ENGG1811 Computing for Engineers / COMP1081 Harnessing the Power of IT
Course Introduction

Overview

ENGG1811/COMP1081 is an introductory computing course and it broadly covers the following topics:

- Introduction to procedural programming (using Visual Basic) to solve engineering tasks
- Introduction to popular applications (such as spreadsheets and database) to solve computational problems
- Introduction to some of the current and emerging Information Technologies, with the aim to understanding their limitations/advantages and how they can be exploited to innovatively and effectively solve problems.

After completing this course, students should be able to design, program, document and test Visual Basic .Net programs that accurately comply with a given specification. Students should be able to use applications like spreadsheets and databases to effectively solve computational problems in engineering. Students should also gain an understanding of the limitations/advantages of some of the emerging IT technologies, and how to exploit them in solving engineering problems.

At university, the focus is on the self-directed search for knowledge. Lectures, labs, textbooks and recommended reading, assignments and exams are all provided as a service to assist you in this endeavour. It is your choice as to how much work you do in this course, whether it be preparation for classes, completion of assignments, study for exams or seeking assistance or extra work to extend and clarify your understanding. You must choose the approach that best suits your learning style and goals in this course. Note that the University expects you to do about 180 hours work for this course—including lectures, labs, and time spent on assignments. Of course this will vary according to your aims. The course is designed in such a way that passing the course will require a good understanding of the fundamental notions as well as good practical skills. This can only be achieved through regular and consistent work. If your aim is to obtain a high distinction then you will need to invest more time on this course.

Pre-requisites

There are no pre-requisites for this course.

Course Web Page

http://www.cse.unsw.edu.au/~en1811

Staff

Staff Name	Role	Email	Phone (ext)
Maurice Pagnucco	Lecturer-In-Charge	morri@cse.unsw.edu.au	93856925 (ext 56925)
Ashesh Mahidadia	Lecturer	ashesh@cse.unsw.edu.au	93856556 (ext 56556)

Lecture Times

Times	Locations
Mon 12:00 - 13:00	Clancy Auditorium
Thu 12:00 - 13:00	Burrows Theatre
Fri 14:00 - 15:00	Physics Theatre

The proposed lecture schedule is available at:
http://www.cse.unsw.edu.au/~en1811/06s2/schedule.html

Please note that the above **schedule may change**.

Laboratory Classes

Laboratory Classes give you a chance to **practice** programming skills on small, simple examples. The examples have been chosen to highlight particular aspects of problem solving, and will give you enough grounding in problem solving to assist you in completing your assignment work. 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 your laboratory work**. In order to get a mark for a lab exercise you must show your tutor a completed or partially completed solution before the end of your scheduled lab class in the week that the exercise is released. To gain a mark you must at the very least: show your tutor a partial solution at the end of your scheduled lab class in the week that the exercise is released. If you fail to do so, you will not receive a mark for that particular lab exercise. If you cannot complete the exercise by the end of the

scheduled lab, you may complete it in your own time and show it to your tutor in the next scheduled lab class. Your tutor will only mark it at the very beginning of the next scheduled lab class. Note that, **after this time, you will not receive a mark for that particular lab exercise**.

Please note that at the time of marking your lab exercises, your tutor will ask you to solve other similar problems. You need to successfully demonstrate that you are able to solve lab exercises and other similar problems, in order to receive any marks for your lab work. In other words, do not copy lab solutions!

If you are unable to attend your scheduled lab class due to illness or misadventure, then you should apply for special consideration and an extension may be granted. You can only have your lab work **marked** during **your** scheduled **lab class**. It is **not** possible to have your work marked in another class.

Your weekly lab class is 2 hours long and it starts in Week 2 of session.

Consultation

Each week, starting from Week 2, the lecturer(s) or a tutor will be available to discuss with you, on a one-on-one basis, any aspect of the course that you are having problems with. This is the most personalised form of teaching you are likely to get in this course, and you should take every advantage of it. Check the class web pages for current consultation times. Every effort will be made to see as many students as possible. As such, your tutor may ration the amount of time they spend with each individual. Consequently, please come prepared in order to maximise the time that's available to you.

Assignments

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

- Assignment 1 will likely be due in Week 5 (most likely specifications will be available in week-3).
- Assignment 2 will likely be due in Week 10 (most likely specifications will be available in week-8).
- Assignment 3 will likely be due in Week 14 (most likely specifications will be available in week-11).

Assignments are to be completed in your own time. To maximise the learning benefits from doing assignments, it is essential that you start work on assignments early. Do not leave your assignments until the last minute. If you submit an assignment late, the maximum available mark is reduced by 10% per day that it is late.

Assignment 1: the aim in this assignment is to carry out "smart" online research on a given topic. You need to find the required information available online on a given topic, properly organise this information, and produce an online report in the form of a web page(s). There are no marks for this assignment however the concepts will form an integral part of the Mid-Session Test and so you are highly encourage to complete it.

Assignments 2 and 3: the aim in these assignments is to practice and learn about all stages of the **programming** process: start by understanding the specification; design a method to solve the problem; refine this design; implement and document the design in a source file that consists of both the documentation and the program code; and test that the program meets the specification.

Examinations

A Mid-Session Test will be held in Week 7 during your scheduled lab class.

