SCSSE
School of Computer Science and Software Engineering
Faculty of Informatics

CSCI192  Engineering Programming 2
Subject Outline
Spring Session 2008

Head of School – Professor Philip Ogunbona, Student Resource Centre, Tel: (02) 4221 3606

GENERAL INFORMATION

Subject Coordinator: Dr Igor Kharitonenko
Telephone Number: 4221 4825
Email: igor@uow.edu.au
Location: 3.108

Dr Kharitonenko’s consultation times during session:
Day       Time
Tuesday   10:30 – 12:30  
Friday    10:30 – 12:30

Subject Organisation
Session: Spring Session, Wollongong Campus
Credit Points: 6 credit points
Contact hours per week: 2 hours lecture, 1 hour tutorial, 2 hours laboratory
Lecture Times & Location: Friday: 08.30 – 10.30 at 20.LT4
Tutorial Day, Time and Location can be found at: http://www.uow.edu.au/student/timetables/index.html

Students should check the subject's web site regularly as important information, including details of unavoidable changes in assessment requirements will be posted from time to time via e-Learning space http://www.uow.edu.au/student/lol. Any information posted to the web site is deemed to have been notified to all students.

Subject Description
The primary topic areas in this course include, but are not limited to; use of pointers in C, dynamic memory management, multi-file programs and make, testing and verification of software, problem solving strategies, the role of algorithms in the problem solving process, implementation of algorithms and the properties of algorithms. Basics of C++, classes, function overloading.

Objectives
On successful completion of this subject, students should be able to: 1. Write and understand complex C programs 2. Implement well know algorithms in the C programming language 3. Build complex programs from simple blocks 4. Identify the differences between C and C++

Graduate Qualities
All Schools in the Faculty of Informatics have adopted the UOW Graduate Qualities. On completion of their course graduates will be informed, independent learners, problem solvers, effective communicators and responsible. Further information can be found at
Attendance Requirements:
It is the responsibility of students to attend all lectures/tutorials/labs/seminars/ practical work for subjects for which you are enrolled. It should be noted that the amount of time spent on each 6 credit point subject should be at least 12 hours per week, which includes lectures/tutorials/labs etc.

Satisfactory attendance is deemed to be attendance at approximately 80%* of the allocated contact hours. Attendance rolls will be kept for tutorials and laboratories. If you are present for less than 80%* you need to apply for special consideration, otherwise a fail grade will be recorded.

Method of Presentation:
In order to maximize learning outcomes, it is strongly recommended that students attend all lectures.

Contact hours for this subject comprise 2 hours of lectures, 1 hour of tutorials and 2 hours of labs. Students must enroll in both a 1-hour tutorial and a 2-hour lab. Both tutorials and labs commence in week 2.

Students should check the subject's web site regularly as important information, including details of unavoidable changes in assessment requirements will be posted from time to time via e-Learning website. Any information posted to the web site is deemed to have been notified to all students.

Lecture Schedule:
A proposed Lecture schedule for the subject is as follows:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Subject Overview. C compilation model. Binary system</td>
<td>Hanly &amp; Koffman. Chpt 3</td>
</tr>
<tr>
<td>2</td>
<td>Variables and Memory Allocation. Binary Operations</td>
<td>Hanly &amp; Koffman. Chpt 3</td>
</tr>
<tr>
<td>3</td>
<td>Pointers</td>
<td>Hanly &amp; Koffman. Chpt 7</td>
</tr>
<tr>
<td>4</td>
<td>Dynamic Memory Allocation</td>
<td>Hanly &amp; Koffman. Chpt 7</td>
</tr>
<tr>
<td>5</td>
<td>Assembly Language</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Introduction to Numeric Methods</td>
<td>Hanly &amp; Koffman. Chpt 112</td>
</tr>
<tr>
<td>7</td>
<td>Numeric methods and Algorithms</td>
<td>Hanly &amp; Koffman. Chpt 12</td>
</tr>
<tr>
<td>8</td>
<td>Numeric Methods and Algorithms</td>
<td>Hanly &amp; Koffman. Chpt 12</td>
</tr>
<tr>
<td>9</td>
<td>Numeric Methods and Algorithms</td>
<td>Hanly &amp; Koffman. Chpt 12</td>
</tr>
<tr>
<td>10</td>
<td>Introduction to C++</td>
<td>Hanly &amp; Koffman. Chpt 13</td>
</tr>
<tr>
<td>11</td>
<td>Introduction to C++</td>
<td>Hanly &amp; Koffman. Chpt 13</td>
</tr>
<tr>
<td>12</td>
<td>Introduction to C++</td>
<td>Hanly &amp; Koffman. Chpt 13</td>
</tr>
<tr>
<td>13</td>
<td>Revision</td>
<td></td>
</tr>
</tbody>
</table>

