Aims

The aim of TELE9752 is to develop student understanding of how telecommunication networks are operated and controlled. That is, whereas other networking courses focus solely on the technologies that enable users to transfer information across a network (e.g. TELE3118 focuses on network protocols, and TELE9751 focuses on the design of network equipment), this course considers how such technologies can be operated and controlled by people concerned with service provision (e.g. network administrators).

Learning outcomes

By the end of this course, students should be able to:

- Describe the functional areas of network management in terms of the problems that arise in each functional area and in terms of the technologies that are used to address those problems.
- Construct Management Information Bases that describe the information used to manage typical network protocols.
- Be familiar with standards for network operations and control.
- Access and assess recent developments in network operations and control research.

This course contributes to the following UNSW Graduate Attributes:

- the skills involved in scholarly enquiry;
- an in-depth engagement with the relevant disciplinary knowledge in its interdisciplinary context;
  - TELE9752 focuses on the discipline of network operations and control, and its contexts of broader IT and business management, network protocols, and engineering methods.
- the capacity for analytical and critical thinking and for creative problem solving;
- the ability to engage in independent and reflective learning;
  - TELE9752 fosters critical thinking and independent and reflective learning by rewarding, through its assessment criteria, students who explicitly articulate questions and answers about course material.
Information Literacy – the skills to locate, evaluate and use relevant information;
the skills required for collaborative and multidisciplinary work;
the skills of effective communication.

• TELE9752 includes a group presentation about a research paper in the area of Network Operations and Control. This activity, in particular, will develop student capacity to locate, evaluate and use relevant information, to collaborate with peers, and to effectively communicate.

Syllabus

From the UNSW Course Handbook
This course introduces the principles, techniques, and tools used for the management of modern communication networks such as the Internet. The five major functional areas of network management are discussed: configuration management for configuring the hardware and software on network elements, performance management for measuring and controlling network performance, fault management for detecting and responding to fault conditions in the network, security management for securing and controlling access to resources in the network, and accounting management for tracking and logging network usage.

Context

Several other UNSW courses relate to TELE9752:
Prerequisites: Background from an introductory networking course like UNSW's TELE3118
Complementary: TELE3119 covers network security in more depth, whereas this course only covers securing of network management systems and management of security systems. TELE4642 considers network performance in depth. TELE9751 covers the internal design of the devices that this course considers the control of, and TELE9756 considers advanced aspects of networking.
Following: TELE9752 is not a prerequisite for any other UNSW course, although students may wish to follow TELE9752 with complementary courses.
Old: TELE9303 Network Management is the predecessor of TELE9752.

Timing

The schedule for TELE9752 activities is provided on the course web page
In week 0, students are expected to read this course outline and the Recommended Reading described on the course web page that relates to the week 1 lecture.

The main assessment events occur during class time in weeks 5 (examination 1), 9 (examination 2), 11 (student presentations) and 12 (examination 3). Quizzes will be held at the beginning of some lectures.

**Delivery**

Classes will be held on Tuesday evenings from 6-9pm in room 418 of the EE&T building. The lecturer encourages you to participate during lectures by asking and answering questions.

**Course materials**

The prescribed textbook for this course is


This textbook will be supplemented by Recommended Reading which will available through the course web page. PDF copies of lecture notes will also be available through the course web page.

**Communication channels**

*Email*: You can email the Lecturer In Charge of this course at t.moors@unsw.edu.au. Such emails must include the phrase “tele9752” in the subject line. Email can be used for administrative matters, but technical questions arising from the content of the course should be raised orally during consultation time.

*Consultation*: The Lecturer In Charge is available for consultation during breaks between lectures on Tuesday nights, and in his office (341 of the EE&T building) *only* between 5-6pm Mondays. The course web page will indicate by noon Monday if it is likely that office hours will not be available that Monday.

*Notifications to students*: Notifications to students about this course will be made orally during Tuesday lectures, may be posted on the course web page (which you are expected to check at least once per week), and may be emailed to your student email address, e.g. z1234567@student.unsw.edu.au (which you are expected to check at least once per day
and to maintain so that messages sent to your student email address do not bounce).

Course web page: http://subjects.ee.unsw.edu.au/tele9752/

WebCT Vista: This course will use WebCT Vista for:
- Electronic distribution of this Course Outline
- Discussion forums
- Disseminating marks

WebCT Vista is a commercial (WebCT.com) software package designed to provide electronic support for teaching. UNSW’s WebCT Vista system can be accessed through http://vista.elearning.unsw.edu.au/. If you have problems using Vista, then see http://support.vista.elearning.unsw.edu.au/ for support. If that fails, then contact the Lecturer In Charge.

