



SCHOOL OF STEM SYLLABUS



TERM:

INSTRUCTOR:

COURSE CODE: CSC-242

OFFICE HOURS:

COURSE TITLE: Computer Forensics & Investigation

OFFICE LOCATION:

DAY(S) AND TIME(S):

EMAIL:

LOCATION:

PHONE:

COURSE PREREQUISITE: Complete CSC-230 OR CSC-240

CREDITS: 3

COURSE DESCRIPTION:

This course is a restricted program elective required for students majoring in Cybersecurity, introduces students to the science of computer forensics and to important procedures necessary for investigating various cybercrimes. Digital forensics investigations are based on the concepts of collecting, analyzing, recovering, and preserving forensic evidence; students learn computer file system storage, analysis, and retrieval. This course prepares students to take and pass the Certified Forensic Investigation Practitioner exam (CCE), industry recognized certificate by forensic investigators and law enforcement. This course requires two hours of lecture and two hours of hands-on lab. In this course, students are provided with hands-on experience by using tools and implementing methods which enable them to discover and retrieve crucial information and hidden evidence by recovering deleted data and analyzing history files.

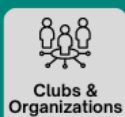
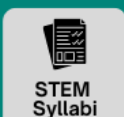
STUDENT LEARNING OUTCOMES:

Upon completion of this course, students will be able to:

1. **Perform** reconnaissance on networks and scans on storage media and mobile devices.
2. **Describe** components used to build a business case for developing a forensics lab.
3. **Identify and document** security breaches of digital data that suggest violation of legal, ethical, moral policies and standards.
4. **Demonstrate** digital investigations that conform to accepted professional standards based on the investigation process: identify, prevent, examine, and analyze.
5. **Report** results of digital investigation effectively in speech, in writing, and in presentation.
6. **Explain** guidelines for seizing digital evidence at the scene and list procedures for storing digital evidence.

STEM STUDENT HUB

Information & Resources tailored towards students taking any STEM courses



TEXTBOOK AND SUPPLEMENTAL MATERIALS:

Guide to Computer Forensics and Investigations, 6th edition.

Publisher: Course Technology, Cengage learning.

SBN-10: 1-337-56894-5

ISBN-13: 978-1-337-56894-4

GRADING POLICY:

Item	Weight
Exam I (Lecture)	15%
Exam II (Lecture)	15%
Exam III/Final Exam (Lecture)	15%
Weekly Labs and Lab Exams	30%
Research Article Presentation	15%
Homework Assignments and Collaborative Work	15%

*Homework assignments include but are not limited to watching selected related YouTube videos or published articles and writing short essays.

SAMPLE COURSE SCHEDULE:

Session	Topic to be covered	Lab of the Unit/Week	LO
1	Understanding the Digital Forensics Profession and Investigations	Introduction to File Systems	1, 2, 3
2	The Investigator's Office and Laboratory	Common Locations of Windows Artifacts	1, 3, 4
3	Data Acquisition. (Project proposal)	The Imaging Process	1,2, 3, 4, 5, 6
4	Processing Crime and Incident Scenes	Introduction to Autopsy Forensic Browser	1, 3, 6
5	Exam I (Lecture and Lab)		
6	Current Digital Forensics Tools	Introduction to Single Purpose Forensic Tools	2, 3, 4
7	Linux and Macintosh File Systems and recovering Graphics Files	The NTFS and FAT File Systems	1, 2, 3, 4, 5, 6
8	Digital Forensics Analysis and Validation	User Profiles and the Windows Registry	1, 2, 3, 4, 5, 6
9	Virtual Machine Forensics, Live Acquisitions, and Network Forensics	Browser Artifact Analysis	1, 3, 4
10	Exam II Lecture and Lab)		1, 3, 4, 6
11	Cloud Forensics	Hashing Data Sets	1, 2, 3,4, 5, 6
12	Report Writing for High Tech Investigations	Log Analysis	1, 2, 3,4, 5, 6
13	Expert Testimony in High Tech Investigations	Homework: Memory Analysis work Project presentation 1	5, 6
14	Email and Social Media Mobil Device Forensics	Homework: Communication Artifacts Project presentation 2 *** Research report due	1, 5, 6
15	Exam III (Lecture and Lab)		

HCCC POLICIES, STATEMENTS, AND SERVICES:

<https://www.hccc.edu/administration/academic-affairs/syllabus-addendum.html>



