

Carnegie Mellon University - School of Computer Science – Fall 2006 (Mini 1)

Information Security and Privacy (17-667/46-861)

Draft Syllabus as of 8/28/06

Instructor: Norman M. Sadeh
Teaching Assistant: Mikhael Felker

Important Note: *This is a draft syllabus. Reading material and other details will be finalized during the course of the semester. Please consult the course blackboard for the most up to date version of the syllabus.*

Objective

The objective of this course is to introduce students to the technologies of Information Security and Privacy as well as to related business and policy issues.

Content

Over the past ten years, the Web has become an integral part of our daily life, whether at home or at work. This course provides students with an overview of the technologies and practices associated with Web Security and Privacy..

Prerequisites

15-212 or permission of the instructor

Format

- Lectures (including guest lectures), discussions, and student presentations

Meeting Times and Venue

Tu-Th: 3:30-4:50pm - NSH1305

Instructor

Prof. Norman Sadeh

Office Hours: Mo-Wed: 3-4pm (Smith 227) - except on the following dates when there will be no office hours: 9/4 (Labor Day), 9/18.

Email: [infosec AT cs.cmu.edu](mailto:infosec_AT_cs.cmu.edu) (to be activated during the first week of class). Please do not send email to my personal email account.

Teaching Assistant

Mikhael Felker (BS in CS, MS in Information Security Policy & Management)

Office Hours: Tu: 2:30-3:30 and Fr.: 10-11am (room: CIC 2206) –Email: [mfelker AT andrew.cmu.edu](mailto:mfelker_AT_andrew.cmu.edu) or [infosec AT cs.cmu.edu](mailto:infosec_AT_cs.cmu.edu)

Grading

- Homework: 35% (HW1: 10%, HW2: 15%, HW3: 10%)

- Class Presentation: 15%
- Midterm: 25%
- Final exam: 25%
- Class participation will be taken into account in assigning final letter grades

Late submission policy (homework assignments & project report): you loose 10% of your grade per late day.

Textbooks & Reading Material

Required Textbooks:

- “E-commerce: Business, Technology, Society”, 3rd edition, Kenneth C. Laudon and Carol Guercio Traver, Addison Wesley, 2007
- “Web Security, Privacy and Commerce”, 2nd edition, Simson Garfinkel, O’Reilly, 2002.

Additional reading material will be provided for many lectures – some required and some optional.

Course Content

Lecture 1 – Aug. 29, 2006

Topic: **Course Overview**
 Lecturer: Norman Sadeh
 Reading Material : Slides
 Venue: NSH 1305

Lecture 2 – Aug 31, 2006

Topic: **Web Security and Privacy: The Big Picture**
 Lecturer: Norman Sadeh
 Venue: NSH 1305
 Reading Material:

- Web Security, Privacy and Commerce, Simon Garfunkel, O’Reilly, 2002 (2nd edition), Ch. 1 & 2 (Ch. 2 will not be covered in class but you should make sure you are familiar with its content)
- E-commerce: Business, Technology, Society”, 3rd edition, Kenneth C. Laudon and Carol Guercio Traver, Addison Wesley, 2007. Ch. 5

By 5pm on Sept. 1, class presentation proposals are due: 1 paragraph, including topic description and team composition – 3 people per team – to be emailed to [infosec AT cs.cmu.edu](mailto:infosec@cs.cmu.edu)

Homework Assignment #1 out by Sept 1

Lecture 3 – Sept. 5, 2006

Topic: **Introduction to Cryptography**
 Lecturer: Norman Sadeh
 Reading Material :

Web Security, Privacy and Commerce, Simon Garfunkel, O'Reilly, 2002 (2nd edition),
Ch. 3
Venue: NSH 1305

Lecture 4 – Sept. 7, 2006

Topic: **Digital Signatures & Key Management**

Lecturer: Norman Sadeh

Reading Material : Web Security, Privacy and Commerce, Simon Garfunkel, O'Reilly,
2002 (2nd edition), Ch. 3 & 4