Assessment

Synopsis

<table>
<thead>
<tr>
<th>Weighting</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>70%</td>
<td>Examinations</td>
</tr>
<tr>
<td></td>
<td>25% exam 1 (in week 5)</td>
</tr>
<tr>
<td></td>
<td>25% exam 2 (in week 9)</td>
</tr>
<tr>
<td></td>
<td>20% exam 3 (in week 12)</td>
</tr>
<tr>
<td>10%</td>
<td>Quizzes</td>
</tr>
<tr>
<td>10%</td>
<td>Q&amp;A</td>
</tr>
<tr>
<td>10%</td>
<td>Group presentation (due week 11)</td>
</tr>
<tr>
<td>5%</td>
<td>Bonus for course improvement</td>
</tr>
</tbody>
</table>

Examinations

The bulk (70%) of the assessment will take the form of three closed-book examinations to be held during class times in weeks 5 (worth 25%), 9 (worth 25%) and 12 (worth 20%; for technical reasons 1% of this 20% will be given for attendance during week 11 presentations). These are intended to give you timely and continual feedback about your individual performance. If you require special consideration for an examination, then follow the procedures described at https://my.unsw.edu.au/student/atoz/SpecialConsideration.html. Pay particular attention
to the need to apply within 3 days of the date of the examination for which you seek special consideration, and note that any alternate assessment given to recipients of special consideration may be conducted orally and will be no easier than the original assessment. *There will be no assessment for this course during the university examinations period.*

**Quizzes**

Quizzes account for 10% of the assessment. They will be held at the beginning of some lectures and will cover material covered in previous lectures (though only indirectly covering material covered by previous quizzes) as well as suggested reading for the current lecture. They are intended to encourage students to prepare for lectures. Quizzes will not be held in week 1 and weeks in which tests are held (5, 9 and 12) but may be held in any of the remaining 8 weeks. Each quiz will contribute no more than 2% towards your overall assessment. We appreciate that you have competing demands for your time (so may not be able to prepare for, or complete, a quiz), so if more than 5 quizzes are offered, then your top 5 quiz marks will be used to decide your overall assessment.

**Questions and Answers**

“Questions and Answers” account for another 10% of the assessment. After each week of lectures, a webCT Vista discussion forum will open which will allow you to post questions about the content covered in the lecture. The forum for a particular lecture will open one week after that lecture so that you have had time to assimilate information conveyed in that lecture. In the discussion forum, you will be able to (anonymously with respect to students, not the teaching staff) pose questions, which will be marked. Marking may merely sample questions, rather than assess all questions. Marking criteria will reward questions that develop insight and links into course material (text book, Recommended Reading and lecture notes) and those that identify inconsistencies or deficiencies in course materials, and will discourage duplication of questions, questions that are answered by course materials, and questions about material not covered in lectures. One week after questions have been posed, students will be assigned questions to try to answer. After another week all questions will be open to all students to answer. Answers will also be marked. You are also encouraged to ask questions and give answers during lectures, which may receive credit towards this 10% of assessment.

**Group presentation**

The final 10% of the assessment will be for a group presentation (to be made in week 11) about a research paper in the area of Network Operations and Control. The intention of
this assessment item is to develop skills in learning about the latest advances in Network Operations and Control, while also developing group work and communication skills. Students will be pseudorandomly assigned to groups, and each member will rate the contribution of other members of the group, with these contributions leading to weightings that will be multiplied by the mark for the group product to determine individual marks for this assessment item.

**Bonus for course improvement**

Students whose contributions that lead to course improvements can receive a bonus mark (that adds to the 100% potential marks from other assessment tasks) of up to 5%. Such contributions (be they questions, answers, comments, pointers to useful course material, etc) must be made before the end of session.

**Other matters**

**Academic Honesty and Plagiarism**

Plagiarism is the unacknowledged use of other peoples work, including the copying of assignment works and laboratory results from other students. Plagiarism is considered a serious offence by the University and severe penalties may apply: http://www.lc.unsw.edu.au/plagiarism

**Administrative Matters**

On issues and procedures regarding such matters as special needs, equity and diversity, occupational health and safety, enrolment, rights, and general expectations of students, please refer to the School policies: http://scoff.ee.unsw.edu.au/

**Continual Course Improvement**

Students are advised that the course is under constant revision in order to improve the learning outcomes of its students. Students are encouraged (in part by the potential for a bonus mark of up to 5%) to forward any feedback (positive or negative) on the course to the Lecturer In Charge. You can make anonymous comments through the “Course Improvement” forum under WebCT Vista.