Graduate Certificate in Cybersecurity and Information Assurance

Degree Type
Certificate

The Graduate Certificate in Cybersecurity and Information Assurance is a comprehensive hands-on program that covers the field of cyber security from both an ethical offensive perspective to a defensive preventative perspective to ensure that students fully understand the entire realm of global cyber security and information assurance. The program focuses on all aspects of cyber security from physical security through advanced cryptologic security and utilizes current and relevant tools to ensure that students are well equipped as they enter the cyber security field.

The certificate program also focuses on the vital skills and tools of machine learning and data visualization, which are pervasive and highly desired in the cybersecurity domain. Students are taught data visualization and machine learning skills so that they can perform such tasks as advanced attack campaign and defense analysis, malware forensics/reverse engineering, and malware detection through deep learning and neural networks, which are skills that are in high demand in the cyber security domain.

The program also focuses on cryptography to ensure that students are well versed in encryption and encryption-based attack and defensive systems. Machine learning based hands-on applications are presented as major tools in the cryptologic domain to ensure that students are skilled in their programming and application.

All courses in the certificate program are reviewed on a quarterly basis to ensure that all material taught is current, relevant, and cutting-edge. All industry-relevant tools utilized in the program are also reviewed and updated regularly to ensure that students are job-ready when they complete the program.

Plan of Study

The Graduate Certificate in Cyber Security is comprised of the following courses:

Cyber Security Certificate Courses (18 Units)

Item #	Title	Credits
MSCS3920	Cyber Security: Defense	3.0
MSCS3921	Cyber Security: Forensics and Attack Analysis	3.0
MSCS2219	Advanced Threat Analysis	3.0
MSCS3922	Applied Cryptography	3.0
MSCS3804	Cyber Security and Information Assurance	3.0
MSCS2202	Machine Learning	3.0
	Total Credits	18