Introduction to Computer Program Design - Course Outline
COMP 102: 2013 Trimester 1

This document sets out the workload and assessment requirements for COMP 102. It also provides contact information for staff involved in the course. If the contents of this document are altered during the course, you will be advised of the change by an announcement in lectures and/or on the course web site. A printed copy of this document is held in the School Office.

COMP 102 is about the design and construction of computer programs. The course forms a basis for later courses in Computer Science and Engineering, but will also be useful for students who want to learn computer programming but do not intend to study this subject at higher levels.

Learning Objectives

By the end of the course, students should be able to read, comprehend, design, and construct small programs using the Java programming language and an object-oriented design approach.

This objective contributes in particular to the BE graduate attributes 3(b) and 3(f) and the BSc (COMP) graduate attributes 1 and 2.

The course involves a substantial practical component in which you will construct a range of programs to develop your understanding of programming and program design. Many of the assignments involve constructing a simple version of a useful computer application.

The course does not assume any prior knowledge of programming. Students who have done some programming will find their prior knowledge helpful; students who have done a lot of programming may be permitted to skip the course and should consult the school.

Course Organisation details

Dates, Times, and Rooms: Lectures, Tutorials, and Laboratories

COMP 102 is a trimester 1 course. The trimester starts on 4 Mar. The examination period at the end of the course is 14 June - 3 Jul,

There is a weekly timetable on the course website showing the times of the lectures, labs, and tutorial.

Lectures for COMP 102 are:
*   Tue, Wed, Fri, 12:00 - 12:50 in Maclaurin Lecture Theatre 103 (MC LT103)

A schedule of lecture topics, readings, and assignment due dates is available online. Copies of the lecture slides will be distributed at the lecture, but will also be available via the schedule page.

Each student should attend one of the 2 hour weekly lab sessions which will beheld in Cotton 242 and 243 on
*   Wednesdays (1-3, 3-5, 5-7),
*   Thursdays (9-11, 11-1, 1-3, 3-5), and
*   Fridays (10-12, 1-3)

We will run a special lab session for Design and Architecture students on the Te Aro campus,
*   Wednesday 2:40-4:40, in VS3.19.

*   You must sign up for a lab stream on the web at https://signups.victoria.ac.nz/ (also linked from the course home page).

To work on your assignments beyond the scheduled lab times, you may use any of the ECS computing labs on the second floor of Cotton at any time, unless they are booked for another class. Design and Architecture students may also use VS3.19 when it is not booked for other classes. You may also use your own computer for the assignments outside the scheduled lab sessions. (The course web site has resources to enable you to do this.)

For students who want to go over material again or are having difficulty getting on top of the ideas in the course, there will be an optional tutorial (run by the lecturer) on
*   Mondays at 11 noon in Murphy 632

The tutorial will not start until the third week.

Withdrawal

The last date for withdrawal from COMP 102 with entitlement to a refund of tuition fees isFri 15 March. The last date for withdrawal without being regarded as having failed the course is Fri 17 May -- though later withdrawals may be approved by the Associate Dean in special circumstances.

Textbook and other Materials

The textbook for COMP 102 is: *Java Foundations: Introduction to Program Design and Data Structures,* by Lewis, DePasquale, and Chase, 2nd or 3rd Edition, published by Pearson (2010: ISBN 0132128810, 2013: 0133370461).

Second-hand copies of the previous textbook will also be acceptable: *Java Software Solutions: Foundations of Program Design, _6th Edition*, by Lewis and Loftus, published by Addison-Wesley, 2008.

Note that course does not follow the textbook closely; the textbook is intended to be a resource and to provide you with explanations that will complement the lectures. The assigned textbook matches the course better than any other Java textbooks that we have seen, but other Java textbooks could also be a useful reference if you already have them. Note that the assigned textbook is also the current textbook for COMP103.

Students are not required to have their own computers, but resources are provided to make it easy for students work on the programming assignments on their own computers.

Workload

In order to maintain satisfactory progress in COMP 102, you should spend at least 10 hours per week on this course. A plausible and approximate breakdown for these hours would be:
- Lectures (and optional tutorial): 3-4 hours
- Reading and preparation: 1 hour
- Lab Session 2 hours
- Further work on the assignment outside the lab session: 3-4 hours

School and Staff

The School of Engineering and Computer Science is located on levels 2 and 3 of the Cotton building and level 2 of the Alan McDiarmid building.

The undergraduate computing labs are mostly on level 2, though one lab is on level 1. TheSchool office is on level 3: Cotton 358.The head of the School is Professor Dale Carnegie, and the Dean of Engineering is Professor John Hine.

The course organiser and lecturer for COMP 102 is
- **Dr Peter Andreae ("Pondy")**
    - Cotton 222
    - +64 4 463 5834
    - Peter.Andreae@ecs.vuw.ac.nz (or pondy@ecs.vuw.ac.nz)

The Senior Tutor is .
- Siva Dorairaj
    - Cotton 343
    - +64 4 463 5936
    - Siva.Dorairaj@ecs.vuw.ac.nz

Announcements and Communication

The main means of communication outside of lecture will be the COMP 102 web area at http://ecs.victoria.ac.nz/Courses/COMP102_2013T1/. There you will find, among other things, this document, the course schedule (with links to copies of the lecture slides), assignment handouts, the COMP 102 Forum, and the assignment submission system. The forum is a web-based bulletin board system. Questions, comments, and responses can be posted to the forum. Staff will read the forum posts and will frequently respond to them also.You should make a bookmark to the course home page because you will need to access it frequently.

