

COSC121S1: Introduction to Programming

Initial Course Handout

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1 What's all this then?

This document contains important material about the way COSC121S1 is organised and things that you need to do.

Please read it carefully and take note of all dates. An on-line version is available via *Learn* (<http://learn.canterbury.ac.nz/>) together with other resources and information. See the section *Online Resources* for more instructions on accessing *Learn*.

2 Aims of the course

In COSC121 you will learn the fundamentals of computer programming using the Python language. Programming is the nuts and bolts of computer science; it is an essential tool but only a small part of the overall subject. Programming involves using a special language to issue a series of instructions to the computer in order to have it solve a particular problem. The course will follow the textbook fairly closely – *Practical Programming: An Introduction to Computer Science Using Python* by Campbell, Gries, Montoyo and Wilson (Pragmatic Bookshelf, 2009). COSC121 is a prerequisite for all 200 level COSC courses and is normally required as preparation for COSC122.

3 People

The course supervisor for COSC121S1 is Andy Cockburn; lecturers are Richard Lobb and Andy Cockburn.



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You will elect one or two *student representatives* for the class. These people receive some training from the Students' Association and are there to look after your interests and, where necessary, act as a filter between individual students and the course lecturer.

4 Online Resources

All course materials used in lectures, and this document, can be obtained in electronic form from the COSC121S1 pages on the University's *Learn* system. You can access *Learn* via a "Quick Link" on the departmental home page (<http://www.cosc.canterbury.ac.nz>) or directly at <http://learn.canterbury.ac.nz/>.

Course related notices will generally be posted to *Learn*, and notifications will be sent to your UC email address. You are expected to check both the *Learn* website and your email account regularly.

You are also expected to regularly check and, preferably, participate in the various COSC121S1 discussion groups on *Learn*, referred to as *forums*. Section 8.1 on page 4 has instructions on accessing and using the forums.

5 Places and Times

The 30 course lectures (three per week) will be held on *to be announced* in lecture theatre *to be announced*. A rough lecture and lab outline is shown in Table 1.

| Week | Beginning | Lecturer | Lectures | Lab |
|------|--------------------------------|----------|---------------------------------------|-----------------------------------|
| 1 | 20 February | Richard | Introduction to the Course and Python | No lab this week |
| 2 | 27 February | Richard | Strings and Modules | Lab 1: Getting Started |
| 3 | 5 March | Richard | Objects, methods and lists | Lab 2: Strings and Modules |
| 4 | 12 March | Richard | Conditionals: the <i>if</i> statement | Lab 3: Objects, Methods and Lists |
| 5 | 19 March | Richard | Iteration (looping) | Lab 4: Conditionals |
| 6 | 26 March | Andy | File Processing | Lab 5: Iteration |
| | 2 April 9 April 16 April | | | |
| 7 | 23 April | Andy | Sets and Dictionaries | Lab 6: File Processing |
| 8 | 30 April | Andy | Tools and Techniques | Lab 7: Sets and Dictionaries |
| 9 | 7 May | Richard | Objected Oriented Programming | Lab 8: Tools and Techniques |
| 10 | 14 May | Andy | Graphical User Interfaces | Lab 9: OO |
| 11 | 21 May | Andy | Review | Assignment help lab |
| 12 | 28 May | Andy | Overflow! (probably no lectures) | Revision |

Table 1: Rough lecture and lab timetable.

Laboratories will be held at locations and times that will be announced week by week on *Learn* and in email messages.

6 Assessment

The assessment for COSC121S1 is distributed as follows:

| What | Weight | Due | Where |
|------------------------|--------|------------------------------|-----------------------|
| Lab Quizzes | 10% | Weekly | Electronic submission |
| Mid-course quiz/test | 15% | Week starting Apr 23. TBA | Electronic submission |
| Programming Assignment | 20% | 29 May, 5pm | Electronic submission |
| Examination | 55% | To be announced | To be announced |

The Computer Science department has the following grading policy. In order to pass a course you must meet two requirements:

1. The university has adopted a common scale for converting marks to grades. According to this scale, an average mark of 50% is sufficient to pass the course (i.e. to achieve a C-), with an average mark of 55% a C grade is achieved and so forth. We apply this conversion scale to the average marks students achieve over all assessment items.
2. You must achieve an average mark of at least 45% on invigilated assessment items.

Marks are sometimes scaled to achieve consistency between courses from year to year.

6.1 Laboratory Work

Practical work is an essential part of learning to program.

A new laboratory exercise will be handed out each week and you are expected to work on that exercise during your scheduled lab for that week. Each laboratory exercise is accompanied by an electronic quiz on the *PyLearn* system (pylearn.canterbury.ac.nz). The quizzes are electronically graded and the sum of all your quiz marks contributes 10% of your total course mark. Usually you will submit your work at the end of that scheduled lab session but if you wish to continue to work on the exercise in your own time during the next week you may do so. However, you must submit each quiz by its final submission date, the so-called “drop dead date”, which is written on the exercise handout. Usually this is the Friday of the week after the the lab exercise is handed out.

