GENERAL INFORMATION

Subject Coordinator: Dr Markus Hagenbuchner
Telephone Number: 02 42214779
Email: markus@uow.edu.au
Location: 3.220

Mr Hagenbuchner ‘s Consultation Times During Session
Day       Time
Monday    13:30-15:30
Wednesday 13:30-15:30

Subject Organisation
Session: Spring Session, Wollongong
Credit Points: 6
Contact hours per week: 2 hours lectures
Lecture Times & Location: Tue 13:30 15:30 3.122
Tutorial Day, Time and Location can be found at: http://www.uow.edu.au/student/sols/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. Any information posted to the web site is deemed to have been notified to all students.

Content

The objective of this subject is to develop the knowledge, skills and techniques for designing and analysing algorithms. Topics to be studied include: review of standard algorithm designs including divide and conquer, the greedy method, etc; complexity analysis and comparison of algorithms, number theoretical algorithms

Objectives

At the completion of this subject students will:

i) use some basic mathematics;
ii) be able to compare algorithms for speed and storage requirements;
iii) be able to give quantitative assessment of algorithms;
iv) be able to choose the appropriate algorithm for a task;
v) be able to quantify that an algorithm cannot be used with given resources.
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 according to Course Rule 003{Interpretation Point 2 (t)} each credit point for a single session

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 may be kept for lectures, TUTORIALS and laboratories. If you are present for less than 80%* you need to apply for special consideration, otherwise a fail grade may be recorded.

Method of Presentation

Oral presentation supported by slides. Slides are made available electronically via a Web-link which is provided at the end of each lecture.

Lecture Schedule

A proposed Lecture schedule for the subject is as follows:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Assessment Tasks Due</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction and elementary algorithmics</td>
<td>Assignment 1 out</td>
</tr>
<tr>
<td>2</td>
<td>Overview of Data Structures</td>
<td></td>
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<tr>
<td>3</td>
<td>Asymptotic Notation</td>
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<tr>
<td>4</td>
<td>Analysis of Algorithms</td>
<td>Assignment 1 due, Assignment 2 out</td>
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<tr>
<td>5</td>
<td>Greedy Algorithms</td>
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<tr>
<td>6</td>
<td>Divide-and-Conquer</td>
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<tr>
<td>7</td>
<td>Dynamic Programming</td>
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<tr>
<td>8</td>
<td>Graph Algorithms part 1</td>
<td>Assignment 2 due, Assignment 3 out</td>
</tr>
<tr>
<td>9</td>
<td>Graph Algorithms part 2</td>
<td>Assignment 2 due</td>
</tr>
<tr>
<td>10</td>
<td>Probabilistic Algorithms</td>
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<tr>
<td>11</td>
<td>Computational Complexity</td>
<td>Assignment 3 due, Assignment 4 out</td>
</tr>
<tr>
<td>12</td>
<td>Heuristic Algorithms</td>
<td>Assignment 3 due</td>
</tr>
<tr>
<td>13</td>
<td>Revision</td>
<td>Assignment 4 due</td>
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</table>

Subject Materials

Textbooks:


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>Percentage of Final Mark</th>
<th>Due Date</th>
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</thead>
<tbody>
<tr>
<td>1. 4 Assignments</td>
<td>40% (Split as 10,10,10,10)</td>
<td></td>
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<tr>
<td>2. Final Examination</td>
<td>60%</td>
<td></td>
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</tbody>
</table>

Notes on Assessment
At the end of session the final marks may be scaled.

Unless otherwise notified by the subject coordinator, all written assignments must be submitted electronically.
All assignments are expected to be completed independently. Plagiarism may result in a FAIL grade being recorded for that assignment.

Submission of Assessment Items
Assignments must be submitted as a hard-copy at the start of each lecture. Other means of submission may require the written permission of the lecturer.

Return of Assessment Items
Marked assignments are returned to the student seven days after the due date at the end of a lecture. Assignments may also be returned to students during consultation hours but not earlier than 7 days after due date.

Penalties for late submission of Assessment Items
An extension of time for the completion of an assignment may be granted in certain circumstances. A request for an extension must be made to the Subject Coordinator before the due date. Supporting documentation must accompany the request for extension. Subject Coordinator has the right to determine whether the request can be granted or not.
Late assignments without granted extension will be marked but the mark awarded will be reduced by 25% for each day late. Assignments will not be accepted more than four days late.

Electronic submission of Assessment Items
Hard copy submissions are encouraged. Electronic submission of accompanying material (e.g. software solutions) is accepted when explicitly specified as being part of an assignment task. Electronic submission of assignments may require the written permission of the acting lecturer. Submission via email is normally not accepted.

Remarks on Assessment
Due dates are tentative, and may be subject to change.

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 special consideration in order to complete all assessable work.

The University applies strict criteria to the granting of special consideration. Before applying for special consideration students should carefully read the University’s policy. The policy 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.
Scaling

Final results in this subject may be scaled. The scaling method that will be used in this subject is as follows.

If E is the student exam mark, and A is the student assignment mark, the student final mark will be determined as follows:

- if $E \geq 40\%$ of the maximum exam mark: then student final mark is $E + A$;
- if $35\% \leq E < 40\%$ of the maximum exam mark: then student final mark is $\min\{E+A, 47\}$
- if $E < 35\%$ of the maximum exam mark: then student final mark is $\min\{E+A, 42\}$

Additional Information

Students must refer to the Faculty Handbook or online references which contains a range of policies on educational issues and student matters.

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 the date will be determined by the University via ARD. You will 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.

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.
4. Plagiarism will not be tolerated.
5. 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 Calendar under University Policies, 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 or 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 judgement of the lecturer and can only review the grievance to ensure proper procedure has been followed.

For more information, please consult the UOW policy in full at http://www.uow.edu.au/handbook/courserules/studacgrievpol.html
This outline should be read in conjunction with the following documents:

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<tbody>
<tr>
<td>Non-Discriminatory Language Practice and Presentation <a href="http://staff.uow.edu.au/eeo/nondiscrimlanguage.html">http://staff.uow.edu.au/eeo/nondiscrimlanguage.html</a></td>
<td>Informatics Faculty Librarian, Ms Annette Meldrum, phone: 4221 4637, <a href="mailto:ameldrum@uow.edu.au">ameldrum@uow.edu.au</a></td>
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</tbody>
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