Assignments and Practical Work.

There will be 10 weekly lab assignments. The course web site has a page listing the assignments, due dates, and resources. The lab assignments will be described in handouts that will be distributed at the Wednesday lectures, and will also be available from the website.

The first lab assignment is an introduction to using the computers in our lab facilities and the software that you will be using throughout the course. The other weekly assignments consist primarily of programming tasks. The assignments are a critical learning component of the course. They address most of the concepts and techniques that are introduced in the lectures, and they are the most important way of coming to grips with the material in the course. Due dates and how to submit your answers to the assignments is addressed below.

The assignments (except the first) are intended to take about 5 hours per week, but the actual time required will vary considerably from student to student. The scheduled lab sessions will help you start the assignments, but **you will need to spend more time outside the scheduled sessions**. There will be scheduled help-desk times when a tutor is available to answer individual questions about the assignments, and we will also provide on-line helpdesk assistance.

Most of the assignments contain five parts:

- an **Exercises** part, to be completed in the lab, consisting of very small programs to ensure you understand how to use the key new programming constructs for the week. You will generally work on these in small groups, to get to know other students who you can study with and to develop your collaboration skills.
- a **Core** part, which you should at least start in the lab, and involves constructing programs using the basic concepts and constructs,
- a **Completion** part, which extends the Core part and involves more difficult thinking and may cover additional concepts and constructs,
- a **Challenge** part, which usually involves substantially more difficult programming and problem solving
- a **Reflection** part, which involves thinking and writing about your experience of the assignment.

The Exercises part is not assessed, though you need to do it. The Core part will be worth around 60% of the assignment,the Reflection part will be worth 10%, and the Completion and Challenge parts are the other 30%.The programs will be marked primarily on whether they work correctly, but there will be some weighting for good design.

We expect all students to be able to complete most of the Core and Reflection parts, and most to at least attempt the Completion part.The Challenge components are intended only for students with more advanced programming skills. If it takes you more than about 5 hours to complete the Core part of an assignment, we suggest that you should not spend additional time on the Completion or Challenge part. It is probably better to spend the additional time on the Reflection part, reading the textbook, going over your notes from the lectures, going to the tutorial, or working on questions and problems with other students.

Assignment Submission

Each assignment (except 5 and 10) will be due at 11am on the Wednesday of the first full week after the assignment was handed out. Assignment 5 will be due 1 May (right after the mid-trimester break) and assignment 10 will be due 9 Jun (the day before study week starts).

When you have completed them, the assignments should be submitted via the online submission system.This means that you can submit assignments from the ECS labs or from a computer at home (or anywhere on the internet). You may resubmit as many times as you wish, *but the most recent submission of a file will always overwrite previous submissions* . (You'll learn about how to submit assignments using a web browser in assignment 1).

Assignment Marking and Late Penalties

All the assignments are important for your learning. All but the first assignment will be marked, and will together contribute a total of 20% to your final grade.

We will attempt to mark the assignments within one week of submission. Your marks and comments on your submission will be accessible via the web: see the links on the Assignments page.

The **mandatory course requirement** is that you must submit reasonable attempts for at least eight of lab assignments 2 - 10. We will check that you have met this requirement by looking at the electronic submissions. If you miss more than one of the assignments, contact the lecturer or the Senior Tutor as soon as possible. We will have additional "make-up" assignments for students who are not meeting the the mandatory requirements.

Model solutions to the assignments are generally posted shortly after the assignment deadline (usually about 1 hour later), so that you can review and assess your own work, and also build on the model solutions for the next assignment. Comparing your work to the provided solutions is an important part of the learning. This means that assignments submitted after the solutions are posted will **generally not be marked,** unless you have made prior arrangements on the basis of exceptional circumstances with the lecturer or senior tutor.

Group Work

In COMP 102 (though not in most other Computer Science courses) you are permitted and encouraged to work on the the assignments in pairs. As long as you both include the name of the person you worked with on your assignment, you and your partner may each submit the same answer for the Core and Completion parts. You must do the Challenge, and Reflection parts of the assignment yourself, and you may not work on shared code in groups of more than two. Make sure you read the section on plagiarism below.

You may choose a partner yourself, and you do not have to have the same partner (or any partner) for all the assignments. When choosing a partner, find someone with a similar level of confidence as yourself - working with a partner who is much more confident about programming than you will probably not help you to learn the material.

Getting Help: help desk and online help.

To help you when you are having difficulties with the assignments, We have tutors able to respond to queries via an on-line helpdesk. The online tutor will be responding to queries throughout the week, but we cannot guarantee an immediate reply. We also intend to have a tutor in one of the labs at certain times. When they have been determined, the times will be announced and posted on the course web site. .

