

CAP6133: Advanced Topics in Computer Security and Computer Forensics

Syllabus

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Description: (3 credit hours)

Introduce and discuss hot topics and significant research work on computer and network security, and computer forensics. Students are required to present paper, participate in classroom discussion, and complete a group term project in any computer security related topics chosen by students.

Course Homepage: <http://www.cs.ucf.edu/~czou/CAP6133>

Lectures: Twice per week

Textbook: No textbook, use published research papers and online documents

Prerequisites: Knowledge of computer network, basic knowledge of probability, operating system, and programming language.

Outline: As our society depends more on computers and the Internet, computer and network security has become one of the primary concerns and requirements for most people and organizations. In this course, we will introduce and discuss the state-of-the-art research work on computer and network related security issues, and research work on computer forensics and analysis. We will cover a wide variety of hot topics in this course, and have guest lectures on computer forensics. After completing this course, students will have the following two achievements:

- (1). Obtain the general knowledge and comprehensive understandings of security related issues in computers, networks, and forensics; understand the frontiers in security research, and then be able to quickly conduct their own security-related research on topics they are interested.
- (2). Obtain common but useful research skills, including:
 - a). Learn how to present research papers clearly and concisely.
 - b). Learn how to read papers efficiently and productively — grasping a paper's central ideas, knowing weakness issues that can be improved, and then conducting corresponding further research.
 - c). Learn communication and cooperation skills with colleagues through the final group term project.

This course is highly interactive. Besides brief introductory lectures from the

instructor, students will participate by presenting papers during class, discussing pros and cons of each paper, discussing how to conduct further research based on presented papers, reviewing selected papers as homework assignments, and having a final research-type group project (term paper).

Grading: +/- grading system will be used

20% Student in-class presentation

15% Participation in class discussion

50% Final project (a research style group project)

15% Homework assignment (read and review of assigned papers)