

King Fahd University of Petroleum and Minerals
College of Computer Sciences and Engineering
Department of Computer Engineering

SEC 521 Network Security (3-0-3)

Instructor: Dr. Marwan Abu-Amara
Office: 22-145
Phone: 1632
E-mail: marwan@kfupm.edu.sa
Term: 151 (1st term 2015–2016)
Day & Time: UT 05:00 PM – 06:15 PM
Location: 22-132
Prerequisite: ICS 555 – (**Note:** SEC 521 cannot be taken for credit with CSE 551)
Textbook: *Network Security Essentials Applications and Standards*, W. Stallings, Pearson, 5th Edition, 2014.
References: *Information Security: Principles and Practice*, Mark Stamp, Wiley, 2nd Edition, 2011.
Office Hours: UT 10:00 AM – 10:50 AM or by appointment
Web Site: <http://faculty.kfupm.edu.sa/COE/marwan>

Catalog Description:

Network infrastructure security issues, including perimeter security defenses, firewalls, virtual private networks, intrusion detection systems, wireless security, and network security auditing tools. Secure network applications. Network security protocols such as SSL, SSL/TLS, SSH, Kerberos, IPSec, IKE. Network threats and countermeasures. Network auditing and scanning. VoIP Security. Remote exploitation and penetration techniques. Network support for securing critical infrastructure. Design and development of software-based network security modules and tools based on hands-on experiences and state-of-the-art technologies.

Tentative Grading Policy:

- Homeworks**25%**
- Project***25%**
- Major Exam**20%** (Week 09 – Sunday October 25, 2015 during class time)
- Final Exam.....**30%** (**Comprehensive** – Monday December 21, 2015, 7:00 PM)

* A separate handout will be distributed describing the offered projects and the respective deadlines

IMPORTANT NOTES:

- Use of cell phones, smart phones, and tablets during class period and during exams is absolutely **prohibited**.
- All KFUPM regulations and standards will be enforced. Attendance will be checked each class. The KFUPM rule pertaining to a DN grade will be strictly enforced (i.e. > **6 absences** will result in a DN grade).
- If you are late to the class for more than 10 minutes (i.e. arrive after 05:10 PM), you will **NOT be allowed to enter** the classroom and you will be considered absent for that class.
- Only university approved/official/certified excuses will be accepted, and should be presented **no later than 1 week** after returning to classes.
- Homeworks are to be submitted **in class** on the due date. Late homeworks will **NOT be accepted**.
- You have up to the next class period to object to the grade of a homework, or a major exam from the end of the class period in which the graded papers have been distributed back. If for some reason you cannot contact me within this period, send me an email requesting an appointment. The email should be sent before the next class period.
- **NO make ups for homeworks or exams**. ALL homeworks will be counted towards your grade.
- Final exam is **comprehensive**.

TENTATIVE Weekly Course Schedule

Week	Topic
1	Introduction
2	Symmetric Encryption and Message Confidentiality
3	Public-Key Cryptography and Message Authentication
4	Network Essentials
4 – 5	Key Distribution and User Authentication
6 – 7	Network Access Control and Cloud Security
7 – 8	Transport-Level Security
9	Wireless Network Security
10 – 11	IP Security
11	Malicious Software
12 – 13	Intruders
13 – 14	Firewalls
15	Presentation of Projects