WISCONSIN ONLINE COLLABORATIVES

Fall 2025

Course Preview Week: August 26 - September 01, 2025
Semester Dates: September 02 - December 12, 2025

Core Courses

CYB 703: Network Security

Examines network architectures, threats and attack surfaces exploited by these threats. Students will look at network traffic inspection, common attacks and defensive techniques like encryption, network segmentation, firewalls, application proxies, honeypots, DMZs, monitoring networks using: intrusion detection and intrusion prevention systems, and network access control.

CYB 703 Syllabus

CYB 705: Sociological Aspects of Cybersecurity

Presents the principles of applied sociology that account for the human factors in security systems. Topics include an examination of the human role in cybersecurity, the role of security in the context of an organization, and a special focus on the development and implementation of cybersecurity policies.

CYB 705 Syllabus

CYB 710: Introduction to Cryptography

Introduces fundamentals of applied cryptography, including encryption and decryption, symmetric and asymmetric systems, pseudorandom functions, block ciphers, hash functions, common attacks, digital signatures, key exchange, message authentication and public key cryptography. Covers implementation of cryptographic systems in approved programming language, and survey of relevant mathematical concepts, including elementary number theory.

CYB 710 Syllabus

CYB 720: Communication in Cybersecurity

Research, organize, and present technical information to audiences with varying goals and technical needs. Emphasis on ethics, critical thinking, listening skills, and feedback to develop effective messages utilizing verbal and nonverbal communication strategies and visual aids. Individual and group presentations and projects will emulate professional scenarios in cybersecurity.

CYB 720 Syllabus

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Digital Forensics

CYB 730: Computer Criminology

A primer on modern criminology with specific attention to the aspects of technology that facilitate criminal behaviors. Topics include computer crime laws, criminological theories of computer crime, court room and evidentiary procedure, idiographic and nomothetic digital profiling, computer crime victimology, habit/authorship attribution, stylometry, and case linkage analysis.

CYB 730 Syllabus

Cyber Response

CYB 740: Incident Response and Remediation

Students will learn about the phases of an incident response system, and the use of IDS and forensics, dealing with false alarms and the remediation process to minimize business impact, plan business continuity, and work with law enforcement, auditors, insurance, and compliance in how to prevent future incidents.

Prerequisites: CYB 700, CYB 703, CYB 705, CYB 707, CYB 715, CYB 720

CYB 740 Syllabus

Governance and Leadership

CYB 760: Cybersecurity Leadership and Team Dynamics

Focuses on leadership best practices and the interpersonal processes and structural characteristics that influence the effectiveness of teams. Emphasis will be placed on leadership models, principles of team building, group dynamics, problem solving, and crisis management in cybersecurity issues. Course will include case studies of modern security incidents.

CYB 760 Syllabus

Security Architecture

CYB 770: Security Architecture

Focuses on security architectures for the protection of information systems and data. Students completing this course can identify potential vulnerabilities in system architectures

and design secure architectures. Topics include common enterprise and security architectures and their key design elements, such as secure cloud computing and virtualization infrastructures.

Prerequisites: CYB 703

CYB_770_Syllabus

CYB 785: Cyber Physical System Security

Covers the fundamentals and techniques to design and implement cyber-physical systems. Topics include the architecture of cyber-physical systems, exploiting software vulnerabilities, secure coding, microservices security, cloud services security, reverse engineering, security assessment of cyber-physical systems, and data analytics for security.

Students may choose CYB 780 or CYB 785 to satisfy the Security Architecture track requirements.

Prerequisites: CYB 775

CYB 785 Syllabus

Capstone Courses

CYB 789: Cybersecurity Pre-Capstone

Prepares student for capstone experience. Drawing on skills learned, students will submit a written project proposal – with organization, timeline, learning objectives, and specific deliverables identified – for faculty approval. This course is a pre-requisite for the capstone course.

Prerequisites: All seven core courses must be completed

CYB 789 Syllabus

CYB 790: Cybersecurity Capstone

Students present project identified in Capstone Preparation and submit a written report plus oral presentation to both faculty and host organization. Students will be assessed on clarity and content of written report and presentation. Host evaluation will account for a significant percentage of student's final grade.

Prerequisites: CYB 789

CYB 790 Syllabus