

# Cybersecurity Practicum

## Course Information

**Instructor:** Sukarno Mertoguno (karno@gatech.edu)

**Course Prefix and Number:** CS 6727 A

**Term:** Fall 2026

## Course Description

This course is a 5.000 credit hours capstone independent study project. Students are expected to propose a research topics that is relevant to real-world cybersecurity issues, hence providing the students with “in-context” learning.

The students will:

1. Identify the problem, further study the problem’s background environment.
2. Develop hypotheses for the root cause and scope of the problem
3. Explore potential problem’s solutions and their trade-offs.
4. Develop a solution for the problem & implement a prototype.

The scope of the problem should be appropriate for a 5-hour project course.

The course will meet weekly where students will present their project progress and provide feedback to their peers. At the end of the course, students will deliver a final presentation and demo (where applicable) and submit a detailed research paper like report that describes their solution, its efficacy and limitations.

## Restrictions:

May not be enrolled in one of the following Levels: Undergraduate Semester

Must be enrolled in one of the following Campuses: Georgia Tech-Atlanta \*

## Prerequisites:

Undergraduate Semester level CS 6035 Minimum Grade of D and (Undergraduate Semester level PUBP 6725 Minimum Grade of D or Undergraduate Semester level CS 6725 Minimum Grade of D)

## Course Learning Outcomes

By enrolling in this course, students will:

1. Gain experience in performing independent research on cybersecurity topics of their choosing (with approval from the instructor).
2. Identify novel cybersecurity problem and analyze the root cause.
3. Clearly scope the identified problem, evaluate potential solutions
4. Develop and implement a solution to the problem.
5. Evaluate and validate the solution’s effectiveness in solving the problem.

## Required Course Materials

No textbooks or materials are required. Outside materials and technologies required are dependent on each project's individual needs. General course materials are located on Canvas.

## Grading Policy

This course is graded on a letter grade basis.

### Assignment

### Weight

Initial Project Proposal	
Ongoing Feedback on Peer Projects	25%
Weekly Progress Reports	25%
Final Presentation	20%
Final Project Report	30%

## Attendance Policy

This course expects the students to attend the weekly meeting (class) in person.

## 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](#).

## 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, acknowledgement, 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.

## Course Schedule

<b>Deliverables</b>	<b>In Class</b>
all deliverables are due on the end of the day before the class.	
Week Search for project's topic – no deliverables 01	Introduction (lecture)
Week Project Proposal : describe your project, address Heilmeier 02 Catechism.	Elevator Pitch for your project (2 minutes each)
Week Progress Report 1: further study topic's background, refine 03 project topic & deliverables, based on study & feedback Highlight progress and/or changes from initial Project Proposal.	10-15 min project presentations
Week Peer Feedback Report 1 04	10-15 min project presentations
Week Progress Report 2: Highlight progress and/or changes from 05 project report 1. Outline solution approach and how it is informed by background research. Refine project deliverables, if necessary.	10-15 min project presentations
Week Peer Feedback Report 2 06	10-15 min project presentations
Week Progress Report 3: Highlight progress and/or changes from 07 project report 2.	10-15 min project presentations
Week Peer Feedback Report 3	10-15 min project presentations

08		presentations
Week Progress Report 4: Highlight progress and/or changes from	10-15 min project	
09 project report 3	presentations	
Week Peer Feedback Report 4	10-15 min project	
10	presentations	
Week Progress Report 5: Highlight progress and/or changes from	10-15 min project	
11 project report 4	presentations	
Week Peer Feedback Report 5	10-15 min project	
12	presentations	
Week Develop & Record 10-15 minutes final presentation	Short 5 minutes	
13 Submit recorded final presentation	summary of final	
	presentation	
Week Work on final report – no deliverable	Short 5 minutes	
14	summary of final	
	presentation	
Week Complete & submit final report		
15		