The M.S. in Cybersecurity Engineering program will have two options:

- The Capstone option requires the completion of 11 courses (33 credits). The capstone is a work-based project, internship experience or other appropriate activity that integrates the skills and knowledge you developed during the degree program, along with your past experiences, areas of specialization and professional goals. In consultation with an advisor, each student develops a project plan and prepares and delivers a final project agreed upon by the student and advisor.

- The Thesis option consists of 10 courses (30 credits) including 6 credits of COMP 899 Master’s Thesis (counts as 2 courses) and requires you to research, write and defend a publishable-quality, graduate-level paper. The thesis track is designed for students who may be interested in pursuing further studies (i.e., a doctoral experience).

### Career Opportunities

Graduates of the Cybersecurity Engineering program are able to identify, analyze and respond to the complex information security threats that are increasingly common in today’s digital landscape. You’ll learn skills in core and advanced information security, preparing you to secure information, communications, networks and control systems for any organization.

With a greater emphasis on the collection and storage of big data, information security and cloud computing, the demand for cybersecurity engineers has never been higher. The M.S. in Cybersecurity Engineering gives you the technical skills and experience to meet that demand, preparing you to secure information, communications, networks and control systems for any organization.

### Requirements

The M.S. in Cybersecurity Engineering program will have two options:

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### Student Learning Outcomes

- Analyze complex computing problems and identify solutions by applying principles of computing.
- Design, implement, and evaluate computing solutions that meet computing requirements with focus on security aspects.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in IT activities.
- Apply security principles and practices to maintain operations in the presence of risks and threats.

### Code | Title | Credits
--- | --- | ---
COMP 815 | Information Security | 3
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COMP 815 | Information Security | 3
One (1) 3-credit policy course from the following: | | 3
CPRM 810 | Foundations of Cybersecurity Policy | |
CPRM 830 | Security Measures I | |
CPRM 850 | Security Measures II | |
CPRM 870 | Cybersecurity Risk Management | |
CPRM 880 | Cybersecurity Metrics and Evaluation | |
Internship 1 | | 1-3
COMP 890 | Internship and Career Planning | |
or COMP 891 | Internship Practice | |
or COMP 892 | Applied Research Internship | |
One (1) elective course for Thesis Option or three (3) elective courses for Capstone Option: | | |
COMP 805 | Full Stack Development | |
COMP 820 | Database Systems and Technologies | |
COMP 822 | Big Data for Data Engineers | |
COMP 825 | Programming Languages | |
COMP 830 | Software Development | |
COMP 840 | Machine Learning Applications and Tools | |
COMP 850 | Neural Networks | |
COMP 851 | System Integration and Architecture | |
COMP 860 | Data Visualization & Communication | |
COMP 880 | Topics | |
Capstone Project | | |
COMP 890 | Master’s Project | 3
or COMP 890 | Master’s Thesis | 6
1 Students are required to enroll in at least one credit of internship experience by enrolling in COMP 890 or COMP 891 or COMP 892 upon successful completion of nine credits in their program of study. COMP 891 and COMP 892 may be repeated for a maximum of 6 credits.