

# Cybersecurity Certificate of Technical Skills (CTS)

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The National Security Agency (NSA) and Department of Homeland Security (DHS) have identified Missoula College as a National Center of Academic Excellence (CAE) in Cyber-Defense Two-Year Education. The CAE designation is bestowed to colleges that deliver a NSA/DHS approved Cybersecurity curriculum led by faculty with the appropriate academic and industry-recognized credentials.

The Cybersecurity CTS provides students with an entry-level credential and leads to the Associate of Applied Science degree in Information Technology. Course content prepares individuals in the foundational core, non-technical core, and technical core CAE knowledge units (KUs) for cybersecurity. Students prepare for the CompTIA Security+, a Department of Defense (DoD) Information Assurance Technical (IAT) and Information Assurance Management (IAM) industry-recognized credential (IRC) available through the Missoula College CompTIA Academy.

Stacking the certificate with a general studies certificate, an associate degree, or a bachelor's degree provides the right combination of technical and emotional intelligence to succeed in the new-collar workforce.

## Certificate Requirements\* (12 credits)

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### **CSCI 215E - Social & Ethical Issues in Computer Science** (3 credits)

Exploration of ethical issues in the field of computing. Skills needed to identify and analyze various ethical concerns. Standard ethical concepts and theories, methods of ethical analysis. Strong emphasis on the practical application of the ethical process.

CAE KUs: Policy, Legal, Ethics, and Compliance

### **ITS 150 - Cisco Networking 1** (3 credits)

Introduction to networking field including terminology; protocols; local-area and wide-area networks; the OSI model; topologies; IP addressing; cabling and cabling tools; routers and router programming. Ethernet and network standards; and wireless technologies.

CAE KUs: IT Systems Components, Basic Networking, Operating Systems Concepts

### **ITS 212 - Network Operating Systems - Server Administration** (3 credits)

This course covers server technologies commonly used in local area networking. Topics include installation, administration, storage, application services, network services, security, reliability, and availability.

CAE KUs: Cybersecurity Foundations, Cybersecurity Principles, IT Systems Components, Security Program Management, Basic Cryptography, Basic Networking, Operating Systems Concepts

**ITS 222 - Enterprise Security** (3 credits)

Examination of general information technology security concepts. Topics include access control, authentication, attack methods, remote access, web security, wireless networks, cryptography, internal infrastructure security, and external attacks. Security procedures, organizational policies, risk management, and disaster recovery addressed.

CAE KUs: Cybersecurity Foundations, Cybersecurity Principles, IT Systems Components, Cyber Threats, Cybersecurity Planning and Management, Policy, Legal, Ethics, and Compliance, Security Program Management, Security Risk Analysis, Basic Cryptography