Instructor: Ali Şanam Tosun  
email: tosun@cs.utsa.edu  
Office: NPB 3.334  
Phone: (210) 458-7663  
Class Time: Tuesday, Thursday 4:00 pm - 5:15 pm  
Class Location: MS 2.02.53  
Office Hours: Tuesday, Thursday 2:00 pm - 3:30 pm  

Textbook: No required textbook  
References:  
1. Network Security Private Communication in a Public World  
   Charlie Kaufman, Radia Perlman, Mike Speciner  
2. Cryptography and Network Security  
   William Stallings  
3. Applied Cryptography  
   Bruce Schneier  
4. Hackers Beware  
   Eric Cole  
5. Hacking Exposed: Network Security Secrets & Solutions  
   Stuart McClure, Joel Scambray, George Kurtz  
   Charles Pfleeger, Shari Pfleeger  

Objectives: In this course you will learn 
1. How hackers work and the tools they use  
2. Terminology, underlying concepts and principles of network security  
3. How to apply cryptographic tools to networking problems  
4. How to do literature search, read research paper, write research paper  

Prerequisites: Introductory computer networks course, programming experience in C, knowledge of Unix operating system  

Grading: Based on Curve  
Homeworks: 15%, 4 Homeworks, lowest one dropped  
Quizzes: 5%, 5 Quizzes  
Midterm 1: 25%, Thursday, October 4  
Midterm 2: 25%, Thursday, November 15  
Project: 25%, Monday, December 10  
Attendance: 5%
**Topics:** Information Gathering about Networks
Session Hijacking
Buffer Overflow Attacks
Denial of Service Attacks
Viruses, Worms and Trojan Horses
Firewalls
Public Key Cryptography
Symmetric Ciphers
Cryptographic Hash Functions
Digital Signatures
IP Security
Secure Sockets Layer
Key Management
IP Traceback
Security in Sensor Networks
Cloud Security
Smartphone Security
Other topics depending on availability of time

**Project:** Form groups of 2-4 students
Find a relevant topic on network security
Do literature search (find related material) 5%
Read related material and implement a prototype
Presentation of the topic to class 5%
Write a 10 page report in LATEX format 15%

This Syllabus is provided for informational purposes regarding the anticipated course content and schedule of this course. It is based upon the most recent information available on the date of its issuance and is as accurate and complete as possible. I reserve the right to make any changes I deem necessary and/or appropriate. I will make my best efforts to communicate any changes in the syllabus in a timely manner. Students are responsible for being aware of these changes.