

MASTER OF SCIENCE IN CYBERSECURITY

The Master of Science in Cybersecurity degree program requires 32 credit hours of coursework (including a 5 credit practicum project course). Two of the core courses, which students in each specialization will take, will provide a broad overview of technology and policy dimensions of cybersecurity. Students are required to take a third core course that comes from one of the other specializations; e.g., a policy specialization student must take a course from the cyber-physical or information security track. Finally, a practicum project (5 credit hours) with common learning objectives across all participating units will be a core requirement. Each participating unit will decide required and elective courses for the MS Cybersecurity degree specialization offered by it (a total of 18 credit hours). These requirements have been defined by the participating units and are described in the next section.

Although all three participating schools will offer a single degree, MS Cybersecurity, the focus of the degree will depend on the specialization defined by the offering unit. In particular, each unit will offer the following specializations for the MS degree in Cybersecurity.

- The School of Computer Science (CS) offers the MS Cybersecurity degree with an information security specialization.
- The School of Electrical and Computer Engineering (ECE) offers the MS Cybersecurity degree with cyber-physical systems specialization.
- The School of Public Policy (PUBP) offers the MS cybersecurity degree with a policy specialization.

Program of Study

Code	Title	Credit Hours
Required Core Courses:		
CS 6035	Introduction to Information Security	3
PUBP/CS/MGT 6725	Information Security Policies and Strategies	3
CS/ECE/PUBP 6727	Cyber Security Practicum	5
Elective course	CS/PUBP/ECE 6000-level ¹	3
Specialization Requirements (see below for specialization specific requirements)		18
Total Credit Hours		32

¹ Public Policy students must take CS or ECE elective

GPA/Grade Requirements:

- Students must achieve a grade-point average of at least 3.0 to graduate
- No course grades below 'C' will count toward graduation
- Students must take all master's degree coursework on a letter-grade basis

Code	Title	Credit Hours
Information Security Specialization:		
CS 6260	Applied Cryptography	3

CS 6238	Secure Computer Systems	3
CS 6262	Network Security	3
CS 6265	Information Security Laboratory	3
or CS 6264 Information Security Lab: System and Network Defenses		
Select two courses:		6
CS 6210	Advanced Operating Systems	
CS 6250	Computer Networks	
CS 6255	Principles of Network Management	
CS 6300	Software Development Process	
CS 6310	Software Architecture and Design	
CS 6340	Advanced Topics in Software Analysis and Testing	
CS 6365	Intro Enterprise Comput.	
CS 6390	Programming Language Design	
CS 6400	Database Systems Concepts and Design	
CS 6675	Advanced Internet Computing Systems and Applications	
CS 7210	Distributed Computing	
CS 7230	Systems Software Design, Implementation, and Evaluation	
CS 7260	Internetworking Architectures and Protocols	
CS 7270	Networked Applications and Services	
CS 7292	Reliability and Security in Computer Architecture	
CS 8803	Mobile Applications and Services	
Total Credit Hours		18

Code	Title	Credit Hours
Cyber-Physical Systems Specialization:		
ECE 6320	Power Systems Control and Operation	3
ECE 8813	Special Topics (Introduction to Cyber-Physical Electric Energy Systems)	3
ECE 8813	Special Topics (Introduction to Cyber-Physical Systems Security)	3
ECE 8803	Special Topics (Computational Aspects of Cyber-Physical Systems or Cyber Physical Design and Analysis)	3
Select two courses:		6
ECE 6550	Linear Systems and Controls	
ECE 6607	Computer Communication Networks	
ECE 6615	Sensor Networks	
ECE 6102	Dependable Distributed Systems	
ECE 6323	Power System Protection	
ECE 8813	Special Topics (Advanced Computer Security)	
ECE 8813	Special Topics (Network Forensics)	
ECE 8813	Special Topics (Smart Grids)	
ECE 8803	Special Topics (Advanced Topics in Malware)	
ECE 8873	Special Topics (Advanced Hardware Oriented Security and Trust)	
Total Credit Hours		18

Code	Title	Credit Hours
Policy Specialization:		
Select 4 courses:		12
CS 8803	Special Topics (Security Operations and Incident Response)	
INTA 6014	Scenario Writing and Path Gaming	
INTA 6103	International Security	
INTA 6450	Data Analytics and Security	
MGT/CS/ PUBP 6726	Privacy, Technology, Policy, and Law	
PUBP 6111	Internet and Public Policy	
PUBP 6501	Information Policy and Management	
PUBP 6502	Information and Communications Technology Policy	
Electives ¹		6
Total Credit Hours		18

¹ Free electives which may be satisfied by courses from any of the specializations

The Master of Science in Cybersecurity is also offered online.

For more information, visit: [Online Master of Science in Cybersecurity](#).