction

Each of these is explained in the following sections.

Learning Summary Report

Your *Learning Summary Report* will consist of two parts: a self-assessment and a reflection. The self-assessment indicates how your portfolio aligns with the assessment criteria from Table 1. Your reflection is a personal comment on what you have learnt in this unit, and how your knowledge and skills have developed.

This report should be around 5 to 10 pages in length: one page for an overview, one page overview of the pieces you have included, three or four pages aligning your evidence to the unit's learning outcomes, and two or three pages for your reflections.

The reflective section of the learning summary report should,

- Elaborate on aspects that your found challenging/inspiring/interesting or different to your expectations and why?
- Include the approach that you used to solve problems and how what you have learnt in the unit helped.
- Compare and contrast new learning/information within the context of prior learning (as well as any previous assumptions or expectations – with a discussion on how these have either been reinforced or changed).
- Present areas that you have personally explored beyond the expectations of the unit, as well as indication of the areas where you plan to learn further on your own and why?
- Highlight ideas/techniques/principles that can be generalised and used in other areas or for further learning (with a brief discussion to support the claim).

Note: The reflective section should not be a direct summary of the content covered in the unit.

A template will be provided to help you format your Learning Summary Report. Please check blackboard for this template.

Semester Test

You must **pass** the Semester Test in order to pass this unit of study, and you will be provided with another opportunity to do so. The result of the first test will be marked as a "**Pass**" or "**Resit**".

It is a hurdle requirement of this unit that you must have a Pass grade for the Semester Test in your final portfolio. A test marked as Re-sit must be re-sat during the semester; see the unit outline for details of opportunities to re-sit this test. The grades for the final re-sit will be either "**Pass**" or "**Fail**".

Weekly Tasks

Each week there will be a number of tasks that you are required to complete. These tasks are designed to help you understand the material presented, and to give you a chance to apply the concepts studied. Your portfolio must include work from these weekly tasks that demonstrates you have successfully mastered all of the unit's learning outcomes.

Custom Program (for Distinction and higher grades)

In order to achieve a Distinction grade, or higher, your portfolio must demonstrate your ability to apply the concepts learnt to the design and development of a custom program. In collaboration with the teaching staff, you must propose a program that you will design and implement using the techniques learnt. Your submission will include the code you have developed for your program, along with a design report.

The Design Report must capture the structure and key elements of a program. It must contain text and appropriate diagrams to communicate both the static structure and dynamic behaviour of your program. It should be written for knowledgeable developers. Focus the report on clearly communicating the core aspects of the solution's structure.

Research Report (for High Distinction grades)

In order to achieve a High Distinction grade your portfolio must demonstrate your ability to research a question related to the unit's concepts, and to document your findings in a research report.

A Research Report aims to communicate your research undertaking, the results, and their significance. It is expected to be around 6 pages in length, and divided into sections including an Abstract, Introduction, Method, Results, Discussion, Conclusion and References, with at least 4 to 5 relevant references. The report should also make use of figures and/or tables to help convey its message.

Assessment Criteria by Grade

Pass Criteria

Required Pieces	• Learning Summary Report • Weekly Tasks — demonstrating coverage of all unit learning outcomes • Semester Test — to a pass standard
Submission	• Digital portfolio to be uploaded onto the Blackboard • Due first week of exam period — see unit outline for date.

To be eligible for a Pass grades your portfolio must demonstrate the following.

- The Semester Test must be completed to a pass standard.

- Over 50% of the Pass Tasks are signed off as Complete.
- Weekly tasks must demonstrate sufficient coverage of all unit learning outcomes as outlined in the following tables.

The following tables outline the minimum expected standard to demonstrate sufficient coverage of the unit learning outcomes.

Unit Learning Outcome 1: Explain the principles of the object oriented programming paradigm specifically including abstraction, encapsulation, inheritance and polymorphism	
Pass Requirement	Include an explanation of the indicated principles and relate these to the programs completed in the weekly tasks.

