

Course Outline

1. Document Information

Degree Program	Computer Science
Course Number	CS 413
Course Title	Digital Forensics
Semester Hours	3
Course Coordinator	Shahid, Abdur Rahmid Bin
Revision Term	Spring 2020
Latest Revision	Fall 2020

2. Catalog Description

Cybersecurity has become a ubiquitous concern well beyond finding solutions to post-mortem threat analysis. The course provides a broad overview of security objectives and will cover fundamentals in confidentiality, integrity, and availability. Lectures will offer a broad range of topics on digital forensics. Students will be trained for an investigation mindset. Contemporary tools and techniques for digital forensics and investigations are reviewed. Security for stationary and mobile platforms are foci of current course in both forensic and active modes. There will be multiple hands-on homework and laboratories as well as a practical project as integral part of this course.

3. Textbooks

- Arnes, A. (2018). Digital Forensics, Wiley; ISBN: 9781119262381.

4. References

5. Course Learning Outcomes

- Obtain the state-of-the-art knowledge on digital forensic methods including legal concerns.
- Obtain basic skills in digital storage capture and analysis of digital media.

6. Assessment of the Contribution to Student Outcomes

Outcome	1	2	3	4	5	6
Assessed	X	X	X	X	X	X

7. Prerequisites by Topic

CS 330 with a grade of C or better or graduate standing.

8. Major Topics Covered in the Course

1. Digital Forensics Concepts and Legal issues (10 Lectures)
File System and digital artifact exploration methods
2. Online Investigations (10 Lectures)
3. Mobile Forensics (10 Lectures)
4. Mobile Network Forensics and Malware (10 Lectures)
 - a. Intrusion Detection (3 Lectures)
 - b. Mobile Phones (2 Lectures)
 - c. Network Forensics (3 Lectures)
 - d. Anti-forensics techniques (2 Lectures)