MASTER OF SCIENCE IN CYBERSECURITY

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STATEMENT OF PURPOSE

The demand for skilled professionals who can secure our nation's cyber assets against a variety of threats continues to outpace the supply. This program has been designed to provide working professionals skills they need to pursue careers in this rapidly growing field. Students will learn ethical hacking skills and how to effectively develop, implement, and maintain a security strategy within diverse organizations and industry sectors.

STUDENT LEARNING OUTCOMES

Graduates will:

- Analyze and resolve security issues in networks and computer systems to secure an IT infrastructure
- Design, develop, test, and evaluate secure software
- Develop policies and procedures to manage enterprise security risks
- Evaluate and communicate the human role in security systems with an emphasis on ethics, social engineering vulnerabilities, and training
- Interpret and forensically investigate security incidents

INTRODUCTION

This program represents a comprehensive, multidisciplinary curriculum that prepares students to advance their careers and pursue their academic ambitions through leadership and management positions within the cybersecurity field. The program will equip students with the skills needed to effectively develop, implement, and maintain a security strategy within diverse organizations and industry sectors. Core courses provide students with a solid foundation in data and network security, compliance, strategic planning, program design and management, legal and ethical issues in cybersecurity, cryptography, risk management, and technical communications. In addition, the program offers four unique tracks to assist students in tailoring their coursework to meet their career goals: digital forensics, cyber response, governance and leadership, and security architecture. The Master of Science in Cybersecurity represents a fully online, asynchronous curriculum comprised of 34 credits to include a culminating, project-based capstone experience. Graduates of the program will gain the core competencies required to assume a variety of roles across a wide range of industries to include cybersecurity analyst, security consultant, cybersecurity manager, computer system analyst, security application analyst, and information technology specialist.

ADMISSION REQUIREMENTS FOR MASTER OF SCIENCE IN CYBERSECURITY

Admission to the Master of Science in Cybersecurity requires:

- Prerequisite coursework in Introduction to Computer Science (with a programming emphasis) and Calculus or Statistics
- A bachelor's degree from an accredited university
- Employment résumé
- Two letters of recommendation
- A personal statement of not more than 1000 words

To be eligible for admission in full standing, a student must have an overall undergraduate grade point average of 3.0. Students who do not qualify for admission in full standing may be admitted in full standing on probation if justified by the admitting department and approved by the College Dean.

Program entrance requirements and degree completion requirements are consistent with those of the other collaborative degree-granting institutions offering this program. Applicants should follow the instructions found in the Admission Policies and Procedures section of this catalog.

SPECIAL STUDENTS

Students who have earned a bachelor's degree from a nationally or regionally accredited institution recognized by the Council for Higher Education Accreditation (CHEA) or U.S. Department of Education (USDE) may register as a Special Student. Students will receive academic credit for courses taken while on this status. Students can be considered for admission into a degree program if they maintain a 3.00 grade point average in all graduate-level work and all other admission requirements are met. With the program area advisor's approval, students may transfer up to 12 credits earned at UW-Platteville into a degree program. All graduate-level work will be included in computing a student's GPA.

CURRICULUM

The Cybersecurity degree program has a 34-credit curriculum, wherein students will complete a 25 core credits (including a 3-credit Capstone course) and 9 credits of electives from one of four emphasis to satisfy degree requirements. Graduate credits in which a grade lower than a "C" has been earned will not be counted toward the degree; however, these lower grades will be reflected in the student's grade point average.

Course	Title	Credits
Core courses		
CYB 7000	Fundamentals of Cybersecurity	3
CYB 7030	Network Security	3
CYB 7050	Sociological Aspects of Cybersecurity	3
CYB 7070	Cybersecurity Program Planning and Implementation	3
CYB 7100	Introduction to Cryptography	3
CYB 7150	Managing Security Risk	3
CYB 7200	Communication in Cybersecurity	3
CYB 7890	Cybersecurity Pre-Capstone	1
CYB 7900	Cybersecurity Capstone	3
Emphasis		9
Total Credits		**34**

AREAS OF EMPHASIS

CYBER RESPONSE EMPHASIS

The Cyber Response emphasis area consists of the following three courses

Course	Title	Credits
CYB 7400	Incident Response and Remediation	3
CYB 7450	Secure Operating Systems	3
CYB 7500	Offensive Security & Threat Management	3
Total Credits		**9**

DIGITAL FORENSICS EMPHASIS

The Digital Forensics emphasis area consists of the following three courses

Course	Title	Credits
CYB 7250	Computer Forensics and Investigations	3
CYB 7300	Computer Criminology	3
CYB 7350	Network Forensics	3
Total Credits		**9**

GOVERNANCE AND LEADERSHIP EMPHASIS

The Governance and Leadership area consists of the following three courses

Course	Title	Credits
CYB 7550	Security Administration	3
CYB 7600	Cybersecurity Leadership and Team Dynamics	3
CYB 7650	Cybersecurity Management	3
Total Credits		**9**

SECURITY ARCHITECTURE EMPHASIS

The **Security Architecture** emphasis area consists of the three of the following four courses:

Course	Title	Credits
CYB 7700	Security Architecture	3
CYB 7750	Applied Cryptography	3
CYB 7800	Software Security	3

or CYB 7850	Cyber-Physical System Security	
Total Credits		**9**