



The Teaching Cyber Security for High School Teachers Certificate program at Worcester Polytechnic Institute (WPI) requires 18 credits, delivered synchronously online. The courses are listed below.

CS 591: Fundamentals in Cybersecurity for Teachers

This course covers network and computer security, addressing intrusion methods, privilege escalation, and defense strategies. Topics encompass networking, OS fundamentals, vulnerabilities, cyber defenses, and security administration.

CS 592: Introduction to Digital Forensics for Teachers

This course explores digital forensics, including forensic lab environment, data acquisition, electronic discovery, legal aspects, technical methodologies in Linux, Mac, and Windows forensics, data hiding and steganography.

CS 593: Cybersecurity Teaching Methods

This course covers cybersecurity guidelines (e.g., HSCCG, CSEC, CAE Knowledge Units, NCWF) and effective teaching methods, including cultural relevance, knowledge scaffolding, differentiation, assessment, and instructional technologies (e.g., CTFs, competitions).

CS 571: Case Studies in Computer Security

This course examines security challenges and failures holistically, taking into account technical concerns, human behavior, and business decisions. Using case studies, students will explore the interplay among these dimensions in creating secure computing systems and infrastructure.

CS 596: Advanced Digital Forensics and Incident Response for Teachers

This course covers computer forensics fundamentals and focuses on providing practical hands-on experiences. Students learn to use practical digital forensic tools for evidence data acquisition and analysis, data recovery, file system analysis, file carving, data hiding, and network forensics.

CS 587: Cyber Security Capstone Experience

The capstone project has students apply security concepts to real-world problems. Students will propose a project idea in cybersecurity in writing with concrete milestones, receive feedback, and pursue the proposal objectives.

Tuition and Course Delivery

All courses at WPI are offered online during Fall, Spring and Summer semesters. NCTA teachers will enjoy a discounted tuition of \$500 per credit for the NCTA certificate program at WPI.

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