The lab tutors will help you work through the exercises when you are stuck, but try to solve the problems yourself before calling for help. In programming there are infinitely many possible programming exercises and each one has a huge number of possible solutions. It’s not the solution to the problem that’s important, it’s the mental processes you use to get *even one* solution that matter. Tutors can provide only limited assistance with guiding your mental processes – ultimately you yourself have to acquire the necessary problem-solving skills.

6.2 Mid-Course Quiz/Test

An online test will be administered in the first week of the second term (week starting April 23): details to be announced. The quiz/test will be worth 15% of your course grade. The test will be an open book examination and it will be administered similarly to the lab quizzes *except it will only be available for a short time*.

6.3 Programming Assignment

The programming assignment, which is due at 5pm on Tuesday May 29th contributes 20% towards your final grade. It will be handed out near the end of the first term.

Late assignments will be accepted for a few days after the due dates but they will incur a lateness penalty. The lateness penalty details will be described in the specifications.

6.4 Examination

The examination will be 3 hours long (to be confirmed) and will count for 55% of the final grade. It is a closed book examination – textbooks, written material and calculators will *not* be allowed. The date and location of examinations is determined by the Registry, not the department. They’ll be sent to you by email when they’ve been finalised. Also, they will be available through the University Course Information System.

If you have an examination clash then please consult the course supervisor *immediately*.

6.5 Cheating

Every year several students fail the course because of dishonest practice. Please do not be among them. You are encouraged to discuss the general aspects of a problem with others. However,

anything you submit for credit must be entirely your own work and not copied, with or without modification, from any other person.

If you share details of your work with anybody else then you are likely to be in breach of the University's General Course and Examination Regulations and/or Computer Regulations (both of which are set out in the University Calendar) and/or the Computer Science Department's policy (see section 9). The Department treats cases of dishonesty very seriously and, where appropriate, will not hesitate to notify the University Proctor.

If you need help with specific details relating to your work, or are not sure what you are allowed to do, then contact your tutor or lecturer for advice.

6.6 Aegrotats

If factors beyond your control (such as illness or family bereavement) prevent you from completing some item of course work (including laboratory sessions), or prevent you from giving your best, then you may be eligible for aegrotat or impaired performance consideration. Details of these may be found in the University Calendar. Supporting evidence, such as a medical certificate, is normally required. If in doubt, talk to your lecturer.

7 Costs

Your usercode on our computer system enables you to access a range of services. Some of these services are not free and you are responsible for ensuring that your account contains sufficient funds to cover any charges you incur. If your account balance becomes negative then you may be unable to use any computer facilities until you have cleared this debt. The Computer Science Department is not involved with the financial details of your account – you should go to the Information and Communications Technology Services (ICTS) Department for this.

The main chargeable service you are likely to make use of is printing.

To use chargeable services you will need to have money loaded on your Canterbury Card. See the Information and Communication Technology Services (ICTS) Department home page at <http://www.it.canterbury.ac.nz> for details of services and charges.

8 Help!

If you need help or are feeling lost *seek help immediately*. Do not wait until the day before your assignment is due. There is plenty of help available – it is up to you to make use of it.

8.1 Sources of help

There are a variety of ways for you to get help.

- The *Learn* COSC121S1 forums provides electronic noticeboards for use by all students and staff involved with COSC121S1. You can post any course-related queries to these forums and other students or staff can answer them. You can access the forum by logging into *Learn* (<http://learn.canterbury.ac.nz>). However, there are a few rules to be observed:
 - Be courteous. The forum should be a pleasant place for everyone. Rude, angry or arrogant postings will rapidly destroy the value of the forum.
 - Don't be *too* helpful. By that we mean don't destroy someone else's learning experience by posting direct answers to test, exam or assignment questions. Rather, try to guide someone towards the solutions by hints or suggestions as to where the answers can be found. *Never* post assignment-related code.
- If time permits, some problems may be discussed with your tutor during normal laboratory sessions.

- Your lecturers are happy to help. However, their time is limited so please try to arrange an appointment by email to ensure that sufficient time will be available to deal with your queries effectively.
- Some students may wish to engage a tutor for additional private or group tuition. Mr Holland (room 112) can assist with advertising and information about likely costs.

Note that the department is not responsible for computer systems and networks around the campus. The ICTS help desk (☎6060) is the place to get help with technical problems outside the department.

9 Other important information

There are several important documents available online about departmental regulations, policies and guidelines at the following site. We expect all students to be familiar with these. <http://www.cosc.canterbury.ac.nz/regulations/>

Notices about this class will be posted to the class forum in the Learn system (learn.canterbury.ac.nz). COSC students will also be made members of “CSSE Notices”, where general notices will be posted that apply to all classes (such as information about building access or job opportunities).

10 Working on your home computer

Many students will do at least some of their laboratory and assignment work on home computers. To do that, you will need to install some course-specific software as follows:

- Python, version 2.7. This can be downloaded from www.python.org. **NB: Version 3.0 is NOT appropriate**, as it is not backwards compatible with version 2.7, which is what we use in the course and in the textbook.
- Wing101, the IDE (Integrated Development Environment) we use in COSC121S1. This can be downloaded from <http://www.wingware.com/downloads>. [This is not strictly essential; you can, if you wish, develop your programs using the IDLE IDE that comes with Python. Wing101 is what we will use in the lectures and laboratories, however.]

Enjoy the Course!