ISIT925 Strategic Network Design
Subject Outline
Spring Session 2008

GENERAL INFORMATION

Subject Coordinator
Mr Will Tibben
Telephone Number: 4221 3768
Email: wjt@uow.edu.au
Location: 39.110

Mr Tibben’s consultation times during session:
Day        Time
Tuesday    15.30-17.30
Friday     15.30-17.30

Subject Organisation
Session: Spring Session, Wollongong Campus
Credit Points: 6 credit points
Contact hours per week: 2 hours lectures, 1 hours tutorial
Lecture Times & Location: Wednesday 16.30-18.30; 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 subject investigates the design and implementation of a telecommunications network plan. Topics to be covered include
(1) The Need for Planning and the Planning Process: planning teams, strategic planning, the network plan, security planning and implementation planning.
(2) The Design Process: design teams, translating the plan into design criteria, requirements capture and specification, design requirements and criteria, choosing topographies and architectures, evaluating plans
(3) The Implementation Process: implementation teams, validating implementation plans, managing people and technology, managing the implementation process.

Subject Objectives
A student who successfully completes this subject should be able to
1. Explain the principles of telecommunications network traffic flow control, forecasting, dimensioning and security;
2. Debate the current status and future directions of telecommunications networks as a complex interrelated set of operations;
3. Evaluate the critical forecasting, long range planning issues and appropriate project management techniques;
4. Critically analyse the telecommunications network plan for a large organisation.
5. Identify design criteria and implementation choices for a large telecommunications network.
6. Critically analyse the implementation plan for a telecommunications network for a large organisation.

**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 http://www.uow.edu.au/about/teaching/qualities/

**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 lectures, 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.

Signed rolls will be used to ascertain attendance at tutorials. It is YOUR responsibility to sign rolls each week. Attendance rolls may not be signed outside of your allocated tutorial time.

Students MUST attend their **allocated** tutorial unless they have the written permission of the subject coordinator.

Tutorials will commence in week two (2) and continue until week thirteen (13). If you miss a tutorial for legitimate reasons you should apply for special consideration through SOLs and contact the subject coordinator as soon as possible if alternative arrangements are required.

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

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

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Tutorial Activity</th>
<th>Reading</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction and Subject Overview</td>
<td>NO TUTORIAL</td>
<td>Subject Outline; Chapter One</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Strategic Planning and Essay Advice</td>
<td>Essay Workshop</td>
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<tr>
<td>3</td>
<td>Requirements Analysis: Concepts</td>
<td>Seminar Allocation. Group Formation</td>
<td>Chapter Two</td>
<td>Seminar Questions allocated and handed out in Tutorials</td>
</tr>
<tr>
<td>4</td>
<td>Requirements Analysis: Process and Milestone Activity One Instructions</td>
<td>Milestone Activity One</td>
<td>Chapter Three</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Flow Analysis</td>
<td>Seminars 1 a b</td>
<td>Chapter Four</td>
<td>Essay to be submitted Friday 23.59 on TurnItIn</td>
</tr>
<tr>
<td>6</td>
<td>Network Architecture and Milestone Activity Two Instructions</td>
<td>Milestone Activity Two</td>
<td>Chapter Five</td>
<td>Hardcopy of essay due in Tutorials</td>
</tr>
<tr>
<td>7</td>
<td>Addressing Architecture</td>
<td>Seminars 2 a b</td>
<td>Chapter Six</td>
<td>Major Project handed out in Lecture</td>
</tr>
<tr>
<td>8</td>
<td>Routing Architecture and Milestone Activity Three Instructions</td>
<td>Milestone Activity Three</td>
<td>Chapter Six</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ASSESSMENT ITEMS &amp; FORMAT</td>
<td>% OF FINAL MARK</td>
<td>GROUP/INDIVIDUAL</td>
<td>DUE DATE</td>
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<tr>
<td>9</td>
<td>Network Management Architecture</td>
<td>Seminars 3 a b</td>
<td>Chapters Seven</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Performance Architecture and Milestone Activity Four Instructions</td>
<td>Milestone Activity Four</td>
<td>Chapter Eight and Nine</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Security - Privacy Architecture and Network Design</td>
<td>Seminars 4 a b</td>
<td>Chapter Nine and Ten</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Guest Lecture</td>
<td>Seminars 5 a b</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Subject Review</td>
<td>Submit Major Project and Subject Review</td>
<td>Major Project Due in Tutorial</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):**
- McCabe, J.D., Network Analysis, Architecture and Design. third ed. 2007, Amsterdam: Morgan Kaufmann.

