Hudson County Community College
STEM DIVISION

Course Title: Computer Forensics & Investigation

Course Number: CSC242

Credits: 3

Instructor:

Office Hours:

Class Location:

Email Address:

Office Location:

Course Outline and description, topics include but not limited:

This course is a restricted program elective required for students majoring in Cybersecurity, introduce 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.

Objective (Student outcomes):

Upon successful course completion, 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 s**ecurity 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.

Evaluation Criteria:

- Student will be graded based on:
- Exam I: 15%
- Exam II: 15%
- Exam III/Final Exam: 15%
- Weekly Labs and Lab Exams: 30%
- Research Article Presentation: 15%.
- Homework assignments and collaborative work: 10%
- *homework assignments include but not limited to watching selected related YouTube videos or published articles and writing short essays.

Grading Policy:

95 to 100	90 to 94	85 to 89	80 to 84
A	A-	B+	B
75 to 79	70 to 74	65 to 69	64 to 0
B-	C+	C	F

- ** Excess of absence will result in a failing grade!! (3 Absences maximum).
- ** 20 minutes of lateness is considered one absence.
- There will be no makeup for missing tests.
- Any student misses a class for any reason is responsible for the notes and assignments given on the day he/she missed.

Required: Guide to Computer Forensics and Investigations, 6th edition, Bill Nelson, Amelia Philips, Christopher Steuart

Publisher: Course Technology, Cengage learning.

SBN-10: 1-337-56894-5

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

Detailed outline of suggested topics.

Date	Topic to be covered	Lab of the Unit/Week
1	Understanding the Digital Forensics Profession and Investigations	Introduction to File Systems
2	The Investigator's Office and Laboratory	Common Locations of Windows Artifacts
3	Data Acquisition. (**Project proposal**)	The Imaging Process
4	Processing Crime and Incident Scenes	Introduction to Autopsy Forensic Browser
5	**Exam I**	
6	Working with Windows and CLI Systems	Introduction to Single Purpose Forensic Tools
7	Current Digital Forensics Tools	The NTFS and FAT File Systems
8	Linux and Macintosh File Systems and recovering Graphics Files	User Profiles and the Windows Registry
9	Digital Forensics Analysis and Investigation	Browser Artifact Analysis
10	**Exam II**	
11	Virtual Machine Forensics, Live Acquisitions, and Network Forensics	Hashing Data Sets
12	Email and Social Media Investigations	Log Analysis

12	Mobile Device Forensics and the Internet of Anything	Homework: Memory Analysis work **Project presentation 1**
13	Cloud Forensics	Homework: Communication Artifacts **Project presentation 2** ***** Research report due**
14	**Exam III**	

** Homework and group collaboration: after each session students will be assigned homework and groupwork from a selection of end of chapter Questions and Problems.

*** Project Topics examples:

a) Evaluation of Digital Forensic Process Models with Respect to Digital Forensics as a Service.

b) Current Challenges and future research areas for digital forensics investigation.

  ** Students may select any digital forensics topic if it is approved by the instructor.

  *** Project follow up (term paper and ppt slides) will be conducted on weekly basis from the 4th to 12th   week.

You can always reach me at:

Academic Integrity

Academic integrity is central to the pursuit of education. For students at HCCC, this means
maintaining the highest ethical standards in completing their academic work. In doing so,
students earn college credits by their honest efforts. When they are awarded a certificate or
degree, they have attained a goal representing genuine achievement and can reflect with pride on

their accomplishment. This is what gives college education its essential value.

Violations of the principle of academic integrity include:

· Cheating on exams.

· Reporting false research data or experimental results.

· Allowing other students to copy one's work to submit to instructors.

· Communicating the contents of an exam to other students who will be taking the same test.

· Submitting the same project in more than one course, without discussing this first with

instructors.

· Submitting plagiarized work. Plagiarism is the use of another writer's words or ideas without

properly crediting that person. This unacknowledged use may be from published books or

articles, the Internet, or another student's work.

When students act dishonestly in meeting their course requirements, they lower the value of

education for all students. Students who violate the college's policy on academic integrity are

subject to failing grades on exams or projects, or for the entire course. Serious cases may be

reported to a division dean or director for further disciplinary action, including suspension or

dismissal from HCCC.

Detailed information on the College's Academic Integrity policy may be found in the HCCC

Student Handbook. The handbook also contains useful information for students on completing

research projects and avoiding plagiarism.

