IS2150/TEL2810 Introduction to Security
Tentative Course Schedule

Week #	***Topic***	***Objective***: The students are expected to have the following capability after the lecture	***Testing***
Week 1 Aug 30	Introduction (Chapter 1)	• *Define/Describe/explain* some key security terms • *Describe/explain* the importance of trust, assurance and operational issues within the security area	• **Homework 1** (2 Weeks; Due Sept 13)
Week 2 Sept 6	Secure Design Principles; Access control in Unix and Windows	• *Explain* the secure design principles and its importance • *Recognize* the basic access control mechanism in OS • *Use* access control commands to *manipulate* permissions in the OS	• **Quiz 1**: (for Week 1) • **Lab 1** (2 Weeks; Due Sept 20)
Week 3 Sep 13	Mathematical Review; Security Policy	• *Write* a sentence in logic form and *interpret* the logic expressions • *Solve* problems using mathematical induction • *Interpret, analyze and construct* lattice structures	• **Quiz 2** (for Week 2) • **Homework 2** (1 Week; Due: Sept 20)
Week 4 Sep 20	HRU Access Control Matrix - Foundational Result	• *Represent/Describe* formally the safety problem using ACM • *Reason* and *Demonstrate* the undecidability result related to security	• **Homework 3** (1 Weeks; Due Sep 27)
Week 5 Sep 27	Take-Grant Model	• *Represent/Describe* formally the take-grant model • *Analyze/deduce* the stealing of permissions	• **Quiz 3**: (for Week 4) • **Homework 4** (1 Week; Due: Oct 4) • **Lab 2** (2 weeks: Due Oct 11)
Week 6 Oct 4	Confidentiality, Integrity and Hybrid Policy Models	• Explain the confidentiality, integrity and hybrid policy models and relate them to application needs • Employ them to new applications and synthesize solution	• **Homework 5** (Due: Oct 14)
Week 7 Oct 11			• **Quiz 4**: (for Week 7)
Oct 18	**Midterm (Comprehensive)**		

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

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Week 8 Oct 25	Basics of Cryptography and Network Security; Authentication and Identity	• *Recognize/explain* and use the basic cryptographic techniques • *Explain* and *employ* the basic network security (e.g., authentication) techniques **Project planning starts in week after midterm; initial idea due on Oct 25**	• **Homework 6 (Jumbo)**: Java programming Assignment (Due: Nov Nov 20)
Week 9 Nov 1			• **Quiz 5** (for Week 8) • **Lab 3** (firewall) given out in start of week 9 (Due: Nov 15)
Week 10 Nov 8	Security Evaluation, Risk Management, Legal and Ethical Issues	• *Explain* the main idea behind common criteria • *Recognize* the importance of risk management process and *employ* it to *assess* and *solve* organizational security • *Recognize, define/explain* legal and ethical concerns related to security	• **Quiz 6** (for Week 9)
Week 11 Nov 15 (Collaborate Com)	Software Assurance; Vulnerability Analysis	• *Recognize*, *compare* and *contrast* software assurance techniques • *Recognize*, *classify* and *compare* vulnerability (taxonomy/classification) • *Show* the steps in penetration testing	• **Lab 4** (2 Weeks: Due Nov 29) • **Quiz 7** (for Week 10)
Week Nov 22	**Thanksgiving**		
Week 12 Nov 29	Malicious Code; Auditing and IDS; Watermarking	• *Recognize*, *compare*/*contrast*, *explain* different types of malicious code and watermarking techniques • Recognize, explain and analyze auditing/IDS systems	• **Quiz 8** (for Week 11)
Week 13 Dec 6	Misc.		
Week 14 Dec 13	**Final**		