WISCONSIN ONLINE COLLABORATIVES

Spring 2026

Course Preview Week: January 20 - January 26, 2026
Semester Dates: January 27 - May 08, 2026

Core Courses

CYB 700: Fundamentals of Cybersecurity

Introduces fundamental concepts and design principles in cybersecurity. Students will understand what, why, and how to protect in the cyberworld. Topics include CIA (Confidentiality, Integrity, Availability), threats and adversaries, threat management techniques and defensive strategies, access control, security policies, critical controls, incident handling and contingency planning, risk assessment and management.

CYB 700 Syllabus

CYB 707: Cybersecurity Program Planning and Implementation

Instruction on the process used to develop and maintain appropriate security levels for an organization with a focus on implementing a comprehensive security program, a documented set of security policies, procedures, guidelines, and standards. Topics include security planning, strategies, controls, and metrics for measuring the effectiveness.

Prerequisite: CYB 700

CYB 707 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 715: Managing Security Risk

Covers risk management processes and tools, risk assessment and analysis models, economic and control implications, risk measurement, and ethics of risk. Students will communicate technical and management aspects of risk, based on research of their chosen industry, regulation, recent industry reports, and risk implications to organizations, individuals and the nation.

CYB 715 Syllabus

Digital Forensics

CYB 725: Computer Forensics and Investigations

Provides instruction on the investigative and forensics processes of digital evidence with a focus on identifying indicators of compromise, the use of common forensics tools, and the preservation of forensic artifacts. Topics include forensic iconology, and the analysis of disk, memory, chip-off, mobile device, and OS artifacts.

Prerequisites: CYB 700, CYB 703

CYB 725 Syllabus

Cyber Response

CYB 750: Offensive Security and Threat Management

Preemptively secure computer and network resources by utilizing information about threats, actors and attack vectors, and processes including red, blue, and purple teaming, and the ethics behind using this data. Topics include active defenses such as penetration testing, log management, hacking, threat management and system posturing.

Prerequisites: CYB 700, CYB 703

CYB 750 Syllabus

Security Architecture

CYB 775: Applied Cryptography

An in-depth study of modern cryptography. Topics include public key and private key cryptography, types of attacks, cryptanalysis, perfect secrecy, hashing, digital signatures, virtual private networks, and quantum key cryptography. Topics from number theory and discrete probability necessary for understanding current cryptosystems and their security will be covered.

Prerequisites: CYB 710

CYB 775 Syllabus

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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