

Computer Science 3IS3

Information Security

Fall 2007

Course Outline

Revised: 6 September 2007

Note: This course outline contains important information that may affect your grade. You should retain it throughout the term as you will be assumed to be familiar with the rules specified in this document.

Instructor

Dr. William M. Farmer
Office: ITB 163
Extension: 27039
E-mail: wmfarmer@mcmaster.ca
Web: <http://imps.mcmaster.ca/wmfarmer/>
Office hours: M 14:30, F 9:30, or by appointment

Teaching Assistant

Sahar Abu Ghannam
E-mail: abughas@mcmaster.ca
Office hours: TBA

Course Web Site

The course web site is at

<http://www.cas.mcmaster.ca/~wmfarmer/CS-3IS3-07/>

Some limited services for this course will be offered via WebCT. Go to <http://webCT.mcmaster.ca> to access the course's WebCT page.

Students should be aware that, when they access the electronic components of this course, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in this course will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

Schedule

Lectures:	MW	8:30–9:20	BSB B154
	F	10:30–11:20	BSB B154

Calendar Description

“Basic principles for information security; threats and defenses; cryptography; introduction to network security and security management.”

Mission

The mission of this course is to introduce students to the fundamental concepts and issues of information security. By the end of this course the student should:

1. Understand the importance of information security in software systems.
2. Understand what a security policy is and what are the major mechanisms for implementing security policies.
3. Have a background in information security sufficient for the study of computer networking.
4. Be familiar with the major educational resources available for information security.
5. Be able to effectively present ideas about information security in written, oral, and web formats.

Required Text

M. Bishop, *Introduction to Computer Security*, Addison Wesley Professional, 2005. ISBN 0321247442.

Work Plan

There will be lectures, assignments, a research and presentation project, a midterm test, and a final exam. The lectures will be given by the instructor during regular class sessions three times per week. There will be five assignments due, one approximately every two weeks. Details concerning the assignments will be provided later.

Each student will individually do a research and presentation project on some important topic in information security. The project will consist of three components:

1. A one-page written proposal for what topic to investigate.
2. A 10-minute oral presentation to the class.
3. A wiki page presentation of the topic.

Further details concerning the project will be provided later.

The midterm test will be held on Friday, October 26, 2007 at 10:30–11:20. The final exam will take place on the date scheduled by the University. It will be 2 hours long.

The class will pick a *class representative* who will serve as a liaison between the students and the instructor.

Academic Integrity

You are expected to exhibit honesty and use ethical behavior in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behavior can result in serious consequences, e.g., the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: “Grade of F assigned for academic dishonesty”), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at

<http://www.mcmaster.ca/academicintegrity/>

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g., the submission of work that is not one’s own or for which other credit has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations.

Your work must be your own. Plagiarism and copying will not be tolerated! If it is discovered that you plagiarized or copied, it will be considered as academic dishonesty.

Students may be asked to defend their written work orally.

Other Policy Statements

1. Significant study and reading outside of class is required.
2. Students are required to attend the lectures. Attendance will be recorded, and absences will be excused only in highly exceptional cases.
3. The student is expected to ask questions during class.
4. A student may use his or her texts and notes during the midterm test and final exam.

5. Late assignments and project components will be penalized 5% a day. The midterm test may not be taken at a time different than the scheduled time without *prior* approval from the instructor.
6. The instructor reserves the right to require a deferred final exam to be oral.
7. Calculators and electronic devices are *not* permitted during the midterm test and final exam.
8. The Faculty of Engineering is concerned with ensuring an environment that is free of all adverse discrimination. If there is a problem, that cannot be resolved by discussion among the persons concerned, individuals are reminded that they should contact their Department Chair and the Human Rights and Equity Services (HRES) office as soon as possible.
9. Suggestions on how to improve the course and the instructor's teaching methods are always welcomed.

Marking Scheme

The course grade will be based on the student's performance on the assignments, research and presentation project, midterm test, and final exam as follows:

Assignments (5)	20%
Project	20%
Midterm test	20%
Final exam	40%
Total	100%

Notes:

1. The marks for the assignments, project, and midterm test will be accessible via WebCT.
2. A student's final score will be reduced by one half point for each missed lecture (there is no penalty for the first *five* absences).
3. The instructor reserves the right to adjust the marks for an assignment, midterm test, or final exam by increasing or decreasing every score by a fixed number of points.

Syllabus

Unit	Topic	Chapters
00	Preliminaries	
01	Basic Information Security	1–3
02	Security Policies	4–7
03	Basic Cryptography	8–9
04	Authentication	11
05	Information Control Mechanisms	13–16
06	Design for Security	12,17
07	Malicious Software	19
08	Security Management	20–22

Final Note

Since this is the first offering of COMP SCI 3IS3, it may be necessary to make some changes to the course after the term has started.