Changes to the above schedule will be posted via e-Learning space http://www.uow.edu.au/student/lol. Any information posted to the web site is deemed to have been notified to all students.

Subject Materials:
Any readings/references are recommended only and are not intended to be an exhaustive list. Students are encouraged to use the library catalogue and databases to locate additional readings

Textbook(s):
Jeri Hanly & Elliot Koffman. C Program Design for Engineers. Addison Wesley.
It may be purchased from the UniCentre bookshop

Other Resources:
Lecture notes:
The lecture notes will be available on e-Learning (previously e-learning space) Students are encouraged to print their copies. However, the lecture notes may not include all examples and explanations given in lectures. These readings/references are recommended only and are not intended
to be an exhaustive list. Students are encouraged to use the library catalogue and databases to locate additional readings.

**Assessment:**
This subject has the following assessment components.

<table>
<thead>
<tr>
<th>ASSESSMENT ITEMS &amp; FORMAT</th>
<th>% OF FINAL MARK</th>
<th>GROUP/INDIVIDUAL</th>
<th>DUE DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tutorial sessions</td>
<td></td>
<td>Group</td>
<td>Satisfactory attendance during weeks 2-13</td>
</tr>
<tr>
<td>Lab sessions</td>
<td>20 marks</td>
<td>Individual</td>
<td>Earned during weeks 3 - 12</td>
</tr>
<tr>
<td>Assignments</td>
<td>20 marks</td>
<td>Individual</td>
<td>As scheduled</td>
</tr>
<tr>
<td>Final Examination</td>
<td>60 marks</td>
<td>Individual</td>
<td>Exam week as per schedule</td>
</tr>
<tr>
<td>Total</td>
<td>100 marks</td>
<td></td>
<td>The total mark must be &gt;=50 to pass the subject</td>
</tr>
</tbody>
</table>

**Notes on Assessment:**
All assignments are expected to be completed independently. Plagiarism may result in a FAIL grade being recorded for that assignment.

To pass the subject you must:
1. Achieve an overall score of at least 50%
2. Achieve at least the minimum required score for each of the assessment items

IMPORTANT: Successful completion of CSCI192 is a pre-condition to undertake other subjects, such as CSCI213 and CSCI204. Since CSCI192 is offered only in the spring session, failing the subject you introduce a one-year delay in your education process.

**Electronic Submission of Assessment Items:**
Unless otherwise notified by the subject coordinator, all written assignments must be submitted electronically.

(a) There will be 3 programming assignments, which will be assessed. There is no requirement to carry out this work in the laboratories. You may work at home to develop solutions. Your completed solutions must be submitted electronically via the UNIX/Linux submit system. **No submission via email will be accepted.**

(b) Copying software from another person is a serious offence. **All students involved in plagiarism may have zero marks.**

(c) Assignments are to be submitted electronically during the scheduled week. It is student’s responsibility to keep a backup of his/her work. There will be no extension granted due to any circumstance related to the failure of students’ own equipment.

(d) As assignments are to assess students’ understanding of the subject material covered in the lectures, each assignment must be solved using only material covered up to that point in the lectures (unless otherwise stated in the question).

(e) Programs which do not produce the correct result (s) may receive at most half of the allocated mark for the task. Programs which do not compile due to syntax errors may receive at most half of the allocated mark for the task, but will still be commented on.