Accessibility Services Statement

Hudson County Community College is committed to the creation of an inclusive and safe

learning environment for all students. The Office of Accessibility Services is responsible for

determining reasonable accommodations for students who encounter barriers due to disability

(conditions can include but are not limited to mental health, attention-related, learning,

cognitive/developmental, vision, hearing, physical or health impacts). When the student

completes the request process and reasonable accommodations are determined to be necessary

and appropriate, an Accommodation Letter (Letter) will be provided. The student must provide

the Letter to each course instructor. This should be done as early in the semester as possible as

accommodations are not retroactive. You can contact Accessibility Services by phone at 201-

360-4157, by email at as@hccc.edu; visit their website at

http://www.hccc.edu/accessibilityservices/

or visit them at 71 Sip Avenue, L011, Jersey City, NJ and all information provided will

be kept confidential.

Classroom Recording Policy

Hudson County Community College prohibits the audio-visual recording,

transmission, and

distribution of classroom sessions. Classes may only be recorded with the advance written

permission of the instructor. The complete classroom recording policy is listed in the

student handbook.

Diversity, Equity, & Inclusion Statement

Hudson County Community College (HCCC) fosters a welcoming environment that celebrates
and encourages culturally responsive curricula, respects diverse viewpoints, and values
discussions without censure or hostility. Our classrooms are strengthened by embracing all
student voices and identities. The President's Advisory Council on Diversity, Equity, and
Inclusion (PACDEI) encourages students to review DEI resources and initiatives at the following
link: https://www.hccc.edu/abouthccc/dei/pacdei.html

Email Policy

Mandatory Use of HCCC Email Address: Members of the HCCC community are required to
check their official HCCC email address to stay current with college and course
communications. All college business communication between faculty, students, and staff must
be sent via an official HCCC email address. If an employee or student elects to forward or link
his/her HCCC email to a separate and private account, that individual remains responsible for all
material transmitted to that account. Employees of HCCC shall not be responsible for any
material that remains undelivered, due to defects in the private non-HCCC accounts. Failure in
the operations of private email accounts shall not be cause for excuse from communications
between the student and the HCCC employee. Students that encounter difficulty with HCCC
email should view the FAQ's section on the Website.

Emergency Notifications

In case Hudson County Community College is closed due to unforeseen circumstances such as

inclement weather, loss of power, etc., students are to call or check the college website and check

email accounts for instructions and updates, when possible. HCCC main# (201) 714-7100 or

http:/www.hccc.edu. Alternatively, please check Canvas and your college email for important

posts regarding classes and the College.

Financial Aid & Attendance Statement

Federal regulations require that students earn their financial aid funds by attending class.

Professors collect and report attendance information to verify financial aid eligibility. Failure to

begin attending a course may negatively impact the student's financial aid enrollment level and

eligibility. If you have any questions, please contact the Financial Aid office at financial_aid@hccc.edu or 201-360-4200.

HCCC Mission Statement

MISSION STATEMENT

Hudson County Community College provides its diverse communities with inclusive, high-quality educational programs and services that promote student success and upward social and economic mobility.

HUDSON COUNTY COMMUNITY COLLEGE

Hudson Helps

HCCC is committed to supporting students who face non-academic barriers to success. If you are
experiencing challenges outside of the classroom that is impacting your academic performance,
please visit https://www.hccc.edu/student-success/personal-support/hudsonhelps/index.html to
access additional student supports and resources.

Remote Class - Camera Policy

As a college, we strive to be student-centered and therefore encourage faculty to consider a
student's individual circumstances (need for privacy, technological problems, etc.) when
requiring that they turn on cameras during class. There is no legal prohibition on faculty
requiring cameras be turned on during classes or college policy prohibiting such requests. If
students are unable to turn their cameras on, they should communicate the circumstances to the
faculty member. On-campus spaces are also available to students as an alternative to home or off
campus online and remote instruction. The on-campus spaces include: Gabert Library L219,
L221, L222, L419, STEM Building S217, and North Hudson Campus N224, N303D. Within
these rooms, students will have access to computers, web cameras, and headsets. If
there are any issues with space capacity, there are additional rooms that can be
utilized.

Vaccine Incentive Syllabus Statement

HCCC strongly recommends that all members of the college community get the COVID-19 vaccine and booster. The College is still offering Vaccine and Booster Incentives to students who submit their proof of vaccination and/or booster shots. Students can receive $100 for being fully vaccinated and an additional $100 for being boosted. Students who have not received the incentive(s) can submit their proof of vaccines or boosters here.

Additionally, N95 masks are available at building entrance security desks for anyone who would prefer to wear one. Everyone should continue to **monitor themselves for symptoms and stay home if they are sick.** Please refer to the Return to Campus webpage: (www.hccc.edu/community/returntocampus/index.html), the Return to Campus FAQs: (www.hccc.edu/community/returntocampus/faq.html), and all Return to Campus email communications for more information and updates.