

2011

**COURSE OUTLINE FOR
COSC 429**

Cyber Security

Course Supervisors:

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Course Lecturer:

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1 Objectives of the Course

This course is designed to be taken as part of the Post Graduate Diploma Computer Security and Forensics and builds on the subjects covered in COSC331, COSC332 and ACIS323 as well as papers such as COSC425 introduced in the first semester and COSC 424 covered also in the second semester. This course is intended to provide students with an introduction to the subject of cyber security on a level above individual computer systems and networks, including study of issues including organized cyber attacks, cyber defense, cyber crime, information assurance with cyber systems, cyber terrorism and cyber warfare. Technological, societal, and human issues will be investigated. The course will involve practical work as well as written assignments.

2 Synopsis

- Introduction – current society, computing and security: individual, corporate, national, international
- Vulnerabilities in the cyber structure and infrastructure
- Cyber threats and weaponry
- Cyber defense, detection and prevention
- Investigation/assessment – what , by whom, for what purpose
- Critical infrastructure – defense and assurance
- Cyber attacks on hardware – SCADA and beyond
- Cyber-terrorism, cyber-war and cyber-peace
- Cyber-deterrence

3 Assessments

Students will be required to complete a research assignment or practical project worth 50% of the course grade. Students will sit an end of course examination worth 50%.

The assignments (shorter or research/project, and reports) component of the course must be undertaken individually. Any material included in the written reports which has been obtained from papers, journal articles or the web should be referenced, or rewritten in the students own words.

4 Teaching Arrangements

There will be two hours of lectures per week. The timetable will be announced separately.

Please note that you must average at least 45% in invigilated assessment items.

(Invigilated assessment items are those completed under exam conditions, such as oral and written exams and lab tests.) A complete set of guidelines and requirements for all COSC courses can be found at:

http://www.cosc.canterbury.ac.nz/students/current/impt_docs.html.

5. Reference Sources

A web page with references and links to other resource material will be made available on Learn (learn.canterbury.ac.nz).

References include:

Cyber War, by Richard A. Clarke

Conquest in Cyberspace, by Martin C. Libicki

CRYPTOGRAM newsletter (<http://www.schneier.com/crypto-gram.html>)