Introduction to Research in Computer and Information Security

ECS 289M (Computer Security)

Winter and Spring 2018

Instructor: Matt Bishop

Time: MWF 12:10pm–1:00pm

Location: Cruess Hall 107

Credits: 4

CRN: 51693

Course overview:

This course engages students in national cybersecurity and information systems security problems. Students will learn how to apply research techniques, think clearly about these issues, formulate and analyze potential solutions, and communicate their results. Working in small groups under the mentorship of technical clients from government, industry, and academia, each student will formulate, carry out, and present original research on current cybersecurity and information assurance problems of interest to the nation. This course will be run in a synchronized distance fashion, coordinating some activities with partner universities and our technical clients.

Working in teams, students must complete a research project on a focused topic in cybersecurity. The project must aim to accomplish new, significant results (survey papers are not acceptable). The main deliverables are a written technical report and an oral presentation describing the team's new and significant findings (similar in form and length to those from technical research conferences such as USENIX Security). Each student must communicate his or her findings in an oral presentation to the class and in a written report in the format of a computer science technical report (about 10–20 pages).

Every aspect of the project (including proposals, reviews, reports, and presentations) is intended to match the process that professional computer science researchers follow in carrying out original research. Project topics come from lists of problems supplied by government or industrial partners. All proposals must be approved by the instructor.

The teams and technical mentors may agree on other deliverables as well. Each student is expected to participate actively in class.