

**Course number and name:** **CS 07252: Foundations of Computer Forensics**  
**Credits and contact hours:** 3 credits / 3 contact hours  
**Instructor's or course coordinator's name:** Sally Tarabah  
**Text book, title, author, and year:** (optional textbook) *Guide to Computer Forensics and Investigations, 6<sup>th</sup> edition* by Bill Nelson, Amelia Phillips, & Christopher Steuart, 2018

#### Specific course information

**Catalog description:** This interdisciplinary course focuses on the legal and technical principles of digital forensics. Analysis of complex legal issues and current trends in high technology crime will be followed by exploration of formal methodologies and best practices for the forensically sound acquisition and analysis of digital evidence. Social and ethical impacts will also be explored throughout the course as it relates to high technology crime. Hands-on scenario based activities will provide students with opportunities to develop the legal understanding and technical skills that will serve as a foundation to pursue careers in computer forensics in law enforcement and the private sector.

**Prerequisites:** None

**Type of Course:**  Required  Elective  Selected Elective

#### Specific goals for the course:

1. Provide a solid foundational knowledge basis by introducing students to digital forensics.
2. Present an overview of the principles and practices of computer forensics and an analysis of complex legal issues.
3. Upon completion of the course, students will be able to utilize basic open-source forensics tools to perform digital investigations.

#### Required List of Topics to Be Covered:

1. DOS overview
2. Forensics tools

3. Validation
4. Data acquisition
5. Incident scenes
6. Working with Windows and CLI Systems
7. Linux and Macintosh file systems and graphic files
8. Dark Web
9. Steganography
10. Open Source Investigations
11. Internet and e-mail analysis
12. Mobile device forensics
13. Digital forensics analysis
14. Virtual Machines (VM)
15. Network forensics and live acquisitions
16. Cloud forensics
17. Report writing, testifying, and professional ethics
18. Imaging a flash drive