COMP1911 Computing 1A

Course Outline

Session 2, 2011 [July 2011]

1 Aims

The objective of this course is for students to develop proficiency in programming in the C programming language and to develop a background of relevant knowledge and skills on which to base further study of computing. Topics covered include:

- fundamental programming concepts
- the C programming language the C compiler
- programming style
- program design and organisation concepts
- program testing concepts
- program debugging concepts
- the C debugger
- program documentation
- systematic problem solving

Practical experience of these topics is supplied by laboratory programming exercises and assignments.

2 Learning Outcomes

After completing this course, students should be able to design, construct, document and test reasonably complex C programs that accurately comply with a given specification. Further, more advanced, C programming topics will be covered in the follow-up course, COMP1921. In addition, students should have also acquired some familiarity with the Unix/Linux operating system and tools, the C compiler, and the C debugger.

3 COMP1911 vs COMP1917

This course is intended for students who are not computer science majors. If you are a computer science major you should not be enrolled in this course unless you have a good reason, which you have discussed with your degree coordinator.

Computer science majors and others who have a keen interest in computer science should enroll in COMP1917 instead!

4 Course Information Summary

Course Code	COMP1911
Units of Credit	6
Hours per week	6
Prerequisite	none
Lectures	Mon 10am-11am, Wed 2pm-4pm
Location	Central Lecture Block-8 (CLB-8)
Staff	Dr Ashesh Mahidadia (Lecturer-in-charge)
Handbook Entry	http://www.handbook.unsw.edu.au/undergraduate/courses/2011/COMP1911.html

The course website address is:

- Course Front Page: http://www.cse.unsw.edu.au/~cs1911
- Course Main Page:
  http://www.cse.unsw.edu.au/~cs1911/11s2/index.html

Important: You must check this site regularly for updates and announcements. If you miss an important announcement because you did not check the class website, then you will have to wear any consequences that may result. No special dispensation will be granted as a result.

5 Reading Materials

The recommended text for this course is:

- Alistair Moffat, Programming, Problem Solving, and Abstraction with C, Pearson Educational, Australia, 2003, ISBN 1-74103-080-3

The following books might also serve as additional reference material:

- Brian W. Kernighan and Dennis M. Ritchie, The C Programming Language, 2nd edition, Prentice Hall, USA, 1988, ISBN 0-13-110370-9.
- Paul Davies, The Indispensable Guide to C, Addison Wesley, England, 1995, ISBN 0-201-62438-9.

6 Lectures

Time	Location
Mon 10am-11am	Central Lecture Block-8 (K-E19-105)
Wed 2pm-4pm	Central Lecture Block-8 (K-E19-105)

The following table is a tentative schedule of the lecture topics and assessment tasks. Students will be informed of any changes during the lectures and by announcements on the class website notice page.

Week	Lecture Topics	Who	Assessment Tasks	Lab, Tute, Quiz, Session Exams
1	Course Intro, Intro to Computers/Programming	Ashesh		
2	Constants, Variables, printf, scanf, Expressions, if then else	Ashesh	Assignment 1 released	Lab, Tute
3	Developing, testing, debugging programs	Ashesh		Lab, Tute,
4	Loops, ...	Ashesh	Assignment 1 due	Lab, Tute, **wk4-exam**

5	Arrays, Functions	Ashesh	Assignment 2 released	Lab, Tute,
6	Sorting Arrays	Ashesh		Lab, Tute,
7	chars, strings and arrays of strings	Ashesh		Lab, Tute, **wk7-exam** (Ass1)
8	chars,strings,arrays of strings, debugging	Ashesh	Assignment 2 due and Assignment 3 released	Lab, Tute,
9	Pointers, Command Line Arguments	Ashesh		Lab, Tute, **wk9-exam** (Ass2)
10	File Operations	Ashesh		Lab, Tute,
11	Recursion, Header Files, Makefiles	Ashesh	Assignment 3 due	Lab, Tute,
12	Revision, Exam preparation	Ashesh		Lab, Tute,**wk12-exam** (Ass3)
13				Lab, Tute,