Unit Learning Outcome 2: Use an object oriented programming language, and associated class libraries, to develop object oriented programs	
Pass Requirement	Include a number of programs that make use of classes from the class libraries of the languages used (both C# and C++) to implement the weekly tasks.

Unit Learning Outcome 3: Design, develop, test, and debug programs using object oriented principles in conjuncture with an integrated development environment	
Pass Requirement	Include a number of programs designed, developed, and tested as part of the weekly tasks, including screenshots demonstrating use of an IDE.

Unit Learning Outcome 4: Construct appropriate diagrams and textual descriptions to communicate the static structure and dynamic behaviour of an object oriented solution	
Pass Requirement	Include UML class and sequence diagrams from the weekly tasks

Unit Learning Outcome 5: Describe and explain the factors that contribute to a good object oriented solution, reflecting on your own experiences and drawing upon accepted good practices.	
Pass Requirement	Include a discussion of good practice in relation to object oriented programming.

Credit Criteria

Required Pieces	• Learning Summary Report • All Weekly Tasks signed off • Semester Test — to a pass standard
Submission	• Digital portfolio to be uploaded onto the Blackboard • Due first week of exam period — see unit outline for date.

To be eligible for a Credit grade your portfolio must demonstrate the following.

- The Semester Test must be completed to a pass standard.
- 100% of the Pass Tasks are signed off as Complete.
- All Credit Tasks has been attempted.
- Pass and Credit tasks must demonstrate good coverage of all unit learning outcomes at the credit requirement level as outlined in the following tables.

Unit Learning Outcome 1: Explain the principles of the object oriented programming paradigm specifically including abstraction, encapsulation, inheritance and polymorphism	
Credit Requirement	Explanation includes a concept map (or concept maps) that clearly communicate a good understanding of the principles associated with object oriented programming

Unit Learning Outcome 2: Use an object oriented programming language, and associated class libraries, to develop object oriented programs	
Credit Requirement	Include a number of programs that make use of classes from the class libraries of the languages used (both C# and C++) to implement the pass and credit tasks.

Unit Learning Outcome 3: Design, develop, test, and debug programs using object oriented principles in conjuncture with an integrated development environment	
Credit Requirement	Include a number of programs designed, developed, and tested as part of the weekly pass and credit tasks, including screenshots demonstrating use of an IDE.

Unit Learning Outcome 4: Construct appropriate diagrams and textual descriptions to communicate the static structure and dynamic behaviour of an object oriented solution	
Credit Requirement	Include UML class and sequence diagrams from the weekly pass and credit

	tasks.

Unit Learning Outcome 5: Describe and explain the factors that contribute to a good object oriented solution, reflecting on your own experiences and drawing upon accepted good practices.	
Credit Requirement	Include a discussion of good practice in relation to object oriented programming, relate this to the programs developed for the pass and credit tasks.

Distinction Criteria

Required Pieces	• Learning Summary Report • Weekly Tasks — demonstrating coverage of all unit learning outcomes • Semester Test — to a pass standard • Custom Program — meeting distinction standards • Design Report — meeting distinction standards
Submission	• Digital portfolio to be uploaded onto the Blackboard • Portfolio interview during exam period — see unit outline for date • Due at portfolio interview

To be eligible for a Distinction grade your portfolio must demonstrate the following.

- All of the Credit criteria.
- Distinction tasks must have been started, and you have completed a Custom Program and Design report to the distinction standard.
- Reflections in Learning Summary Report must discuss how the unit's concepts related to the design and implementation of your program. This reflection should indicate aspects of the design or implementation you are particularly pleased with, and the aspects that you could improve upon.
- Must attend a Distinction interview to discuss program with assessment panel.

