

The University of Akron
College of Applied Science and Technology
Department of Disaster Science & Emergency Services
Emergency Management and Homeland Security

Course Title: CT: Cyber Hacking & Data Recovery
Course Number: 2235 : 490
Course Credit Three (3)
Prerequisites: 2235:305 and 2235:350

Course Description:

Examines the participants, tools and techniques in digital conflicts and explores how to defend against espionage, hacktivism, non-state actors and terrorists.

Program Outcomes:

Students will be gain a better understanding of:

- The definition for cyber warfare
- Tactical and operational reasons for cyber war
- Cyberattack methodology, tools and techniques
- The cyber threat landscape
- The major categories of cyber threats
- The boundaries in cyber warfare
- explain the process of computer forensic analysis
- explain forensic terminology and computer investigations
- identify and describe the roles of prosecution and government efforts
- identify problems associated with finding digital evidence
- recognize and use standard Internet services
- identify future trends and emerging concerns

Program Assessment Statement

The University of Akron and specifically the Emergency Management and Homeland Security program assesses student learning at several levels. The goal of these assessment activities is to improve student learning. As a student in this course, you will participate in various assessment activities. Grades and work samples may be selected to gather learning outcome data to be measured and tracked over several years. Student names or indicators are not used in data analysis. Students have an active role in course and program assessment projects. Generated data will direct any changes made in the curriculum which is designed to strengthen and constantly improve student learning and educational outcomes.

Grading Scale:

| <u>Grade</u> | <u>Percentage</u> | <u>Points</u> |
|--------------|-------------------|---------------|
| A | 100 – 93 | 265 – 244 |
| B | 92 – 85 | 243 – 223 |
| C | 84 – 76 | 222 – 199 |
| D | 75 – 70 | 198 – 183 |
| F | 69 – 0 | 182 – 0 |

Course Outline:

Topic

- 1 Digital Forensics Profession and Investigations
- 2 The Investigator's Office and Laboratory
- 3 Data Acquisition
- 4 Processing Crime and Incident Scenes
- 5 Working with Windows
- 6 Current Digital Forensics Tools
- 7 Recovering Graphics Files
- 8 E-mail Investigations
- 9 Report Writing for High-Tech Investigations
- 10 Expert Testimony in High-Tech Investigations
- 11 Ethics for the Expert Witness