**Other Resources:**

**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>Exam</td>
<td>40%</td>
<td>Individual</td>
<td>Exam Period</td>
</tr>
<tr>
<td>2500 Word Essay</td>
<td>10%</td>
<td>Individual</td>
<td>Submit electronically to TurnItIn by 23:59 Friday, week five. Hard copy to be submitted during week six tutorial class</td>
</tr>
<tr>
<td>Seminar</td>
<td>10%</td>
<td>Group</td>
<td>Oral presentation and hard copy of summary sheet during tutorial classes weeks 5, 7, 9, 11, 12.</td>
</tr>
<tr>
<td>Milestone activities leading to major project</td>
<td>20%</td>
<td>Individual</td>
<td>Hard copy during tutorials in weeks 4, 6, 8 &amp; 10</td>
</tr>
</tbody>
</table>
Project Group | 20% | Group | Submit electronically to TurnItIn by midday Wednesday, week thirteen. Hard copy to be submitted during week thirteen tutorial class

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

Special Assessment Requirements:
As part of their tutorial activities, students will be required to complete milestone activities during the tutorial and participate in the specified group projects. All written work will be graded with the following criteria in mind:
1. The extent to which the question has been correctly interpreted and answered;
2. Originality;
3. Demonstrated understanding of the main concepts of the course;
4. Awareness of the literature;
5. Clarity and structure of written work and oral presentations
6. The level of communications skills demonstrated.

Assessment Tasks

Essay
The essay is designed to develop an understanding about academic referencing and its place in producing technical reports. The final version in MS Word, Text or pdf format of your essay is to be submitted to the “Turnitin” text matching system available at www.turnitin.com by 23:59, Friday week 5. A hard copy of the essay is to be submitted during tutorials in week six.

Seminars
Seminar topics and pairings will be allocated in tutorial of week three (3). These topics are RANDOMLY assigned to students by the lecturer. These will be presented to the class in as a SEMINAR PRESENTATION in pairs. Both students are expected to take an active part in the presentation. Each pair will give a talk to the class on their topic for an absolute maximum of twenty (20) minutes. It is expected that most presentations will take fifteen (15) minutes plus up to five (5) minutes for questions and discussions. There will be two (2) student topics presented in each seminar tutorial hour. They will occur in TOPIC ORDER … ie: if you draw topic number 1, you will be the first pair to present, if you draw topic number 12, you will be the last one. This is why they MUST be random allocations.

Project
The Project focuses on a contemporary issue in corporate network design and implementation. Students will be required to structure their report along the lines outlined in the text book. Each group member will be held accountable for their contribution which will be reflected in the final mark awarded for this assessment item.

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

Electronic submission is via TurnItIn as detailed in Assessment Task below.

In order for an Electronic submission to be marked it must include the following declaration.

I declare that this assignment is original and has not been submitted for assessment elsewhere, and acknowledge that the assessor of this assignment may, for the purpose of assessing this assignment: Reproduce this assignment/ and provide a copy to another member of faculty; and/or Communicate a copy of this assignment to a plagiarism checking service (which may then retain a copy of this assignment on its database for the purpose of future plagiarism checking.

Other Procedures for the submission of assessment items:
In addition to electronic submission students are required to submit assignments in hard copy to their tutor.

All hard copy submissions must be accompanied by an Assignment School Cover Sheet

All assignments will be returned within 2 weeks of their submission.

Late submission of assessment item MUST be accompanied by a special consideration item via SOLs

To be eligible for a Pass in this subject a student must achieve a mark of at least 40% in the Final Exam. 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:**
All assignments except the Project will be returned to students in tutorials. The Project will be available from the subject coordinator after being marked.

**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 10% of the assessment mark per day including weekends. Work more than seven (7) days late will be awarded a mark of zero.

Requests for extensions should be emailed to the lecturer or coordinator, prior to the due date.

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

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](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:

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<tr>
<th>Code of Practice - Teaching and Assessment</th>
<th>Code of Practice - Students</th>
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<tr>
<th>Code of Practice-Honours</th>
<th>Acknowledgement Practice</th>
<th>Special Consideration Policy:</th>
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<tr>
<th>Key Dates</th>
<th>Graduate Qualities Policy:</th>
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<tr>
<th>Course Progress Policy:</th>
<th>Non-Discriminatory Language Practice and Presentation</th>
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<tr>
<th>Academic Grievance Policy (Coursework and honours students)</th>
<th>Occupational Health and Safety</th>
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<th>Human Research Ethics:</th>
<th>Intellectual Property Policy</th>
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<th>Information Literacies Introduction Program</th>
<th>Rules for student conduct and discipline:</th>
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<tr>
<th><strong>Student Support Services:</strong></th>
<th><strong>4221 4637, email: <a href="mailto:ameldrum@uow.edu.au">ameldrum@uow.edu.au</a></strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Informatics Faculty SEDLO <em>(Student Equity and Diversity Liaison Officers)</em> Virginie Schmelitschek, phone 4221 3833, <a href="mailto:virginie@uow.edu.au">virginie@uow.edu.au</a></td>
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</table>