Custom Project - Code Quality	
Distinction Requirement	Your program must include some form of logic that operates on the data within the program. To achieve this your program must: ▪ do more than just collect and display data to the user. ▪ be substantially your own design and implementation. You must demonstrate the use of the following programming aspects: ▪ Responsibility driven design with classes that perform clear roles, and appropriate allocation of responsibilities ▪ Use of abstraction, encapsulation, inheritance, and polymorphism to

	appropriately demonstrate the principles of object oriented programming ▪ Unit testing - your code must include appropriate unit tests Your code must meet good programming practices: ▪ Artefacts should be named appropriately. ▪ Code should include comments to document its structure. ▪ Indentation must help document program structure.

Custom Project - Design Report	
Distinction Requirement	Your design report must include the following: ▪ An overview of the program's goals ▪ A UML class diagram illustrating how the core aspects of the program fit together. ▪ At least one UML sequence diagram showing how components interact to fulfil core program interactions ▪ Associated explanations

Note: Aspects of the design report for your custom program can be used to meet the credit requirements.

High Distinction Criteria

Required Pieces	• Learning Summary Report • Weekly Tasks — demonstrating coverage of all unit learning outcomes • Semester Test — to a pass standard • Custom Program — meeting high distinction standards • Design Report — meeting high distinction standards • Research Report — meeting high distinction standards • Data collected for research report
Submission	• Digital portfolio to be uploaded onto the Blackboard • Portfolio interview during exam period — see unit outline for date. • Due at portfolio interview

To be eligible for a High Distinction grade your portfolio must demonstrate the following.

- All of the Distinction criteria.
- 100% of the Distinction Tasks are signed off as Complete.
- High Distinction tasks must have been started, and you have completed a Research Project and an associated Research Report.
- Your Custom Program and Design report meet the High Distinction standard (below).
- Reflections in Learning Summary Report must discuss how the unit's concepts related to the design and implementation of your program and research. This reflection should indicate

aspects of the design, implementation, and/or research you are particularly pleased with, and the aspects that you could improve upon.

Custom Project - Code Quality	
High Distinction Requirement	Your program must demonstrate elegant use of object oriented programming concepts in meeting its goals.

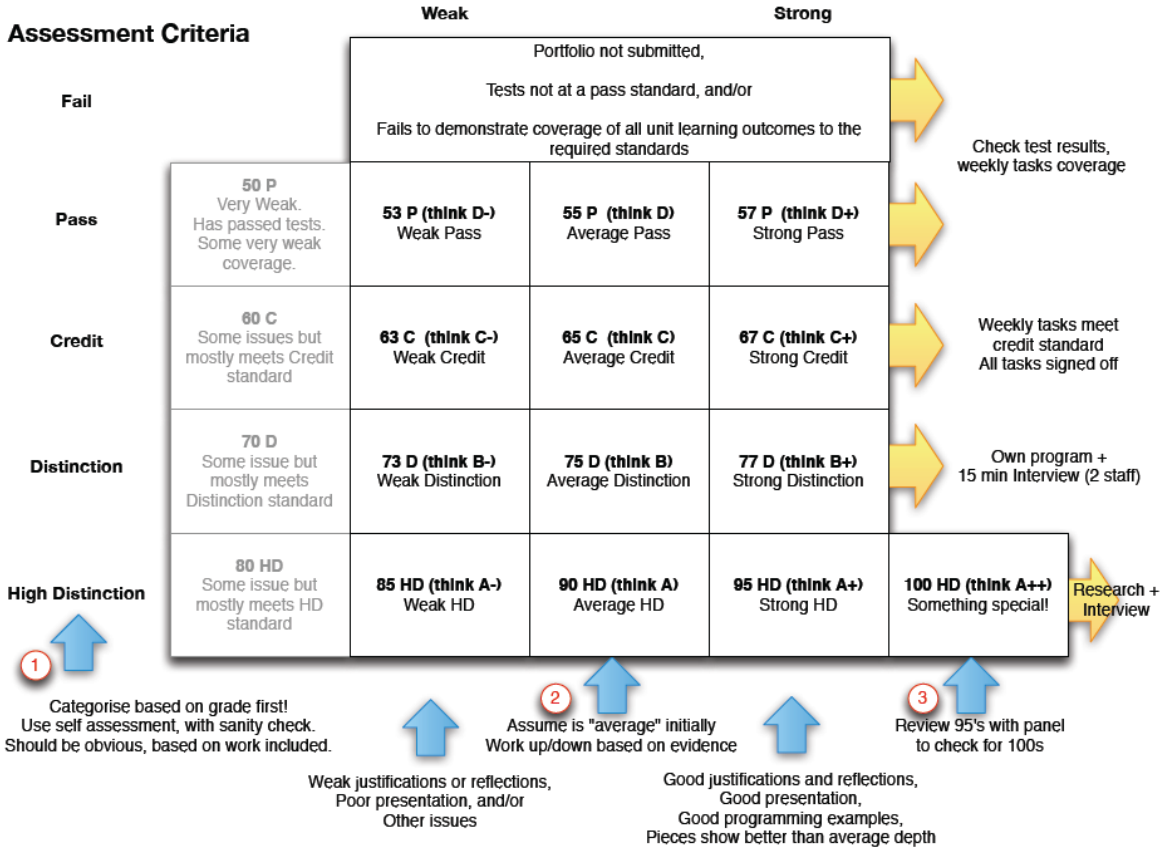
Custom Project – Design Report	
High Distinction Requirement	Your design report must demonstrate good communication skills, and present a well thought out program design.

