

Tennessee Technological University
Department of Computer Science
Fall 2016

CSC 7210: Anomaly and Intrusion Detection Systems

Course Syllabus

Instructor:

Bill Eberle
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Office Hours: Tuesday and Thursday (9:00-10:30)

Class Location:

203 Prescott Hall
Tuesday and Thursday, 12:00-1:20

Section Number(s): 001
Credit Hours: 3 hours
Teaching Methods: Lecture, discussion, and readings
Prerequisites: CSC 6220 or CSC 6230, or consent of instructor.

Course Description

This course covers traditional anomaly and intrusion detection systems, as well as current advances in this ever-growing field. The application of anomaly detection to a wide-range of domains, including fraud, insider threats, and time-series data will be investigated in-depth, as well as network attacks and the systems for detecting oddities such as network intrusions and denial of service attacks. This course will not only cover the subjects through discussion and readings, but also through hands-on experience.

Textbooks

None. Required readings and other material are chosen from openly available content on the internet. They will be stored locally on the instructor's web-site for convenience.

Schedule

See the class schedule for the list of class topics, the semester schedule, and due dates for assignments for this course.

Topics

The following topics will be covered in this course:

- ✓ Current Systems and Issues
- ✓ Networks
- ✓ Intrusion Detection Systems
- ✓ Worms and Denial of Service
- ✓ Supervised Anomaly Detection
- ✓ Unsupervised Anomaly Detection
- ✓ Graph-based Anomaly Detection
- ✓ Graph-Mining for Security
- ✓ Insider Threats
- ✓ Fraud

Grading

The grade distribution for this class is shown below.

Paper Presentations	60%
Projects	40%

Miscellaneous

The class syllabus, schedule, and other information will be available on the iLearn website as it is developed. You are responsible for checking the iLearn website regularly for information and due date changes.

NOTE: Do NOT use the class iLearn web-site e-mail server for corresponding directly with the instructors. You MUST use the instructors' e-mail address listed at the top of this syllabus.

Ethics and Academic Integrity

If you use material found on the web, reference any and all material you use. Anyone cheating on work in this class will receive a failing grade for the work and will be subject to the university's academic dishonesty policy. Cheating involves giving unauthorized assistance on assignments, or the unlawful use of material for your projects.

Disability Accommodation

Students with a disability requiring accommodations should contact the Office of Disability Services (ODS). An Accommodation Request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The ODS is located in Roaden University Center, Room 112; phone 372-6119.

Attendance Policy

Attendance is not required except for presentations. Student will receive a zero for the corresponding assignment for which they do not attend.