The final practical examination and written examination will be held during the examination period. They will examine all material covered in the course. The practical exam will examine programming using Visual Basic.

Supplementary Exams

The document "Important Advice for Students" states the supplementary assessment policy for the School of CSE. The following criteria will be used when considering a student for a supplementary exam:

- has the student submitted a fully documented request for Special Consideration within 3 days of the exam;
- was there medical or other evidence to support the claim that the student's performance was seriously affected? Minor ailments like a cold; a headache--unless chronic, or severe enough to require prescribed medication; feeling "unwell", *etc* do not excuse a poor result;
- assignment and laboratory marks may not carry much weight in determining whether further assessment is warranted; and
- the student did not attend the exam, or attended the exam but was forced to leave through illness.

The document can be found on-line at:

http://www.cse.unsw.edu.au/~studentoffice/policies/yellowform.html

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 around that time. It is your responsibility to check at the School Office for details of Supplementary examinations. Please note

that there will be NO further supplementary dates for this course. In other words we will NOT be able to offer you supplementary examination at any other time.

Assessment

The assessable components of the course are:

Component	Mark
Assignment 1	--
Assignment 2	10%
Assignment 3	5%
Lab Exercises	10%
Mid-Session Test	10%
Final Practical Exam	30%
Final Written Exam	35%

Important:

- you **cannot** pass this course, unless you pass the Practical Exam and the Written Exam, *i.e.* score at least 50%, on each of these exams, regardless of how good your marks are in other parts of the course.
- you **cannot** pass this course, unless you score at least 70% marks for the laboratory component (Lab exercises).
- In cases where students have a low exam mark and high assignment or lab marks the contribution of the assignment and lab mark may be reduced.

Reading Materials

There is no prescribed textbook for this course. However, you should buy and study **the Study Kit for this course**, available at the UNSW bookstore. The Study Kit covers most (but not all) of the material required for this course. We will provide additional references on the class web page to cover other topics. It is your responsibility to study them, and in case you have any questions/problems, please contact your lecturer(s) or tutor.

As discussed earlier, at university, the focus is on your self-directed search for knowledge. Lectures, labs, recommended reading, assignments and exams are all provided as a service to assist you in this endeavour. It is your choice as to how much work you do in this course, whether it be preparation for classes, completion of assignments, study for exams or seeking assistance or extra work to extend and clarify your understanding. You must choose the approach that best suits your learning style and goals in this course.

Getting Help

From time to time, various problems may arise in your study of this course. Below is a list of typical problems, with suggestions for where you might seek help with them:

Problem	Solution
Help with problems unrelated to this course	CSE Web Help Page
Can't understand lecture material	Ask the lecturer after the lecture times, OR ask your tutor during your lab class, Or go to a consultation.
Stuck with assignments, lab work	Ask your tutor during your lab. Or go to a consultation.
Want to change lab-tute class	Email class account (en1811@cse.unsw.edu.au)
Problems with lab workstations	CSE Help Desk
Problems with your account	CSE Help Desk
Problem with Dial-Up access from home	DIS-Connect Helpdesk (9385 1777)

One final piece of **advice**. If you have a problem, **do not wait** until Week 14 before you seek help. Problems that are dealt with early are usually quicker and easier to resolve than ones that are left to the last minute.

You may find the following links useful:

- CSE Help Desk: http://www.cse.unsw.edu.au/~helpdesk
- UNSW library: http://info.library.unsw.edu.au
- UNSW Learning center: http://www.lc.unsw.edu.au
- UNSW Communications unit: http://www.comms.unsw.edu.au
- Computer ergonomics: http://do.cse.unsw.edu.au/ergonomics/ergoadjust.html
- Occupational Health and Safety policies and expectations: www.riskman.unsw.edu.au/ohs/ohs.shtml
- Equity and Diversity issues: www.equity.unsw.edu.au/disabil.html

Plagiarism

All work submitted for assessment **must be your own work**. Lab exercises and assignments **must be completed individually**. We regard copying of assignments or lab exercises, in whole or part, as a very serious offence. **We use plagiarism detection software to search for multiply-submitted work.** Be warned that:

- the submission of work derived from another person, or jointly written with someone else will, at the very least, result in automatic failure for this course with a mark of zero.
- allowing another student to copy from you will, at the very least, result in a mark of zero for your own assignment or lab exercises; and
- severe or second offences will result in automatic failure, exclusion from the University, and possibly other academic discipline.

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 email 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:

> http://www.cse.unsw.edu.au/~studentoffice/policies/yellowform.html.
> (see also http://www.cse.unsw.edu.au/help/doc/primer/node42.html)

Where required, follow-up interviews will be conducted by a Panel to decide on an appropriate course of action (if any). The decisions of the panel will be final.

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

The Learning Centre website is main repository for resources for staff and students on plagiarism and academic honesty. These resources can be located via:

> http://www.lc.unsw.edu.au/plagiarism

Continual course improvement

Student feedback on this course, and on the lecturing in this course, will be obtained via electronic survey at the end of session. Student feedback is taken seriously, and continual improvements are made to the course based in part on this feedback. Students are very strongly encouraged to let the lecturer in charge know of any problems, as soon as they arise. Suggestions (or even complaints!) will be listened to very openly, positively, constructively and thankfully, and every action will be taken to fix any issue or improve the students' learning experience.

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