Research Report	
High Distinction Requirement	The research report must: ▪ Aim to answer a question related to the unit's learning outcomes that have been accepted by the unit convenor. ▪ Propose a method by which the question can be answered. ▪ Demonstrate that the method was carried out, and show appropriate summaries of the data collected. ▪ Present an analysis of the data showing insights into the underlying concepts. ▪ Discuss findings and their relevance to software development.

Assessment Process

The teaching staff will assess portfolios using the process shown in in the following figure. The process includes the following steps:

1. Initially your portfolio will be compared with the grade criteria. Your work will then be assigned a grade from Fail through to High Distinction based on the criteria it meets. The self-assessment from your Learning Summary Report will be used to guide this process.
2. Your portfolio will be assumed to be "average", and the teaching staff will look for evidence that you should be awarded a higher or lower result within the grade. The staff will use your Learning Summary Report and the pieces you include to determine which result you will be awarded.
3. All portfolios that receive a result of 95 will be re-examined by the unit panel to determine if any deserve to be awarded a result of 100.



Summary of Assessment Criteria

The following table shows the grades that will be awarded for successful completion of this unit. If the Pass criteria are not met satisfactorily, then the final result will be between 0 and 44, resulting in a fail result for this unit. Where a portfolio is not submitted you will be assigned a grade between 0N and 44N based upon the amount of work marked as complete.

Pass				Credit			Distinction			High Distinction			
(D−) 50	(D−) 53	(D) 55	(D+) 57	(C−) 63	(C) 65	(C+) 67	(B−) 73	(B) 75	(B+) 77	(A−) 85	(A) 90	(A+) 95	(A∗) 100
Portfolio includes: ▪ Learning Summary Report. ▪ Semester Test at a Pass standard ▪ Selection of Pass tasks to meet the stated pass requirements. ▪ More than 50% of Pass tasks are signed off as Complete				In addition to including the material required for Pass, the portfolio includes: ▪ Selection of Pass and Credit tasks to meet the stated credit requirements. ▪ All Credit Tasks signed off as Complete			In addition to including the material required for Credit, the portfolio includes: ▪ All Credit Tasks signed off as Complete ▪ Code for your Custom Program ▪ Design report for your Custom Program			In addition to including the material required for Distinction, the portfolio includes: ▪ Research report ▪ Data collected from performing the research Higher grades will be awarded where the research does a good job of demonstrating analysis and providing a clear link back to the principles of object-oriented programming. A good report will provide the reader with insights about programming in general, as well as details specific to the question you are answering.			
Pass tasks and Semester Test				Pass and Credit tasks			Pass and Credit tasks, and Custom Program			Pass and Credit tasks, Custom Program and Research Report			