

IS2150/TEL2810 Information Security and Privacy, Room 405
Wednesday, Spring 2013, Tentative Course Schedule

| <i>Week #</i> | <i>Topic</i> | <i>Objective:</i> The students are expected to have the following capability after the lecture | <i>Testing</i> |
|------------------|---|--|---|
| Week 1 Jan 9 | No Class (will try to make up, if possible) | | |
| Week 2 Jan 16 | Introduction (Chapter 1) Secure Design Principles (Chapter 12) | <ul style="list-style-type: none"> • <i>Define/Describe/explain</i> some key security terms • <i>Describe/explain</i> the importance of trust, assurance and operational issues within the security area • <i>Explain</i> the secure design principles and its importance | <ul style="list-style-type: none"> • Reading Assignment |
| Week 3 Jan 23 | Access control in Unix and Windows Mathematical Review | <ul style="list-style-type: none"> • <i>Recognize</i> the basic access control mechanism in OS • <i>Use</i> access control commands to <i>manipulate</i> permissions in the OS • <i>Quick overview of maths</i> <ul style="list-style-type: none"> • <i>Write</i> a sentence in logic form and <i>interpret</i> the logic expressions • <i>Solve</i> problems using mathematical induction • <i>Interpret, analyze and construct</i> lattice structures | <ul style="list-style-type: none"> • Quiz 1 (for Week 1) • Lab 1 (2 Weeks) • Homework 1 (1 weeks) |
| Week 4 Jan 30 | HRU Access Control Matrix | <ul style="list-style-type: none"> • <i>Represent/Describe</i> formally the safety problem using ACM • <i>Reason and Demonstrate</i> the undecidability result related to security | <ul style="list-style-type: none"> • Homework 1 (2 Weeks) • Homework 2 (2 Weeks) |
| Week 5 Feb 6 | Confidentiality, Integrity, Hybrid Policy Models | <ul style="list-style-type: none"> • <i>Explain</i> the confidentiality, integrity and hybrid policy models and <i>relate</i> them to application needs • <i>Employ</i> them to new applications and synthesize solution • <i>Understand/Explain</i> general privacy issues | <ul style="list-style-type: none"> • Quiz 2: (for Week 4 on Feb 13) • Lab 2 (Due: After October Break) • Homework 3 (2 Weeks) • Homework 2 (2 weeks) |
| Week 6 Feb 13 | Privacy (Swapped with Week 7) | | |
| Week 7 Feb 20 | Basics of Cryptography Overview of Java Crypto features | <ul style="list-style-type: none"> • <i>Recognize/explain</i> and use the basic cryptographic techniques • <i>Understand and use</i> Java Cryptographic extensions | <ul style="list-style-type: none"> • Homework 4 (Crypto/NetSec) (1-2 Week) |

Homeworks/Labs are due by the end of the due date, i.e., by 11:59PM

| | | | |
|---------------------|---|---|--|
| Week 8 Feb 27 | Network Security; Authentication and Identity | <ul style="list-style-type: none"> • <i>Explain and employ</i> the basic network security (e.g., authentication) techniques | <ul style="list-style-type: none"> • Lab 3 (2 weeks) |
| Week 9 March 6 | Midterm | Programming Project/Assignment Java programming Assignment (Due: Last Week) | |
| Week 10 March 13 | Spring Break | | |
| Week 11 March 20 | Security Evaluation, Risk Management, Legal and Ethical Issues | <ul style="list-style-type: none"> • <i>Explain</i> the main idea behind common criteria • <i>Recognize</i> the importance of risk management process and <i>employ</i> it to <i>assess</i> and <i>solve</i> organizational security • <i>Recognize, define/explain</i> legal and ethical concerns related to security | <ul style="list-style-type: none"> • Reading Assignment |
| Week 12 March 27 | Malicious Code, Software security | <ul style="list-style-type: none"> • <i>Recognize, compare/contrast, explain</i> different types of malicious code • <i>Recognize, compare/contrast, explain</i> different types of coding related software issues | <ul style="list-style-type: none"> • Quiz 3 (for Week 11) • HW or Lab 4 (Before Final) |
| Week 13 April 3 | Vulnerability Analysis; IDS; Auditing; Firewalls | <ul style="list-style-type: none"> • <i>Recognize, classify and compare</i> vulnerability (taxonomy/classification) • <i>Recognize, explain and analyze</i> auditing/IDS/Auditing systems | <ul style="list-style-type: none"> • Quiz 4 (for Week 11) |
| Week 14 April 10 | Overview of security of emerging systems (cloud, SN, BigData Privacy | <ul style="list-style-type: none"> • <i>Recognize, explain</i> the basic security and privacy issues in new systems • <i>Understand, explain</i> privacy models and approaches | <ul style="list-style-type: none"> • Quiz 5 (for Week 12, 13) |
| Week 15 April 17 | <ul style="list-style-type: none"> • Misc/Review/Project demos | | |
| Week 16 April 24 | Final | | |