Venue: NSH 1305

Lecture 5 – Sept. 12, 2006

Topic: **Internet Security Protocols**

Lecturer: Norman Sadeh

Reading Material :

- Required: Web Security, Privacy and Commerce, Simon Garfunkel, O'Reilly, 2002 (2nd edition), Ch. 4&5
- Optional: Secure Electronic Commerce”, Warwick Ford and Michael S. Baum, 2nd edition, Prentice Hall PTR, 2001. Section 5.1-5-5

Venue: NSH 1305

Student Presentation: **Mobile Devices as Solutions to Security Issues**

Lecture 6 – Sept. 14, 2006

Topic: **Authentication**

Lecturer: Norman Sadeh

Reading Material: Web Security, Privacy and Commerce, Simon Garfunkel, O'Reilly,
2002 (2nd edition), Ch. 4 and 6.

Venue: NSH 1305

Student Presentation: **Security Features in Windows Vista and Internet Explorer 7**

Homework Assignment #1 due by 5pm Sept 15

Homework Assignment #2 out by Sept 15

Lecture 7 – Sept. 19, 2006

Topic: **Semantic Attacks (with focus on Phishing)**

Lecturer: Invited Speakers: Ponnurangam Kumaraguru and Ian Fette

Reading Material: TBD

Venue: NSH 1305

Student Presentation: **Survivable Systems Engineering**

Lecture 8 – Sept. 21, 2006

Topic: **Certificates & PKI**

Lecturer: Norman Sadeh

Reading Material: Web Security, Privacy and Commerce, Simon Garfunkel, O'Reilly, 2002 (2nd edition), Ch. 6 and 7.

Venue: NSH 1305

Lecture 9 (no lecture) – Sept. 26, 2006 – MIDTERM EXAM

Location: CIC-Dec auditorium (immediately to your right as you enter the CIC building) – 3:30-4:50pm

Lecture 10 – Sept. 28, 2006

Topic: **Trust Management**

Lecturer: Norman Sadeh

Reading Material: to be provided

Venue: NSH 1305

Student Presentation: **XACML** (eXtensible Access Control Markup Language)

Lecture 11 – Oct. 3, 2006

Topic: **Information Privacy & Web Privacy – incl. legal & regulatory landscape in the US and abroad**

Lecturer: Norman Sadeh

Reading Material:

- E-commerce, Kenneth C. Laudon and Carol Guercio Traver, Addison Wesley, 2007 – Chapter 9

Venue: NSH 1305

Student Presentation: **Peer-to-Peer Networks and Attacks**

Homework Assignment #2 due by 5pm on Sept. 29, 2006 – assignments should be turned in using Blackboard.

Homework Assignment #3 out by Sept 29 (topic: Ethical, Social and Policy issues, including Privacy)

Lecture 12 – Oct. 5, 2006

Topic: **Privacy Enhancing Technologies (PETs)**

Lecturer: Norman Sadeh

- Reading Material: Web Security, Privacy and Commerce, Simon Garfunkel, O'Reilly, 2002 (2nd edition), ch. 24

Venue: NSH 1305

Student Presentation: **National ID card and associated technologies**

Lecture 13 – Oct. 10, 2006

Topic: **Electronic Payments**

Lecturer: Norman Sadeh

Venue: NSH 1305

Reading Material : E-commerce: Business, Technology, Society”, 3rd edition, Kenneth C. Laudon and Carol Guercio Traver, Addison Wesley, 2007. Ch. 6

Student Presentation: **RFID Passports (including Vulnerabilities and Privacy issues)**

Lecture 14 – Oct. 12 , 2006

Topic: **Decentralized Trust Management: The Grey Project**

Lecturer: Guest Lecturer - Dr. Lujo Bauer, CyLab.

Reading Material: TBD

Venue: NSH 1305

Homework Assignment #3 due by 5pm on Oct 13, 2006 – assignments should be turned in using Blackboard.

FINAL EXAM – Oct. 17, 2006

Venue: NSH 1305