(f) Since two weeks are allocated for implementation and one week is allocated for submission, **late assignments will not be accepted without a granted special consideration.** The exact time after which the submitted assignment will not be accepted by the system will be indicated in every assignment specification.
Marked assignments will be returned in tutorial classes. Enquiries about the marks can only be made to the tutors during the laboratory class time, within a maximum of 1 week after the assignment is handed back. After 1 week, no more marks can be changed. The students must keep their marked assignments at least until the end of the semester.

Requests for extensions should be made electronically by logging on to SOLS at, http://www.uow.edu.au/student/index.html, and following the Special Consideration link. All such requests must be made prior to the due date and supporting documentation (e.g. medical certificates) should be lodged with administration. Please note that such requests are not necessarily granted. In particular, no extension will be allowed after model solutions have been released or discussed in class. The following advice, which forms part of the Special Consideration application process, should also be noted.

“Please be aware that your Subject Coordinator(s) may not be able to consider your application for special consideration immediately. If the nature of assistance sought is urgent, or you are seeking a short extension of time to submit your assessment item, please approach your Subject Coordinator directly, soon after submitting the form.”

Thus you should not assume your application has been granted. You should discuss the situation with your subject coordinator or lecturer as soon as possible after submitting your application and prior to the due date for the assessment item.

**Tutorial and lab sessions**

- Students must abide by the laboratory rules posted on the wall of the Laboratory (and included in this document).
- Students may use the computers outside their designated laboratory times provided the laboratory is open and no other laboratory class is scheduled. If another class is scheduled for the laboratory, you may enter no earlier than 20 minutes after the scheduled starting time and ask the supervisor whether any vacant machines may be used.

The tutorial and lab sessions will be one week behind the lectures to provide sufficient time for preparation. To get prepared, students need to go through lecture notes, suggested chapters of the textbook and complete the questions in the textbook that are specified in the lecture. Tutorial and lab sheets will be distributed at the beginning of the tutorial or lab session. Lecture notes and textbooks may be needed for reference during the tutorials and labs.

Students are required to attend all tutorial sessions. As stated in the table of Assessment items, satisfactory attendance of tutorials is required in order to pass the subject.

Students are required to complete the lab tasks within the first 90 minutes of the 2 hour lab session and then demonstrate their program to the tutor. The lab tasks are published at the subject web site and may be completed at home prior the session. The tutor will give a mark according to the number of tasks completed and understanding of the material covered. As stated in the table of Assessment items, minimum total marks of labs is required in order to pass the subject.

Students, who are not able to attend a tutorial or a lab session and would like to get 1 mark for the task completed at home, must apply for special considerations through SOLS.

**Recommended Self-Directed Study Process**

The amount of time spent on this subject should be at least 12 hours per week. Therefore, successful participation means at least 7 hours allocated for self-directed study and preparation besides 5 contact hours.

For successful completion of this subject, it is recommended you complete the following tasks in each week:

- Download lecture notes from e-Learning, print a copy and look through the lecture notes prior to a lecture
- Attend the lecture, taking notes and adding explanations on the printed copy
- Read related chapters in the textbook together with lecture notes and attend consultations for clarification if required
• Attend tutorial / lab sessions and complete the tutorial / lab tasks in time. At the end of each tutorial and lab session, your tutor will give a mark according to the level of participation of the tutorial and lab.

• When an assignment is released, download the assignment description from e-Learning. Read carefully the assignment task specifications and make sure you understand what you are required to do. Attend consultations if something is not clear about the tasks. Start working on the assignment as soon as possible, taking into account that you can get a good mark only if your answers meet the specifications.

• Keep all lecture notes, assignment, tutorial and lab task solutions in one folder that can be a very useful collection of materials for exam preparation.

• Sign up to attend PASS program sessions (if available). PASS (Peer Assisted Study Sessions) is an academic mentoring program where experienced senior students are available to help you with CSCI192. In a one-hour PASS session each week you can learn strategies and concepts that will save you many hours struggling at home with broken code. You will also get a chance to learn more deeply in this subject, which will form the foundations for many of your later-year subjects. For more information about PASS visit the website: http://www.uow.edu.au/student/services/pass

To be eligible for a Pass in this subject a student must achieve a mark of at least 40% (24 out of 60) in the exam, at least 40% (8 out of 20) in the assignments and at least 40% (8 out of 20) in the labs. Students who fail to achieve this minimum mark will be given a TF (Technical Fail) for this subject.

