SCSSE

School of Computer Science and Software Engineering
Faculty of Informatics

CSCI262 System Security
Subject Outline
Spring Session 2009

Head of School – Professor Willy Susilo, Student Resource Centre, Tel: (02) 4221 3606

GENERAL INFORMATION

Subject Coordinator

	Dr Tianbing Xia
Telephone Number:	02 4221 3076
Email:	txia@uow.edu.au
Location:	3.205

Dr Xia's consultation times during session:

Day	Time
Monday	13:30-15:30
Wednesday	13:30-15:30

Subject Organisation

Session:	Spring Session, Wollongong Campus
Credit Points	6 credit points
Contact hours per week:	3 hours lectures, 2 hours Computer lab
Lecture Times & Location:	Lecture A 10:30– 12:30 Mon, 67-203 Lecture B 11:30-12:30 Wed, 22-G22
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/. Any information posted to the web site is deemed to have been notified to all students.

Subject Description

The subject covers some fundamental computer security technologies in the following aspects:
1. Operating system security such as physical security, file protections, system abuses, attacks and protections;
2. Database security including data integrity, data recover, data encryption/ decryption, access control, and authentication;
3. Mobile code security including malicious logic, host and mobile code protection, mobile agents' security.
4. Intrusion detection;
5. Security policies;
6. Security management and risk analysis.

Subject Objectives

A student who successfully completes this subject should be able to:
1. Analyse risks and threats to computer systems.
2. Evaluate and manage the security in computer systems.
3. Understand models of security in Operating System and methods of providing protection.
4. Understand database security models; apply security mechanisms in database management systems.
5. Provide security for mobile code systems.

Graduate Qualities

This subject will continue to the following graduate qualities:
Informed
Problem Solvers
Effective Communicators
Responsible
Innovation & Design
Further information can be found at:
http://www.uow.edu.au/informatics/scsse/current/SubjectInformation/UOW049401.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.

Attendance rolls will be kept for lectures and laboratories. If you are present for less than 80% and would have otherwise passed you need to apply for student academic consideration, otherwise a TF (technical fail) grade will be recorded.

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

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
1	Introduction, user authentication
2	User security, Access control
3	Access control (Windows, Unix, Linux)
4	Buffer overrun, secure code
5	Viruses, bad code
6	Intrusion detection
7	Denial of Service attacks
8	Windows Security
9	Web system security
10	Database system security
11	Database system security
12	Database system security
13	Other issues, revision

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):

- William Stallings and Lawrie Brown, *Computer Security : Principles and Practice*, Pearson Education, 2008

Other Resources:

References:

1. Matt Bishop, *Computer Security: Art and Science*, Addison-Wesley, 2002
2. William Stallings, Network Security Essentials : Applications and Standards, 3rd Edition, Pearson Education pressed, 2007.
3. William Stallings, Cryptography and Network Security : Principles and Practices, 4th Edition, Pearson Education, Inc. 2006.
4. Anonymous, *Maximum Security*, Fourth Edition, Sams Publishing, 2003.
5. Eric Cole, *Hackers Beware*, New Riders Publishing, 2001.

Note: The textbook provides approximately half required contents. The other half will be provided by the lecturer in lecture notes.

Assessment:

This subject has the following assessment components.

ASSESSMENT ITEMS & FORMAT	% OF FINAL MARK	GROUP/ INDIVIDUAL	DUE DATE
Assignment 1 (Report & programming)	10%	**individual**	Week Four
Assignment 2 (Report & programming)	10%	**individual**	Week Seven
Assignment 3 (Report & programming)	10%	**individual**	Week Ten
Assignment 4 (Report & programming)	10%	**individual**	Week Thirteen
Exam	60%	**individual**	Exam period

Notes on Assessment:

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

Electronic Submission of Assessment Items:

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

***Assignments are to be submitted personally to your lecturer or tutor*.** The students are allowed to submit assignments during the lecturer's office hours (in bldg 3 Level 2 room 205), during 10 minutes break between the lecture classes on Monday (in lecture hall), during laboratory classes (laboratory), or during an assignment submission session 3 hours before the assignment deadline. All submissions must be accompanied by a standard Assignment Cover Sheet available from the School office. No assignments will be accepted without Assignment Cover Sheet. The students must collect a submission receipt signed by a lecturer. All assignments that do not satisfy the submission requirements listed above will not be evaluated and will be returned to the students during the next lab class with mark 0.0.

All assignments must be submitted as hard copy only. No part of an assignment will be accepted as electronic mail or fax. Annotated copies of evaluated assignments will be personally returned to the students next week after the respective submission date. All assignments will be returned to the students during laboratory classes.

Submission of assessment items via email will not be accepted.

Other Procedures for the submission of assessment items:

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

Remarks on Assessment

- The due dates are tentative. They are subject to change.
- Assignments are to be scanned with a plagiarism detector.
- 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 (via SOLS and via email to the Subject coordinator). Supporting documentation must accompany the request for extension. The Subject Coordinator has the right to determine whether the request can be granted or not.
- Students must pass the exam

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:

Assignments will be returned back to the students during lab times. Marks of the assignments will be uploaded on SOLs.

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 25% of the assessment mark.

This amount is per day including weekends.

Work more than three (3) days late will be awarded a mark of zero.

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 <u>last</u> 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 ot the assignment.

Students must remember that:

Plagiarism will not be tolerated.

Students are responsible for submitting original work for asssessment, without plagiarising or cheating, abiding by the University's policies on Plargiarism 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/studentacademicconsiderationpolicy.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://staff.uow.edu.au/ohs/commitment/ohspolicy/index.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	SCSSE Internet Access & Student Resource Centre http://www.uow.edu.au/informatics/common/uow024466.html
SCSSE Computer Usage Rules http://www.uow.edu.au/informatics/common/uow024457.html	SCSSE Subject Outlines http://www.uow.edu.au/informatics/scsse/current