7 Tutorials

Tutorials give you a chance to clarify ideas mentioned in lectures and to practice your problem-solving skills in a small (and hopefully more personal) class with the assistance of a tutor. You should make sure that you use them effectively by examining in advance the material to be covered in each week's tutorial, by asking questions, by offering suggestions and by generally participating. The tutorial questions will be posted on the Web in the week before each tute. Tutorials are one hour long and they are scheduled to start in Week 2 of session. There will often be a couple of extra questions, which are not covered during the tutorial. You may use these for practice or revision.

The Session Exams will have questions directly related to (based on) the tutorial questions.

You **will not be able to pass** this coure if you attend **less than 70%** of the tutorials during the session.

8 Laboratory Classes

See here for a location map of the Computer Science and Engineering computing labs.

Laboratory Classes give you a chance to practice programming skills on small, simple examples.

The examples have been chosen to highlight particular aspects of programming, and will give you good grounding in programming practices. Your tutor will be present in your Lab Class to answer any questions you may have.

All lab class exercises must be shown to your tutor during your scheduled lab class. The lab exercises will be available during the session via the course's Web page. Students are advised not to fall behind in their laboratory work.

To make sure that you can complete the work in your scheduled lab class, you should make an effort to prepare the work beforehand. You can make use of the Lab simply by booking a time-slot. You have sufficient bookable Lab time available each week to allow you to prepare your lab exercises; make good use of it.

Your weekly lab class is 2 hours long and it starts in Week 2 of session. Where possible, your lab class will be scheduled to follow on from your weekly tutorial and will have the same tutor (but you will need to walk to a new room).

Please note that, **the Session Exams will have questions directly related to (based on) the lab exercises.**

You **will not be able to pass** this coure if you attend **less than 70%** of the laboratory classes during the session.

9 Assignments and Session Exams

There will be three programming assignments. Assignments give you the chance to practice what you have learnt on relatively large problems (compared to the small exercises in the labs). Assignments are a very important part of this course, therefore it is essential that you attempt them yourself.

In this course we will use the **session exams** to test your knoweledge and problem solving skills that you should have acquired from the assignment tasks. For example,

- **wk7-exam** will have programming questions **very closely related** to the **Assignment-1**,
- **wk9-exam** will have programming questions **very closely related** to the **Assignment-2**, and
- **wk12-exam** will have programming questions **very closely related** to the **Assignment-3**.

Each session exam will be conducted under the exam environment, where you will **not** be able to access the class material (lect notes, tuts, etc) or the internet.

10 Session Exams

There will be **four** session exams during the session. Each session exam will be conducted under the exam environment, where you will **not** be able to access the class material (lect notes, tuts, etc) or the internet.

Each session exam will be held during your scheduled lab class in the corresponding week. For example,

- The first session exam (**wk4-exam**) will be held in Week 4 during your scheduled lab class.
- The second session exam (**wk7-exam**) will be held in Week 7 during your scheduled lab class.
- The third session exam (**wk9-exam**) will be held in Week 9 during your scheduled lab class.
- The fourth session exam (**wk12-exam**) will be held in Week 12 during your scheduled lab class.

Each session exam will **start 10 mins past the start of your lab time**, and will be of the duration between 30 to 45 mins.

After your session exam, you need to start working on the lab exercises for that week.

The questions in the session exams will be based on the tutorial questions, lab exercises, assignment tasks and lecture material.

You **must** take at least three session exams, in order to pass the course.

11 Plagiarism

All work submitted for session exams and final exam must be your own work. Lab exercises and assignments must be completed individually. We regard copying, in whole or part, as a very serious offence. We use plagiarism detection software to search for suspiciously similar

submissions. This software is a lot better at detecting similarities than you might expect!