Procedures for the return of assessment items:
Marked assignments will be returned in tut/laboratory classes. Enquiries about the marks can only be made to the tutors during the laboratory class time, within a maximum of 1 week after the assignment is handed back. After 1 week, no more marks can be changed.

Penalties for late submission of assessment items:
Penalties apply to all late work, except if special consideration has been granted. Late submissions will attract a penalty of 100% of the assessment mark.

Supplementary Exams
Supplementary Exams will be dealt with in accordance with student academic consideration policy (http://www.uow.edu.au/handbook/courserules/specialconsideration.html) 6.2 Timing of Supplementary Exams.

While the School normally grants supplementary exams when the student does not sit the standard exam for an acceptable reason, each case will be assessed on its own merit and there is no guarantee a supplementary exam will be granted. If a supplementary exam is granted, you will normally be notified via SOLS Mail the time and date of this supplementary exam. You must follow the instructions given in the email message.

Please note that if this is your last session and you are granted a supplementary exam, be aware that your results will not be processed in time to meet the graduation deadline.

Special Consideration Policy
The School recognises that it has a responsibility to ensure equity and consistency across its subjects for all students. Sometimes, in exceptional circumstances, students need to apply for student special consideration in order to complete all assessable work.

The University applies strict criteria to the granting of special consideration. Before applying for student special consideration, students should carefully read the University’s policy which can be found at: http://www.uow.edu.au/handbook/courserules/specialconsideration.html

As an example: If a student requires an extension of time for the completion of an assignment this may be granted in certain circumstances. A request for an extension must be made to the Subject
Coordinator via SOLs before the due date.
Plagiarism

When you submit an assessment task, you are declaring the following

1. It is your own work and you did not collaborate with or copy from others.
2. You have read and understand your responsibilities under the University of Wollongong's policy on plagiarism.
3. You have not plagiarised from published work (including the internet). Where you have used the work from others, you have referenced it in the text and provided a reference list at the end of the assignment.

Students must remember that:

- Plagiarism will not be tolerated.
- Students are responsible for submitting original work for assessment, without plagiarising or cheating, abiding by the University’s policies on plagiarism as set out in the University Handbook under University Policy Directory and in Faculty handbooks and subject guides.
- Plagiarism has led to the expulsion from the University.

Student Academic Grievance Policy

The School aims to provide a fair, equitable and productive learning environment for all its students. The Student Academic Grievance Policy seeks to support the achievement of this goal by providing a transparent and consistent process for resolving student academic grievances.

Any student who has a grievance over a result should obtain a Faculty of Informatics Appeal Against Decision or Action Affecting Academic Experience form from the Informatics Student Enquiry Centre. (http://www.uow.edu.au/content/groups/public/@web/@inf/@faculty/documents/doc/uow017433.pdf) The student should firstly take the form to the marker/lecturer to discuss the matter and, if the student is still not satisfied, s/he should take the next step as outlined on the form.

Once the grievance has been considered by the Faculty, if the student still feels the situation has not been fully resolved s/he may consult the Dean of Students. However, the Dean of Students can have no input into the academic judgment of the lecturer and can only review the grievance to ensure proper procedure has been followed.

Relevant University Policies, procedures and students services:

For more information students must refer to the Faculty handbook, online references or consult the UOW policy in full at http://www.uow.edu.au/handbook/courserules/studacgrievpol.html which contains a range of policies on educational issues and student matters.
This outline should be read in conjunction with the following documents:

| Information Literacies Introduction Program (http://www.uow.edu.au/student/attributes/ilip/) | Informatics Faculty Librarian, Ms Annette Meldrum, phone: 4221 4637, email: ameldrum@uow.edu.au |
| Student Support Services: (http://www.uow.edu.au/student/services/) Informatics Faculty SEDLO (Student Equity and Diversity Liaison Officers) Virginie Schmelitschek, phone 4221 3833, virginie@uow.edu.au | SCSSE Internet Access & Student Resource Centre (http://www.uow.edu.au/informatics/common/uow024466.html) |