Cybersecurity Certificate

The need for cybersecurity professionals is rapidly growing. Nearly every government, military, financial institution, medical establishment, and viable businesses collect, process, and store confidential information in databases. Cyber-attacks and digital spying can take many forms, including high visibility and very damaging offenses such as data breaches, phishing, and identity theft. Attacks can take place within databases, while data is processed, or when it is transmitted across networks. In the world of today, cyber-attacks may be a greater threat than terrorism.

Enrolled students will take courses online or on-campus and learn about best practices, new technology, and research in cybersecurity. The certificate program can be completed completely online or through a combination of online and on-campus courses.

Completion of the Graduate Certificate in Cybersecurity requires completion of 12 graduate credits. This includes three required courses as well as one elective course.

Code	Title	Credits
Required Courses		
CSCI 603	Defensive Network Security	3
CSCI 604	Ethical Hacking	3
CSCI 610	Computer Crime and Forensics	3
Required Elective: Select 3 credits from the list below.		3
CSCI 609	Cybersecurity Law and Policy	
CSCI 669	Network Security	
CSCI 773	Foundations of the Digital Enterprise	
CSCI 774	Topics of the Digital Enterprise	
CSCI 783	Topics In Software Systems (cybersecurity focus)	
Total Credits		**12**

Students can request consideration of other courses for the required elective by contacting the cybersecurity program coordinator.

Zahid Anwar, Ph.D.
University of Illinois at Urbana-Champaign, 2008
Research Interests: Cybersecurity Policy and Law, Artificial Intelligence and Machine Learning

Anne Denton, Ph.D.
University of Mainz, 1996
Research Interests: Data Mining, Bioinformatics, Scientific Informatics, Databases, Geospatial Data, Cloud Computing

Ajay Jha, Ph.D.
Kyungpook National University, 2017
Research Interests: Software Engineering, Software Testing and Maintenance

Jun Kong, Ph.D.
University of Texas, Dallas, 2005
Research Interests: Human Computer Interaction, Mobile Computing, Software Engineering

Pratap Kotala, Ph.D.
North Dakota State University, 2015
Research Interests: Software Engineering

Juan (Jen) Li, Ph.D.
University of British Columbia, 2008
Research Interests: Smart and Connected Health, Semantic Web Technologies, Internet of Things (IoT)

Lu Liu, Ph.D.
University of Texas San Antonio, 2017
Research Interests: Bioinformatics, Data Mining, Machine Learning, Data Science

Simone Ludwig, Ph.D.
Brunel University, 2004
Research Interests: Swarm Intelligence, Evolutionary Computation, Deep Neural Networks, Fuzzy Reasoning, Machine Learning

Kenneth Magel, Ph.D.
Brown University, 1977

Research Interests: Software Engineering, Human-Computer Interfaces, Software Complexity, and Software Design

M. Zubair Malik, Ph.D.
University of Texas at Austin, 2014
Research Interests: Program Analysis, Automated Program Repair, Secure Software Development, Software Verification-Validation and Testing, Software Systems (especially large scale Distributed Systems for Data science and Machine Learning), Formal Methods, Application of Artificial Intelligence in Program Analysis

Oksana Myronovych, Ph.D.
North Dakota State University, 2009
Research Interests: Software Engineering

Saeed Salem, Ph.D.
Rensselaer Polytechnic Institute, 2009
Research Interests: Bioinformatics, Machine Learning and Data Mining

Jeremy Straub, Ph.D.
University of North Dakota, 2015
Research Interests: Multi-tier Mission Architecture & Control, Autonomous Data Link Reduction, Autonomous Vehicle Control, Machine Vision, Super Resolution

Vasant Ubhaya, Ph.D.
University of California-Berkeley, 1971
Research Interests: Algorithm Analysis, Approximation and Optimization

Changhui Yan, Ph.D.
Iowa State University, 2005
Research Interests: Bioinformatics, Computational Biology, Genomics, Machine Learning, Data Mining, Big Data, Cloud Computing