Collaborative work in the form of "think tanking" is encouraged, but students are not allowed to derive code together as a group during such discussions. Students are also warned not to send code fragments of the assignments or labs to each other in any form (e.g., as e-mail or listings). In addition, copying/purchasing of code that is available on the Web is also not permitted. Students who are singled out during our regular plagiarism sweep will be dealt with according to School Policy, which provides serious penalties particularly in the case of repeat offenses:

- http://www.cse.unsw.edu.au/~ studentoffice/policies/yellowform.html
- http://www.cse.unsw.edu.au/help/doc/primer/node42.html
- http://www.cse.unsw.edu.au/~chak/plagiarism

Students are strongly advised to protect their work. Do not leave your terminal/computer unattended, or leave listings at the printer for others to take.

12 Overall Assessment

The assessable components of the course are:

Component	Percentages of Final Mark
Session Exams (wk4-exam: 5%, wk7-exam: 12%, wk9-exam: 12%, wk12-exam: 16%)	45%
Final Exam	55%

All submitted programs (Session exams and Final exam) must adhere to the Course Style Guide.

Your **final marks** will be calculated by adding all the above componenets.

Final marks = Session Exams (45%) + Final Exam (55%)

Any of the above marks may be scaled to ensure that the subject Pass/Fail boundary and the Distinction/High Distinction boundary reflect a consistent standard from session to session, and to ensure consistency across different versions of the questions.

13 Supplementary Exams

The document Important Advice for Students states the supplementary assessment policy for the School of CSE. Please take the time to read it carefully. If you are granted a Supplementary Examination, then it is most likely to be held in December. If you think that you may be eligible for a supplementary exam, then make sure you are available at that time. It is your responsibility to check at the School Office for details of Supplementary Examinations.

14 Getting Help

Since for many of you this is your first time studying computing at university, you are likely to have quite a few questions about a variety of things.

If you do have a question please follow the chain of enquiry below to ensure a timely response. Please note that as you move up the chain the number of students that person looks after increases and the likelihood of receiving an immediate response decreases.

1. check the Notices section of the class web page.
2. ask one of your COMP1911 peers
3. ask your tutor
4. attend a consultation session

For administrative issues please contact the subject administrator.

The School Web site has useful information that may be of help:

- http://www.cse.unsw.edu.au/

Particularly useful is the Unix man pages. The searchable interface allows you to find out more about various Unix commands (this assumes that you have some basic knowledge of the Unix environment):

- http://www.cse.unsw.edu.au/scripts/man

If you are new to the computing laboratory and its setup, you can read about it in the Unix Primer. The Unix Primer and other useful documentation can be found at this link:

- http://www.cse.unsw.edu.au/help/doc/index.html

Take the time to explore the system. The more adventurous you are, the more you will learn about the system and the more proficient you will get. Those interested in working from home should look into purchasing a copy of our Home Computing CD, which is available from the CSG Help Desk. It contains a collection of programs and utilities used by various courses within the School. To find out more, go to:

- http://www.cse.unsw.edu.au/~homecomputing

One final piece of advice, if you have a problem, do not wait until Week 12 before you seek help. Problems that are dealt with early are usually quicker and easier to resolve than if they are left to the last minute.

15 Course Feedback and Improvement

The previous CATEI evaluation indicated that students were generally happy with the way the course was run but would have preferred more examples in the lectures. As a result, we are maintaining the same structure during the current session. Though, the lectures will present more hands-on programming examples.

16 Communication with students

In addition to the UNSW email address, the School of CSE provides students with a login account and email. You are hereby advised that:

- It is the policy of the School that all contact and announcements will be made via your official CSE email address only; and
- The class web page will be the other main source of announcements and information.

You should check the class web page regularly for updates and announcements. If you miss an important announcement because you did not check the class website, no special dispensation will be granted.

Students who choose to use other email accounts do so at their own risk as they may miss important announcements.

Last updated: 12:15pm, 21/07/2011