Carnegie Mellon University

HeinzCollege

INFORMATION SYSTEMS • PUBLIC POLICY • MANAGEMENT

Student Handbook	2015 – 2016

Master of Science in Information Security Policy and Management (MSISPM)

Table of Contents

Contents

1 MASTER OF SCIENCE IN INFORMATION SECURITY POLICY AND MANAGEMENT (MSISPM) CURRICULUM

You will normally complete the MSISPM program in four semesters. The MSISPM curriculum is structured with required courses, security electives, and general electives. In order to successfully complete the MSISPM program, you must complete the following:

- 192 units of course credit;
- all required courses (unless you exempt them);
- 30 units of security elective courses;
- 24 units of general elective courses if pursuing the capstone project option or 12 units of general electives if you choose the thesis option; and
- all other standards for graduation, including meeting a minimum grade point average of 3.0.

1.1 Required Courses

The following is a sample schedule with all the required courses students must complete in four academic semesters.

First Semester: (Fall)
95-752 Introduction to Information Security Management	12 units
95-796 Statistics for IT Managers	6 units
95-760 Decision Making Under Uncertainty	6 units
95-710 Economic Analysis	6 units
94-700 Organizational Design & Implementation	6 units
xx-xxx Security Electives	6 units
xx-xxx General Electives	6 units

Second Semester: (Spring)
95-723 Managing Disruptive Technologies	12 units
95-758 Network and Internet Security	12 units
95-748 Software and Security	6 units
95-719 Accounting and Finance Foundations	6 units
xx-xxx Security Electives	12 units

Third Semester: (Fall)
95-718 Professional Speaking	6 units
95-744 Information Security Policy and Governance	6 units
95-743 Information Security Compliance and Training	6 units
95-749 Cryptography	6 units

94-806 Privacy in the Digital Age	6 units
94-702 Professional Writing	6 units
xx-xxx Security Electives	6 units
xx-xxx General Electives	6 units

Fourth Semester: (Spring)

95-720* Capstone Project	24/36 units
95-756 Information Security Risk Analysis	6 units
xx-xxx Security Electives	6 units
xx-xxx General Electives	12/0 units

Capstone requirement is satisfied by the Information Security Project <u>or</u> Master Thesis.

1.2   Elective Courses

Students in the MSISPM Program are required to take at least 30 units of security elective courses and at least 24 units of general electives (12 if pursuing the Thesis option). A number of courses offered by the MSISPM Program and the Heinz College will satisfy this requirement. Some of the courses are listed below. In addition, the School of Computer Science, and other Carnegie Mellon departments offer courses that may satisfy general electives requirement. Check with your advisor before registering for a course from another academic department if you wish that serve as an elective. Only graduate-level courses, those with a course number greater than 700, will satisfy the security and general elective requirements.

1.2.1   Sample Security Electives

95-702	Distributed Systems	12 units
95-757	Information Security Policy & Management	6 units
95-761	Cybersecurity in Critical Infrastructure	6 units
95-768	Defensive Hacking: Tactical & Strategic	12 units
95-769	Network Security Analysis	12 units
95-841	Information Assurance Policy	12 units
95-855	Network Situational Awareness	12 units
94-818	Policy Topics: Information Security Policy	6 units
90-820	Healthcare Information Security	12 units

1.2.2   Sample General Electives

95-703	Database Management	12 units
95-736	Advanced Relational Database Management	6 units
95-737	NoSQL Database Management	6 units

95-729	E-Commerce Technologies	6 units
95-732	Marketing and Digital Strategy	6 units
95-771	Data Structures and Algorithms	12 units
95-791	Data Mining	6 units
95-797	Data Warehousing	6 units
95-808	IT Project Management	6 units
94-800	Negotiation	6 units
94-802	Geographic Information Systems	12 units
94-823	Measurement & Analysis Social Media Initiatives	12 units
94-840	Lean Entrepreneurship	6 units
91-818	Ethical Issues in Management	6 units
91-843	Power and Influence	6 units

2   INTERNSHIP REQUIREMENT

MSISPM students may choose to pursue an internship during the summer. Minimally, the internship is ten weeks (280 hours) of full-time employment that has formal supervision, is professional in nature, includes work that is of importance to the organization, and has significant educational value.

Before beginning the internship, students must complete the online Career Services Internship Reporting Form for approval.

The internship will be verified with the students' supervisors and then approved. Students must notify their Career Advisor of any significant changes in their internships, such as length, location, hours of work, etc.

Once the internship has been approved, students will be registered for the internship course. MSISPM students are eligible to receive up to 3 units of credit for their internship upon submission of required paperwork. The internship will be reflected on the transcript as a course with P/F grade. If a student plans to exempt the internship, they will need to complete the Petition for Course Exemption. Near the end of the internship, the Career Services Office will request supervisors to complete a Student Performance Evaluation Form.

F1 Visa Students: You must apply for Curricular Practical Training (CPT) employment authorization for your summer internship. CPT authorization is required regardless of the internship being paid or unpaid. CPT is only available to F-1 students who have not graduated and who have been enrolled on a full-time basis for one full academic year (i.e. fall and spring.) If your degree program requires you to complete a summer internship, you can qualify for CPT. Processing CPT may take up to 2 weeks and you cannot begin employment until you receive authorization. Guidelines, forms and instructions can be found at the Office of International Education's website.

2.1.1   Securing an Internship

If you choose to do an internship, you will be responsible for securing a suitable internship. Career Services will provide assistance through counseling, workshops on resume preparation and interview skills, and listings of potential internships. You can make an appointment to discuss your situation and you are encouraged to come to workshops that cover the essential skills for finding the right internship.

3   PROJECT / THESIS

The MSISPM Project or Thesis is designed to capture the essence of knowledge gained by the students from the coursework and apply it towards research or new application initiatives. The project or thesis should be on a topic in an area of research or application that is interesting and relevant to information security. Research may include working on existing projects, designing new areas of research, or assisting faculty with their current research.

A **MSISPM Project** will consist of a group of 4 or more students working on a security related problem. Projects are held during the final semester of study and are subject to approval from the Associate Dean and Program Director. You can work with:
- A Carnegie Mellon faculty member on his/her research interests related to security
- A vendor of security related products sponsored /advised by a faculty member
- Or, an outside firm be it consulting, government or any other organization working on a security related problem sponsored/advised by a faculty member

A **MSISPM Thesis** will consist of a student working by himself/herself on research related topics with sponsorship from a Carnegie Mellon faculty member. A thesis can be taken during the Fall, Spring, or Summer semesters.