



**eCampus Academy**  
Watertown Unified School District  
111 Dodge Street  
Watertown, WI 53094  
(920) 262-1420  
[ecampusacademy.org](http://ecampusacademy.org)

## IT CYBERSECURITY SPECIALIST PATHWAY – Course Descriptions

### **IOT: Connecting Devices - Course Number: 150-182 Credits: 3.00**

In this course, learners are introduced to the interconnection of data, people, processes and things that forms the Internet of Things (IoT). Learners will differentiate among smart devices, connected devices, and Internet of Things (IoT) devices. Machine-to-machine (M2M), machine-to-people (M2P), and people-to-people (P2P) connections in an IoT solution will be examined. Security concerns that must be considered when implementing IoT solutions will be investigated. Upon completion of the course, learners will be able communicate with data over networks to IoT frameworks.

### **Network Concepts – CCNA1 - Course Number: 150-114 Credits: 3.00**

This course will provide you with more in depth networking concepts. Topics will include the Internet, OSI model, wireless, security, logical and physical topologies, instant messaging, basic router setup and switch configuration, network connectivity, and hardware and software configurations. You will also learn how to create local area networks and wide area networks. Individuals will learn real-world skills related to employment.

### **Network Security - Course Number: 150-194 Credits: 3.00**

Students will learn how to maintain security in the workplace. Security plans will be created based on, but not limited to, ten key security technologies: access control, network security, management security procedures, systems development security, cryptography, security models, operations security, disaster recovery, laws and ethics, and physical security.

### **Introduction to Psychology - Course Number: 809-198 Credits: 3.00**

This course introduces students to some of the major theories and topics of psychology, including the physiological basis of behavior, personality and learning theories, memory, states of consciousness, stress, research methods, intelligence, human development, psychopathology, and social behavior.

### **Quantitative Reasoning - Course Number: 804-135 Credits: 3.00**

This course is intended to develop analytic reasoning and the ability to solve quantitative problems. Topics to be covered may include: construction & interpretation of graphs; descriptive statistics; geometry & spatial visualizations; math of finance; functions and modeling; probability; and logic. Appropriate use of units and dimensions, estimates, mathematical notation, and available technology will be emphasized throughout the course.

### **English Composition - Course Number: 801-136 Credits: 3.00**

This course is designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing and revising are applied through a variety of activities. Students will analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals will develop critical reading skills through analysis of various written documents.

### **IT Scripting - Course Number: 150-145 Credits: 3.00**

This course is designed to provide an overview of modern scripting languages commonly used to build and extend network administration and security tools. The course will introduce the student to scripting on both the Microsoft and Linux platforms. Students will explore the uses of scripting languages and third party modules for accomplishing tasks including scanning, enumeration and automation of network tasks.

### **Network Admin Microsoft Server 1 2019 - Course Number: 150-109 Credits: 3.00**

In this Microsoft Official Academic Course (MOAC) students examine installation, configuration, and storage options in the Windows Server 2019 environment. Students explore processes to maintain, secure, and monitor server performance. Upon completion of the course, students will be prepared to take the Microsoft Certified Solutions Associate (MCSA) Windows Server 2019 exam.



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**Routing CCNA 2 - Course Number: 150-124 Credits: 3.00**

Provides classroom and lab experience in current and emerging networking technology. Includes the following networking concepts and technologies: OSI reference model, LANs, WANs, TCP/IP addressing, routers, router configuration, routed and routing protocols, Internetwork Open System (IOS) images and network troubleshooting. Students will become familiar with the use of commands and protocols that are used when configuring networks and will learn how to troubleshoot a multi-router topology.

**Cybersecurity - Course Number: 150-146 Credits: 3.00**

Students will develop ethical offensive and defensive strategies to protect various network configurations. They will determine which current tools and technologies to utilize while simulating attacks, analyzing and securing the network systems.

**Intrusion Detection Systems - Course Number: 150-106 Credits: 3.00**

Learn the basic concepts and techniques of Intrusion Detection Systems (IDS) and other network related defense strategies. Students will setup, configure, and monitor an Intrusion Detection System utilizing different leading edge products. Current network defense strategies will be discussed and popular tools will be used. Students will be able to apply the correct IDS and defense strategies for different business? goals.

