DFSC 1316: Digital Forensic and Information Assurance Fundamentals I
2017 Fall

Course Information

Instructor:	Mingkui Wei, Ph.D.
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Office Location:	212A, Academic Building I
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Class Time:	8:00 – 9:20, Tuesday & Thursday
Office Hour:	9:30 – 12:00, Tuesday & Thursday,
	or by appointment.

Prerequisites

- Basic knowledge of computer/Internet/cellphone operation.

Description

This course introduces the fundamental knowledge of digital forensics (DF) and information assurance (IA). The course will cover the following topics from the forensic perspective:

- Internet forensic basics: network structures, route tracing, Internet-based attacks.
- Cryptography: basic concepts of public/private cryptography, Hash.
- Computer forensic basics: operating system (Windows), file/disk management, virus.
- Cellular systems (tentative) : smart phones, and the cellular system.

IDEA Objectives

Based on the Individual Development & Educational Assessment (IDEA), at the end of this course the ideal student should be able to present the following essential and important objectives:

1. Gaining factual knowledge (terminology, classifications, methods, trends) in digital forensics and information assurance.
2. Learning fundamental principles, generalizations, or theories in digital forensics and information assurance

In particular, you should be able to:

1. Understand basic concept of the Internet, know the layered design, and the structure/topology of a network.
2. Understand how and why to use cryptography, and articulate a few of the most popular algorithms.
3. Understand how files are managed in, and how forensic operations can be applied to, the Windows operating systems.
4. Understand how smart phone works individually, as well as in the cellular system.

Textbooks

- No specific textbook is required.

Course Structure

This course involves one individual project, and multiple homework/labs. The details will be given as class goes. Group study and discussion is allowed, but the final submission should be finished individually.

There will be two midterms and one final exam. All will be close-book and close-note.

Unless otherwise advised, all assignment should be typed and submitted using the online system. PDF format is preferred, other file formats assume the risk that they may not be correctly opened/viewed at the instructor's computer.

Grading

Component	Value	Comment
Project	10%	Grade depends on the quality of your project, project content and grading detail will be released as class goes.
Homework	20%	Grade will be evenly divided to all homework assignments.
Labs	10%	Grade will be evenly divided to all lab assignments.
Midterm exam x2	15% each.	All exams are cumulative: each exam covers material given from the 1st day till the time of exam. Exam time will be informed at least 1 week in prior.
Final exam	25%	
On-time attendance	5%	On-time attendance is required.

Grading Scale

A: >= 90;

B: >= 80 & < 90;

C: >= 70 & < 80

D: >= 60 & < 70;

F: < 60.

Late Assignments

For homework, labs and projects, score will be deducted by 20% for each 24 hours past the deadline, and won't be accepted if submitted later than 72 hours.

Attendance/Absence Policy

In accordance with University Policy, regular attendance is required and your attendance will be seriously monitored. Students are expected to arrive to the classroom on time, otherwise no full attendance credit for the day will be given. You are responsible for all material covered in every class, regardless of whether you attended or not. It is your responsibility to obtain notes, assignments, etc., from fellow class members if you miss a class.

Academic Integrity

All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The university and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including, but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials.

Students should be aware that the instructor reviews all programming assignments and exercises for evidence of collaborative work. While it is sometimes appropriate and encouraged for students to discuss concepts and ideas, it is never permissible (unless otherwise stated) to collaboratively work on coded assignments, to share or swap completed or partially competed programming assignments. In addition it is not permitted for students to use code examples provided by the instructor and/or found online, without appropriate documentation/citation of the use of that code.

Class Conduct

Student will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Cellular telephones and/or pagers must by turned off or muted during the class time. Students are prohibited from eating in class, using tobacco products, making offensive remarks, reading newspapers, sleeping, talking among each other at inappropriate times, wearing inappropriate clothing, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in a directive to leave class or being reported to the Dean of Student for disciplinary action in accordance with university policy.

Visitors in Classroom

Occasion visiting of class by responsible persons is allowed with prior arrangement with the instructor, as long as it does not interfere with the registered members of the class or the educational process.

Americans with Disabilities Act

Students with disabilities covered by the Americans with Disabilities Act should go to the Counseling Center and Service for Students with Disabilities (SSD) in a timely manner to obtain the documentation required. Students are responsible for initiating the process of documenting the need for an accommodation under the ADA act.

Religious Holidays

An institution for higher education shall excuse a student from attending class or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence.