

CS 6239 – Enterprise Cyber Management

Course Information

- **Instructor:** Vijay Madiseti (vkm@gatech.edu)
- **Course Prefix and Number:** CS 6239 A
- **Term:** Spring 2027

Course Description

The duties and concerns of an enterprise Chief Information Security Officer including strategy, cybersecurity operations, risk management, and governance.

Course Learning Outcome

By enrolling in this course, students will gain knowledge and practice in the areas of enterprise cyber and risk management and threat modeling. This course is intended for students with an interest in designing and leading cybersecurity organizations or operating in functions that need to work closely with security teams. Beginning with a focus on strategy and guiding principles, the course then moves into organizational structure and specific roles and duties required to address the cybersecurity needs of different organizations. Core concepts of risk management are introduced and used to frame modules on cyber risk management, threat modeling, control frameworks, auditing, and oversight. Finally, cyber risk governance is studied with a focus on both internal oversight structures and Board-level interaction.

Required Course Materials

No textbooks or materials are required. Materials and Lecture Notes will be provided as needed, and online material will be referenced for further study. Students are expected to use their own laptops and carry out the labs using open-source tools, such as CISO Assistant. Detailed instructions will be provided for laboratories.

Grading Policy

This course is graded on a letter grade basis. Homework & Case Study Analyses (20%), Laboratory Assignments (30%), Midterm Exam (20%), Final Exam (20%), and Class Participation/Attendance (10%) will form the bases for the grade. A score of 85%-100% is an A, 75%-84% is a B, 60%-74% is a C, and below is a D.

Attendance Policy

This course requires mandatory attendance unless there is a suitable official reason for absence in a particular class (usually through letter from the Office of the Dean).

Course Topic Outline

The following is the expected class lecture topic outline (subject to minor change as needed)

1. Cybersecurity Risk Management
2. Enterprise Risk Management (ERM) and Governance
3. ERM Models
4. Threats and Threat Models
5. Adversary and Attacker Profiling
6. Prioritization of Risks Through Threat Modeling
7. Qualitative Risk Analysis
8. Quantitative Risk Analysis
9. CISO Management and Control Frameworks
10. Regulatory Frameworks and Cross Compliance Mapping
11. Auditing, Evidence Integrity, and Gap Analysis
12. Continuous Monitoring
13. Vulnerability Pipelines and Risk Scoring
14. Third Party Risk and Business Impact Analysis
15. Executive Governance and Reporting Structures

Academic and Research Honesty/Integrity Statement

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. Review the [Student Code of Conduct](#) and the [Academic Honor Code](#), especially [Appendix A: Graduate Addendum to the Academic Honor Code](#).

Students are expected to perform research in an ethical and responsible manner. All Doctoral and Master's Thesis students are required to take the [Responsible Conduct of Research training](#), and it is expected that students abide by the principles taught in that training while performing research.

Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Allegations of scientific or scholarly misconduct are handled in accordance with the procedures outlined by the [Policy for Responding to Allegations of Scientific or Other Scholarly Misconduct](#).

Core IMPACTS

Not applicable

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, [contact the Office of Disability Services](#) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Student-Faculty Expectations

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgment, and responsibility between faculty members and the student body. [The Student-Faculty Expectations](#) articulates some basic expectations that you can have of me and that I have of you. Additional information for research-related work is given in [The Expectations of Advisors and Advisees](#). In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.