School of Information and Physical Sciences

INFT2012: Application Programming

Singapore PSB
Trimester 3 - 2023 (Singapore)

COURSE OUTLINE

OVERVIEW

Course Description

Continues the development of programming concepts and skills that was begun in INFT1004 Introduction to Programming. A different programming language is used, broadening the students' experience. Students' understanding of problem solving and of program design, implementation, and testing will be reinforced and extended, with the development of applications more advanced than those in INFT1004.

Assumed Knowledge

INFT1004 or SENG1110

Contact Hours

Singapore PSB
Computer Lab
Face to Face On Campus
2 hour(s) per week(s) for Full Term starting Week 2

Lecture
Face to Face On Campus
2 hour(s) per week(s) for Full Term starting Week 1

Unit Weighting

10

Workload

Students are required to spend on average 120-140 hours of effort (contact and non-contact) including assessments per 10 unit course.

CONTACTS

Course Coordinator

Singapore PSB
Associate Professor Raymond Chiong
Raymond.Chiong@newcastle.edu.au
+61 2 4921 7367
Consultation: By email only

Teaching Staff

Other teaching staff will be advised on the course Canvas site.

School Office

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SYLLABUS

Course Content

1. Programming methodologies
2. Program design and development tools
3. Programming language syntax
4. Problem solving techniques

Course Learning Outcomes

On successful completion of this course, students will be able to:

1. Understand the role of computer programming in information technology applications for solving problems within organisations;

2. Select the appropriate language, and algorithm for a given task;

3. Create programming applications in a different language from that used in INFT1004.

4. Demonstrate advanced application programming skills.

Course Materials

Lecture Materials:

- Lecture materials will be available on the course Canvas site.

Other Resources:

- Visual Studio software will be available in the labs, and students will be advised how to acquire the software free for their own computers.

Recommended Text:

- C# for Students, Douglas Bell & Mike Parr, Revised Edition, Addison Wesley, 2009
  Students are not required to acquire a textbook, but this is a good choice for students who prefer to work from a book.

COMPULSORY REQUIREMENTS

In order to pass this course, each student must complete ALL of the following compulsory requirements:

Course Assessment Requirements:

- Assessment 4 - Formal Examination: Minimum Grade / Mark Requirement - Students must obtain a specified minimum grade / mark in this assessment item to pass the course. Students whose overall mark in the course is 50% or more, but who score less than 40% in the compulsory item and thus fail to demonstrate the required proficiency, will be awarded a Criterion Fail grade, which will show as FF on their formal transcript. However, students in this position who have scored at least 25% in the compulsory assessment item will be allowed to undertake a supplementary 'capped' assessment in which they can score at most 50% of the possible mark for that item.

ASSESSMENTS

This course has 4 assessments. Each assessment is described in more detail in the sections below.

	Assessment Name	Due Date	Involvement	Weighting	Learning Outcomes
1	Quiz	27th September (Week 4) in lab class	Individual	10%	2, 3, 4
2	Practical programming test	11th October (Week 6) in lab class	Individual	20%	1, 2, 3, 4
3	Programming assignment	End of week 12 (Friday, 11:59pm)	Group	30%	1, 2, 3, 4
4	Final Examination*	As timetabled in the formal examination period	Individual	40%	1, 2, 3, 4

* This assessment has a compulsory requirement.

Late Submissions The mark for an assessment item submitted after the designated time on the due date, without an approved extension of time, will be reduced by 10% of the possible maximum mark for that assessment item for each day or part day that the assessment item is late. Note: this applies equally to week and weekend days.

Assessment 1 - Quiz

Assessment Type Quiz
Purpose Revision and feedback to students
Description A class quiz intended to provide the student with summative feedback on learning. The quiz aims to highlight areas of assumed knowledge that may be incomplete and may stimulate discussion with teaching staff. The quiz comes early in the course and covers aspects of programming that are assumed knowledge for this course. Students who do poorly in this quiz should seriously consider not continuing with INFT2012
Weighting 10%
Length 30 minutes
Due Date 27th September (Week 4) in lab class
Submission Method In Class/Online
Assessment Criteria The quiz will be multiple-choice, so will be assessed according to the number of questions answered correctly.
Return Method Not Returned
Feedback Provided No Feedback. Marks will be available shortly after the quiz; individual feedback will not be provided.

Assessment 2 - Practical programming test

Assessment Type Written Assignment
Purpose The test will provide the students with early feedback on their learning, highlighting any areas of concern and possibly stimulating discussion with tutors and lecturers.
Description The practical programming test consists of a discrete programming task which students are required to complete in the lab class.

