
SISAT

School of Information Systems & Technology
Faculty of Informatics

IACT424 Strategic Network Design
Subject Outline
Spring Session 2009

Head of School –Associate Professor Peter Hyland, Student Resource Centre, Tel: (02) 4221 3606

GENERAL INFORMATION

Subject Coordinator

Telephone Number:

Email:

Location:

Mr Will Tibben

4221 3768

wjt@uow.edu.au

39.110

Mr Tibben's consultation times during session:

Day

Tuesday

Tuesday

Friday

Friday

Time

12.00 – 13.00 pm

16.30 – 17.30 pm

12.00 – 13.00 pm

16.30 – 17.30 pm

Subject Organisation

Session:

Credit Points

Contact hours per week:

Lecture Times & Location:

Tutorial Day, Time and Location can be found at:

Spring Session, Wollongong Campus

6 credit points

2hr lectures, 1 hr tut

Wednesday 16:30 – 18:30 PM 25-107

<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/>. 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
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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

This subject will continue to the following graduate qualities:

- Informed
- Independent learners
- Problem solvers
- Effective communicators
- Responsible
- Teamwork

Further information can be found at:

<http://www.uow.edu.au/informatics/sisat/current/SubjectInformation/UOW051055.html>

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 by the University, to be attendance at approximately 80% of the allocated contact hours.

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 student academic 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:

Week	Topic	Tutorial Activity	Reading	Assessment
1	Introduction and Subject Overview	NO TUTORIAL	Subject Outline; Chapter One	
2	Requirements Analysis: Concepts	Seminar Allocation. Group Formation	Chapter Two	Seminar Questions allocated and handed out in Tutorials
3	Requirements Analysis: Process and Milestone Activity One Instructions	Milestone Activity One	Chapter Three	
4	Flow Analysis	Seminars 1 a b	Chapter Four	
5	Network Architecture and Milestone Activity Two Instructions	Milestone Activity Two	Chapter Five	
6	Addressing Architecture	Seminars 2 a b	Chapter Six	Major Project handed out in Lecture
7	Routing Architecture and Milestone Activity Three Instructions	Milestone Activity Three	Chapter Six	
8	Network Management Architecture	Seminars 3 a b	Chapter Seven	
9	Performance Architecture and Milestone Activity Four Instructions	Milestone Activity Four	Chapter Eight	
10	Security - Privacy Architecture and Network Design	Seminars 4 a b	Chapter Nine and Ten	
11	Exam Review Project Q & A	Seminars 5 a b		
12	Exam	Project Workshop		
13	Guest Lecture	Submit Major Project		Major Project Due in Tutorial

Changes to the above schedule will be posted via e-Learning space <http://www.uow.edu.au/student/>. 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:

- Dawson, R., *Living Networks: Leading Your Company, Customers, and Partners in the Hyper-Connected Economy*. first ed. 2003: Financial Times; Prentice Hall. (Available online through **Safari Tech Books Online** <http://proquest.safaribooksonline.com/0130353337>)
- Devaraj, S. and R. Kohli, *IT Payoff, The: Measuring the Business Value of Information Technology Investments*. first ed. 2002: Financial Times; Prentice Hall. (Available online through **Safari Tech Books Online** <http://proquest.safaribooksonline.com/0130650749>)
- Kurose, J. and Ross, K. *Computer Networking: a Top-down Approach Featuring the Internet*, 3rd edition, 2005, Addison Wesley, Sydney.
- McClaren, S., *Easy Writer: A students Guide to Writing Essays & Reports*. first ed. Easy Writer. 1997, Sydney: Pascal Press. 234.
- Stallings, W., *Business Data Communication*. fourth ed. 2003: Prentice Hall International.
- Stallings, W., *Data and Computer Communications*. seventh ed. 2004: Prentice Hall International.
- Tanenbaum, A.S., *Computer Networks*. fourth ed. 2003: Prentice Hall International.

Assessment:

This subject has the following assessment components.

ASSESSMENT ITEMS & FORMAT	% OF FINAL MARK	GROUP/ INDIVIDUAL	DUE DATE
Seminar	10%	Group	Oral presentation and hard copy of summary sheet during tutorial classes weeks 4, 6, 8, 9, 10.
Milestone activities	20%	Individual	Hard copy during tutorials in weeks 3, 5, 7 & 9
Major Project	30%	Group	Submit electronically to TurnItIn by midday Wednesday, Week Thirteen. Hard copy to be submitted during Week Thirteen tutorial.
Exam	40%	Individual	Week 12

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**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 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.

Major Project

The Major 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.

Electronic Submission of Assessment Items:

Unless otherwise notified by the subject coordinator, all written assignments must be submitted electronically.

Submission of assessment items via email will not be accepted.

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 assignments will be returned within 2 weeks of their submission.

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 & would have otherwise passed 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 student academic consideration has been granted. Late submissions will attract a penalty of 10% per day of the assessment mark. This amount is per day including weekends.

Work more than (7) days late (1 week) will be awarded a mark of zero.

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

Tutorial/Lab Closure Policy

If for any reason, the number of students in a tutorial or lab falls below a sustainable enrolment level, as determined by the Head of School, tutorials/labs offered for that subject may be collapsed or deleted.

You will have to attend the new tutorials/lab if this closure affects the one you are attending.

We will endeavour to make this decision no later than Week 4 of session.

Supplementary Exams

Supplementary Exams will be dealt with in accordance with student academic consideration policy (<http://www.uow.edu.au/about/policy/studentacademicconsiderationpolicy.pdf>) 9.2 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.

Student Academic 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 academic consideration in order to complete all assessable work.

The University applies strict criteria to the granting of student academic consideration. Before applying for student academic consideration, students should carefully read the University's policy which can be found at: <http://www.uow.edu.au/about/policy/studentacademicconsiderationpolicy.pdf>.

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:

Code of Practice - Teaching and Assessment http://www.uow.edu.au/handbook/codesofprac/teaching_code.pdf	Code of Practice - Students http://www.uow.edu.au/handbook/codesofprac/cop_students.html
Code of Practice-Honours http://www.uow.edu.au/handbook/CodeofPractice-Honours.pdf	Acknowledgement Practice Plagiarism will not be tolerated: http://www.uow.edu.au/handbook/courserules/plagiarism.html
Key Dates http://www.uow.edu.au/student/dates.html	Student Academic Consideration Policy: http://www.uow.edu.au/about/policy/studentacademicconsideration_policy.pdf
Course Progress Requirements: http://www.uow.edu.au/student/mrp/index.html	Graduate Qualities Policy: http://www.uow.edu.au/about/teaching/qualities/index.html#_The_new_UOW
Academic Grievance Policy (Coursework and Honours students) http://www.uow.edu.au/handbook/courserules/studacgrievpol.html	Non-Discriminatory Language Practice and Presentation http://staff.uow.edu.au/eed/nondiscrimlanguage.html
Occupational Health and Safety http://www.uow.edu.au/about/policy/ohs.html	Ownership of Work & Intellectual Property Policy: http://www.uow.edu.au/handbook/generalcourserules/UOW028651.html
Human Research Ethics Committee: http://www.uow.edu.au/research/rso/ethics/human/	Rules for student conduct: http://www.uow.edu.au/handbook/generalrules/StudentConductRules.pdf
Independent Learners' Introductory 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	SISAT Internet Access & Student Resource Centre http://www.uow.edu.au/informatics/sisat/current/uow024466.html
SISAT Computer Usage Rules http://www.uow.edu.au/informatics/sisat/current/uow024457.html	SISAT Subject Outlines http://www.uow.edu.au/informatics/sisat/current/UOW055502.html

