Arab Academy for Science and Technology

College of Computing and Information Technology

PhD in Information Systems

IS812   Advances in Information Systems Security

Fall 2017
3 Credit Hours
Lectures: Saturday 12 – 3 PM

Instructor: Prof. Dr. Ayman Abdel-Hamid
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Office hours: by appointment.

Course Objectives
The course explores state-of the art in information systems security research. The covered topics will include cryptography background, operating systems security, database security, systems security, network security, software security, and cloud computing security. In addition, some case studies will be presented. Upon successful completion of the course, the student should be able to identify open research issues within the domain of information systems security.

Key Text
> *No Required Textbook*. The instructor will provide presentation notes and lecture slides were appropriate. Some lectures will be based on research papers published in scholarly journals/conferences.

Reference Texts
1. William Stallings, *Cryptography and Network Security: Principles and Practice*, 6th Ed, Pearson, 2014.
2. Charles P. Pfleeger, Shari Lawrence Pfleeger, and Jonathan Margulies, *Security in Computing*, 5th Ed., Prentice Hall, 2015

Course Workload

One lecture is scheduled per week.

Course material will be introduced in lectures. Course material will be supplemented through reading material (conference/journal papers). A comprehensive final exam is scheduled. Furthermore, exercises/questions/readings will be assigned as homework. Moreover, a research project (and/or research seminar) will be assigned during the course of the semester.

Topics

Tentatively, the topics that will be covered include (not necessarily in that order):

- Cryptography background

- Operating systems security

- Database security

- Network security

- Systems security

- Software security

- Cloud computing security

- Examples and case studies of state-of the art security technologies

Grading

Homework	30%
Comprehensive final exam	30%
Project(s)	40%

The instructor reserves the right to change the grading scheme or add assignments/projects/exams.

Policies

- Homework/Assignments are due at the beginning of the class on the due date.
- Late submission will be penalized by 20% off for each late day.
- Attendance is crucial to your success in this course. You have the responsibility to cover any missed material.

Academic Honesty

The honor code applies to all homework/assignments and examinations. The instructor's academic honesty policy is very strict; instances of academic dishonesty will be penalized, ordinarily by failure of the course (in addition to any University penalties). *All work submitted must be the student's own work!*
It is unprofessional and dishonest to submit someone else's work as your own.