Weighting	20%
Length	1.5 hours
Due Date	11th October (Week 6) in lab class
Submission Method	In Class Online
Assessment Criteria	Correctness, functionality, and style of code
Return Method	Not Returned
Feedback Provided	In Class. Feedback once all the tests have been marked

Assessment 3 - Programming assignment

Assessment Type	Written Assignment
Description	The programming assignment permits students to develop a comprehensive program over the space of several weeks, and to thoroughly test and document it. It also gives students the opportunity to develop software in a small group (specifically, a pair).
Weighting	30%
Due Date	End of week 12 (Friday, 11:59pm)
Submission Method	Online
Assessment Criteria	Correctness, functionality, and style of code, and completeness of accompanying journal
Return Method	Not Returned
Feedback Provided	In Class. Feedback once the assignments have all been marked

Assessment 4 - Final Examination

Assessment Type	Formal Examination
Description	The final formal examination is designed to test the individual students' knowledge of the course material and their ability to describe, analyse, and hypothesise from this material.
Weighting	40%
Compulsory Requirements	Minimum Grade / Mark Requirement - Students must obtain a specified minimum grade / mark in this assessment item to pass the course.
Length	2 hours
Due Date	As timetabled in formal examination period
Submission Method	Formal Exam
Assessment Criteria	Correctness and completeness of answers
Return Method	Not Returned
Feedback Provided	No Feedback
Opportunity to Reattempt	Students WILL be given the opportunity to reattempt this assessment. Refer to course outline for details.

ADDITIONAL INFORMATION

Grading Scheme

This course is graded as follows:

Range of Marks	Grade	Description
85-100	High Distinction (HD)	Outstanding standard indicating comprehensive knowledge and understanding of the relevant materials; demonstration of an outstanding level of academic achievement; mastery of skills*; and achievement of all assessment objectives.
75-84	Distinction (D)	Excellent standard indicating a very high level of knowledge and understanding of the relevant materials; demonstration of a very high level of academic ability; sound development of skills*; and achievement of all assessment objectives.
65-74	Credit (C)	Good standard indicating a high level of knowledge and understanding of the relevant materials; demonstration of a high level of academic achievement; reasonable development of skills*; and achievement of all learning outcomes.
50-64	Pass (P)	Satisfactory standard indicating an adequate knowledge and understanding of the relevant materials; demonstration of an adequate level of academic achievement; satisfactory development of skills*; and achievement of all learning outcomes.

0-49	Fail (FF)	Failure to satisfactorily achieve learning outcomes. If all compulsory course components are not completed the mark will be zero. A fail grade may also be awarded following disciplinary action.

*Skills are those identified for the purposes of assessment task(s).

Communication Methods

Communication methods used in this course include:

- Canvas Course Site: Students will receive communications via the posting of content or announcements on the Canvas course site.
- Email: Students will receive communications via their student email account.
- Face to Face: Communication will be provided via face to face meetings or supervision

Course Evaluation

Each year feedback is sought from students and other stakeholders about the courses offered in the University for the purposes of identifying areas of excellence and potential improvement.

Oral Interviews (Vivas)

As part of the evaluation process of any assessment item in this course an oral examination (viva) may be conducted. The purpose of the oral examination is to verify the authorship of the material submitted in response to the assessment task. The oral examination will be conducted in accordance with the principles set out in the Oral Examination (viva) Procedure. In cases where the oral examination reveals the assessment item may not be the student's own work the case will be dealt with under the Student Conduct Rule.

Academic Misconduct

All students are required to meet the academic integrity standards of the University. These standards reinforce the importance of integrity and honesty in an academic environment. Academic Integrity policies apply to all students of the University in all modes of study and in all locations. For the Student Academic Integrity Policy, refer to https://policies.newcastle.edu.au/document/view-current.php?id=35 .

Adverse Circumstances

The University acknowledges the right of students to seek consideration for the impact of allowable adverse circumstances that may affect their performance in assessment item(s). Applications for special consideration due to adverse circumstances will be made using the online Adverse Circumstances system where:

1. the assessment item is a major assessment item; or
2. the assessment item is a minor assessment item and the Course Co-ordinator has specified in the Course Outline that students may apply the online Adverse Circumstances system;
3. you are requesting a change of placement; or
4. the course has a compulsory attendance requirement.

Before applying you must refer to the Adverse Circumstance Affecting Assessment Items Procedure available at:
https://policies.newcastle.edu.au/document/view-current.php?id=236

Important Policy Information

The Help button in the Canvas Navigation menu contains helpful information for using the Learning Management System. Students should familiarise themselves with the policies and procedures at https://www.newcastle.edu.au/current-students/no-room-for/policies-and-procedures that support a safe and respectful environment at the University.

	University of Newcastle Bachelor of Information Technology Graduate Profile Statement	Taught	Practised	Assessed	Level of capability
1	Demonstrate a comprehensive understanding of the discipline of information technologies with an emphasis on net-centric applications, information management, and user requirements for ethical professional practice.	X	X	X	1
2	Apply critical reasoning and systems thinking to understand and support the operation and constraints of contemporary enterprises and their dynamic environment.	X	X	X	1
3	Work independently and collaboratively to locate, manage and organise information and resources and apply evidence-based methodologies to create, modify and maintain designs and design solutions.	X	X	X	4
4	Use creativity, problem solving skills, project management skills and technical expertise to analyse, interpret, evaluate and generate solutions to complex technical and organisational problems.	X	X	X	4
5	Demonstrate professional judgement and responsibility by communicating information technology principles, practices, standards to specialist and non-specialist audience clearly and persuasively.	X	X	X	1

This course outline was approved by the Head of School. No alteration of this course outline is permitted without Head of School approval. If a change is approved, students will be notified and an amended course outline will be provided in the same manner as the original.