CYBERSECURITY MANAGEMENT (CSMT)

CSMT 7050 Leadership for CS Profnls (3)
This course is designed to provide the advanced knowledge and skills for management of cybersecurity throughout the enterprise. The course examines internal and external security threats against a network, documenting and advocating for cybersecurity spending, managing resources (including vendors) and development of a security governance plan to establish standards and a framework to protect an organization's information.

CSMT 7300 Data & Database Security (3)
This course provides in-depth study of database architecture (including Cloud based data structures and applications) and database management systems from the perspective of securing data. This course covers principles and methodologies of database design from security, and techniques for database application auditing, aggregating, reporting, analysis and response from a cybersecurity management perspective. Best practices in securing data at rest, data in transit and data in use will be reviewed in depth against the context of recent noteworthy breaches. (Virtual Lab)

CSMT 7500 IT Sec Auditing & Monitoring (3)
This course will review tools and methods to audit and monitor a network, including auditing, aggregating, reporting, analysis and response from a cybersecurity management perspective. This will include in-depth coverage of System event, intrusion detection, intrusion prevention, firewalls, packet monitoring and endpoint seciurty and detection. (Virtual Lab)

CSMT 7700 Cyber Network & Tele Security (3)
This course provides in-depth technical knowledge on securing enterprise networks and telcommunications. The course examines defense and defensible architecture, along with best practice implementations of security tools and solutions, and is designed to equip the student with methods and constructs used to test network security. By the end of the course, students will be able to design a basic network from a security perspective to include tools and technologies to best secure an organization's information.

CSMT 7750 Wireless, Mobile & Cloud Secur (3)
This course reviews architecture, vulnerabilities and security methods for Wireless, Mobile and Cloud Computing technologies in the enterprise. Included topics will be reviewing these network constructs as well as vulnerabilities, and attack vectors. Also covered are best practices for implementing and securing IEEE 802.11 wireless networks, wireless access and BYOD, wireless security protocols, mobile IP communications, and cloud computing categories and services. This course also looks at current and emerging cloud services and cloud-based applications, including the "Internet of Things".

CSMT 7800 Cyber Law & Policy (3)
In this course, students study existing and evolving laws, agreements, legal decisions, regulation and compliance pertaining to cybersecurity and enterprise IT. Students will also explore ethical considerations of cybersecurity practices, including social networking and privacy in the context of enterprise cybersecurity management.

CSMT 7870 Cyber Incident Res & Forensics (3)
This course takes a 360 degree study of cyber incident response and investigation from the standpoint of a cybersecurity manager. This includes securing a cyber-incident scene, preserving digital evidence, establishing and maintaining chain of custody, safeguarding evidence, forensic analysis and tools as well as examination and review of evidence. As part of this review, students will consider decision matrices for notifying and working with government and law enforcement agencies. (VIrtual Lab)

CSMT 7900 Sec & Cyber Threats for Mgrs (3)
This course provides advanced information on current threats to IT systems including an array of current and evolving exploitation methods and vulberabilities. Through research as well as lecture, students examine an array of attack types and goals of attackers with an analysis of the anatomy of an attack including motivation, purpose, types, and phases. This course also considers emergent technologies and technical uses (such as Blockchain, Internet of Things, and Quantam Computing) from the standpoint of threat and security.

CSMT 7920 Software and Web App Security (3)
The goal of this course is to provide cybersecurity managers and practitioners with an in-depth review of the technologies, models, best implementation practices and known software and web application vulnerabilities. The course reviews activities and processes pertaining to the planning, programming, and management of software (and systems that manage software) including ways to secure applications through design and control interfaces. This includes in-depth reviews of application architecture, trust models, key management, web protocols, and digital certificates. This course also delves into means and measures to assess effectiveness of application security.

CSMT 7950 Cryptography (3)
The goal of this course is to provide Cybersecurity Management candidates with an in-depth understanding of ciphers, cryptology, and encryption and their use in safeguarding information and systems in the enterprise. The course covers the standard uses of encryption including access control, authentication, data application security, and virtual private networking and examines technical direction and trends in regards to the future of cryptology. The course will also review legal decisions and implications of encryption in the debate on privacy/civil liberties versus business and seciurty/safety goals.

CSMT 7990 Enterprise CS Mgt Capstone (3)
In this Capstone course, students will apply cybersecurity management concepts, best practices, technical knowledge and principles as learned throughout the Program from the perspective of an organizational CSO/CISO. Through Case Study, students will display mastery of these through the creation of deliverables necessary to manage an effective enterprise cybersecurity program. This will include review/documentation of an IT organization's security posture, and creation of a Risk Management structure, Security Policy/Operational Framework, and Budget. Finally, each student will produce a professional-grade White Paper on a Cybersecurity/Cybersecurity Management topic to be assessed by the MPS in Cybersecurity Management Assessment Board.

Prerequisite(s): CSMT 7050, 7900, 7700, 7800, 7500, 7950, 7300[*] and CPST 7150.
[*] May be taken concurrently.