We strongly advise you **NOT** to leave the assignments to the last minute, since there may not be any help available near the submission deadline.

Tests and Exams

There will be two 45 minute in-term tests worth 15% each, held in the evenings (probably 5-6pm - time to be confirmed) on

- Mon, 8 April and
- Tue, 14 May.

You should contact the course organiser or the senior tutor as early as possible if you are not going to be able to attend a test at the scheduled time, or if you missed a test.

The timetable for final examinations will be available from the University web site at some time during the trimester, and will also be posted on a notice board outside the faculty office. The final examination will be three hours long. No computers, programmable calculators or similar devices will be allowed in the test or final examination. Paper non-English to English dictionaries will be permitted.

All the assessment (assignments, tests, and exam) will address the learning objective of the course - reading, comprehending, designing, and writing programs in an object-oriented style. The tests and exam will assess all the material covered by the course up to the time of the test/exam.

The tests and the exam will be written on paper, not on the computer. While much of your learning will happen while working on the assignments at a computer, it is important to also prepare for the tests and exam by working on problems on paper. All tests and exams from past years are available from the Test/Exam Archive on the website; you should use these to help you study for this year's tests and exam.

Grade Computation

Your grade for COMP 102will be determined based on the following assessment weightings:

Item	Weight
Assignments 2-10	20%
Test 1 (Apr 8)	15%
Test 2 (May 14)	15%
Final Examination	50%

If you get a higher mark in the exam than you did in a test, then we will boost your test mark up to your exam mark - we do not want to penalise students who took longer to get on top of the material, but got there in the end, as demonstrated in their exam.

Bachelor of Engineering students should be aware that copies of their assessed work may be retained for inspection by accreditation panel.

Mandatory Requirements

The practical skills involved in being able to write and debug programs are an essential component of COMP 102, so there is a mandatory requirement that you attempt the practical work. To fulfill this requirement you must submit reasonable attempts for at least 8 of the lab assignments 2 through 10. Students who do not meet the mandatory requirements will receive a failing grade, even if they have high marks on the tests and exam. Students who have missed assignments should contact the lecturer as soon as possible to make alternative arrangements to meet the mandatory requirements.

Passing COMP 102

To pass COMP 102, a student must satisfy the mandatory requirements and gain at least a **C** grade overall.

Academic Integrity and Plagiarism.

Academic integrity means that university staff and students, in their teaching and learning are expected to treat others honestly, fairly and with respect at all times. It is not acceptable to mistreat academic, intellectual or creative work that has been done by other people by representing it as your own original work.

Academic integrity is important because it is the core value on which the University's learning, teaching and research activities are based. Victoria University's reputation for academic integrity adds value to your qualification.

The University defines plagiarism as presenting someone else's work as if it were your own, whether you mean to or not. "Someone else's work" means anything that is not your own idea. Even if it is presented in your own style, you must acknowledge your sources fully and appropriately. This includes:

- Material from books, journals or any other printed source

- The work of other students or staff
- Information from the internet
- Software programs and other electronic material
- Designs and ideas
- The organisation or structuring of any such material

Find out more about plagiarism, how to avoid it and penalties, on the University's website: http://www.victoria.ac.nz/home/study/plagiarism

The School policy on Plagiarism is available from the course home page. Please read it. We will penalise anyone we find plagiarising, whether from students currently doing the course, or from other sources. Students who knowingly allow other students to copy their work may also be penalised. If you have had help from someone else (other than a tutor), it is always safe to state the help that you got. For example, if you had help from someone else in writing a component of your code, it is not plagiarism as long as you state (eg, as a comment in the code) who helped you in writing the method.

In COMP 102, we may use an automated system to check all submitted code in order to identify students submitting the same code who have not stated that they were working with a partner. The system does not make any code available to people other than the organiser of the course and the managers of the system.

Rules & Policies

Find key dates, explanations of grades and other useful information at http://www.victoria.ac.nz/home/study.

Find out about academic progress and restricted enrolment at http://www.victoria.ac.nz/home/study/academic-progress.

The University's statutes and policies are available at http://www.victoria.ac.nz/home/about/policy, except qualification statutes, which are available via the Calendar webpage at http://www.victoria.ac.nz/home/study/calendar (See Section C).

Further information about the University's academic processes can be found on the website of the Assistant Vice-Chancellor (Academic) at http://www.victoria.ac.nz/home/about/avcacademic

All students are expected to be familiar with the following regulations and policies, which are available from the school web site:

Grievances
Student and Staff Conduct
Meeting the Needs of Students with Disabilities
Student Support
Academic Integrity and Plagiarism
Dates and Deadlines including Withdrawal dates
School Laboratory Hours and Rules
Printing Allocations
Expectations of Students in ECS courses

The School of Engineering and Computer Science strives to anticipate all problems associated with its courses, laboratories and equipment. We hope you will find that your courses meet your expectations of a quality learning experience.

If you think we have overlooked something or would like to make a suggestion feel free to talk to your course organiser or lecturer.

Course Outline as PDF