**IOT: Securing Devices - Course Number: 150-115 Credits: 3.00**

In this course, students continue working with IoT devices. Students connect devices and analyze firmware and software for weaknesses. Students research and perform upgrades to IoT devices. After upgrading the IoT devices, the students secure these devices by applying industry best practices. This may include changing firewall settings or remote access settings. Upon completion of this course, students can recognize, update and secure IoT devices.

**Introduction to Sociology - Course Number: 809-196 Credits: 3.00**

This course examines interpersonal relationships of humans and groups and the consequent structure of society. It details the various social processes and concepts which shape human behavior, analyzing such phenomena as organizations, deviance, race and ethnic relations, population, urbanization, social change, and social movements. Religion, education, and the family are studied.

**Cisco Cyberops (SOC) - Course Number: 151-130 Credits: 3.00**

The CCNA Cybersecurity Operations curriculum provides an introduction to the knowledge and skills needed for a Network Security Specialist working with a Security Operations Center (SOC) team. Students learn core security skills needed for monitoring, detecting, investigating, analyzing and responding to security events, thus protecting systems and organizations from cybersecurity risks, threats and vulnerabilities. Upon completion of this course, students can prepare for the Implementing Cisco Cybersecurity Operations (SECOPS) Certification Exam.

**Managing and Configuring Firewalls - Course Number: 151-131 Credits: 3.00**

In this class, students will gain an in-depth knowledge of how to install, configure, and manage firewalls for the defense of the enterprise network architecture. Students will also learn the theory, as well as configuration steps for the security, networking, threat prevention, logging, and reporting features of next-generation firewalls. Upon completion of this course, students can install, configure and update next-generation firewalls.

**Red Hat Enterprise Linux I - Course Number: 150-150 Credits: 3.00**

In this course, learners explore key command line concepts and enterprise-level tools. They investigate foundational Linux skills and core tasks such as file management; file systems and storage; and the update, install, and configuration of software packages. Learners administer users and groups. Upon successful completion of this course and the second course in this series (Red Hat System Administration II), learners will be prepared to take the Red Hat Certified System Administrator (RHCSA) exam.



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**Technical Reporting - Course Number: 801-197 Credits: 3.00**

The student will prepare and present oral and written technical reports. Types of reports may include lab and field reports, proposals, technical letters and memos, technical research reports, and case studies. This course is designed as an advanced communication course for students who have completed at least the prerequisite introductory writing course.

**Cloud Data Security - Course Number: 151-120 Credits: 3.00**

The Cloud Infrastructure and Services (CIS) course educates students about cloud deployment and service models, cloud infrastructure, and the key considerations in migrating to cloud computing. For all definitions of cloud computing, the course has resorted to the U.S. National Institute of Standards and Technology as a guide. The course covers technologies required to build classic (traditional), virtualized, and cloud data center environments. These technologies include compute, storage, networking, desktop and application virtualization. Additional areas of focus are backup/recovery, business continuity, security, and management. Students will learn about the key considerations and steps involved in transitioning from the current state of a data center to a cloud computing environment. Upon completing this course, students will have the knowledge to make informed decisions about migrating to cloud infrastructure and choosing the best deployment model for an organization.

**Computer Security and Penetration Test - Course Number: 151-122 Credits: 3.00**

Students will examine current network security topics through real world examples. They will explore how and why people attack computers and networks and prepare to defend and protect networks and their components.

**Red Hat Enterprise Linux II - Course Number: 150-151 Credits: 3.00**

In this course, learners explore key tasks needed to become a Linux administrator. They build on foundational Linux skills as they learn to manage security and system access; execute shell scripts; automate repetitive tasks; manage storage devices, logical volumes, and file systems; and install Red Hat Enterprise Linux using scalable methods. Upon successful completion of this course learners will be prepared to take the Red Hat Certified System Administrator (RHCSA) exam.

**Monitor and Secure the Infrastructure - Course Number: 151-132 Credits: 3.00**

Learners will monitor, administer, manage, and control one or more networks. The overall function is to maintain optimal network operations across a variety of platforms, mediums and communications channels. Problems will be introduced into the networks and students will be required to work as a team to troubleshoot and fix the systems in a timely manner. Upon completion of this course, the student should be able to recognize and troubleshoot network issues while maintaining availability.