

Applied Threat Analysis

- Course No: 95-889
- Section: A1
- Day: Wednesday
- Time: 6:20PM – 9:10PM
- Location: Pittsburgh
- Semester: Mini 1 - Fall 2022

Instructor information

- Name: Ed Stoner
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Course Description

This course will deconstruct what governments and industry define as cyber threats by providing students with an understanding of vulnerabilities, exploits, malware, network communications, and threat actors. Additionally the course will cover indicators of compromise and teach how these indicators are used in responding to cyber incidents. Students will learn to develop threat indicators and formulate advice on how to counter and mitigate threats.

Course Goals

Students will walk away from this course with a high-level understanding of how cyber threat analysis is conducted by governments and industry. Students will be aware of current malware analysis, vulnerability analysis, and network analysis techniques.

Learning Objectives

Upon completion of this course the student should be able to:

- describe the common types of indicators of compromise and how they are used in threat analysis and incident response
- understand different types of malware and how they are used in cyber attacks
- understand different types of software vulnerabilities and how they are leveraged by threat actors
- understand how to monitor network communications to detect cyber attacks
- understand how cyber threats are mitigated and countered

Learning Resources

There is no required text for this course.

Useful websites:

<https://kb.cert.org/vuls>

<https://nvd.nist.gov>

<https://attack.mitre.org>

Assessments

Assessment Percentage of Final Grade:

Homework 1:25%

Homework 2:30%

Final Project:45%

Course Policies

- Late-work/Make-up work policy: If a student has an emergency of some kind they must notify the Professor within 24 hours of end of the emergency. Students are expected to provide some kind of basic documentation of the occurrence.
- Accommodations for students with disabilities: If you have a disability and require accommodations, please contact Catherine Getchell, Director of Disability Resources, 412-268-6121, getchell@cmu.edu. If you have an accommodations letter from the Disability Resources office, I encourage you to discuss your accommodations and needs with me as early in the semester as possible. I will work with you to ensure that accommodations are provided as appropriate.
- Statement on student wellness: As a student, you may experience a range of challenges that can interfere with learning, such as strained relationships, increased anxiety, substance use, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. CMU services are available, and treatment does work. You can learn more about confidential mental health services available on campus at: <http://www.cmu.edu/counseling/>. Support is always available (24/7) from Counseling and Psychological Services: 412-268-2922.
- Students are required to follow all University COVID-19 Protocols.