

Department of Computer Science
CSC 538/738 Course Syllabus

I. Course Number: CSC 538/738 (3 credit hours)

II. Course Title: Computer Crime and Forensics

III. Course Description:

Introductory course on computer crime and forensics. Computer criminal evidence collection, analysis and handling; computer forensics tools; data acquisition; digital evidence control; Windows and Linux systems investigation; email investigation; network forensics; computer forensic report writing.

IV. Instructor:

Shuangteng Zhang

Office: Wallace 412

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V. Required Text

1. Bill Neson, Amelia Phillips, etc., *Guide to Computer Forensics and Investigations*, 2nd Ed, Course Technology Incorporated, 2006, ISBN: 0-619-21706-5

VI. Learning Outcomes:

CSC 538 and 738 common learning outcomes:

In this course, students will demonstrate the ability to:

1. Explain the fundamental concepts of computer forensics
2. Describe the digital evidence handling process
3. Demonstrate a working knowledge of computers, storage devices, and digital data
4. Demonstrate basic skills of digital evidence collection from popular operating systems and networks
5. Demonstrate basic skills of digital evidence analysis

Additional learning outcomes for CSC 738:

In addition, graduate students will also demonstrate the ability to:

6. Design and analyze a digital evidence collection scheme;
7. Evaluate digital evidence collection scheme.

VII. Course Outline:

A breakdown of major topics to be covered in class and the approximate number of class contact hours for each topic is given below:

1. Computer Forensics and Investigations as a Profession (1 hours)
2. Understanding Computer Investigations (2 hours)
3. The Investigator's Office and Laboratory (3 hours)
4. Current Computer Forensics Tools (3 hours)
5. Processing Crime and Incident Scenes (3 hours)
6. Digital Evidence Controls (3 hours)
7. Working with Windows and DOS Systems (3 hours)
8. Macintosh and Linux Boot Processes and Disk Structures (3 hours)
9. Data Acquisition (3 hours)
10. Computer Forensic Analysis (3 hours)
11. Recovering Image Files (3 hours)
12. Network Forensics (3 hours)

13. E-Mail Investigations (3 hours)

14. Becoming an Expert Witness and Reporting Results of Investigations (2 hours)

VIII. Course Requirements:

Assignments and projects

Test 1, Test 2, Final

Additional requirements for CSC 738:

A term project on computer security system design and an independent study paper to analyze computer security. The minimum length of the paper is twenty pages.

IX. Grading and Evaluation Policies:

Grade Components:

35% projects (Hands-on projects to be done in class: 15%; Case Project to be done after class: 20%)

20% test1

20% test2

25% Final

Mid-term grade will be determined based on the first test (50%) and the assignments (50%) due prior to mid-term. Final grade will be given using the following scale:

Grading Scale for CSC 538: A (90-100), B (80-89), C (70-79), D (60-69), F (0-59)

Grading Scale for CSC 738: A (92-100), B (83-91), C (74-82), F (0-73)

Student Progress:

Students are required to check their midterm grade progress report with the instructor. Midterm grade is calculated based on the midterm exam score and the total assignment and quiz scores obtained in the first half of the semester.

X. Attendance Policy:

Attendance will be taken during lectures. Unexcused absences in excess of 10% of the scheduled lecture/lab meetings **will result in a one letter grade reduction for the course**. Unexcused absences in excess of 20% of the scheduled lecture/lab meetings **will result in a two letter grade reduction for the course**. Unexcused absences in excess of 30% of the scheduled lecture/lab meetings **will result in a three letter grade reduction for the course**. Students with unusual circumstances should advise the instructor of their situation immediately. Students will be held responsible for all announcements made in class.

XI. Important Dates:

See <http://www.registrar.eku.edu/schedule/EKUCompass.pdf> pages 14-19.

XII. Students with Disabilities:

If you are registered with the Office of Services for Individuals with Disabilities, please make an appointment with the course instructor to discuss any academic accommodations you need. If you need academic accommodations and are not registered with the Office of Services for Individuals with Disabilities, please contact the office on the third floor of the Student Services Building, by email at disabilities@eku.edu or by telephone at (859) 622-2933 V/TDD. Upon individual request, this syllabus can be made available in alternative forms.

XIII. Academic Integrity:

This course adheres to ECU's academic integrity policy. The policy is available at www.academicintegrity.eku.edu. Questions regarding the policy may be directed to the Office of Academic Integrity.