



Printed: 01/28/2020

Academic Year: 2020-2021

IT-Security Technologist Associate Degree

Program Code 101512

Cybersecurity careers are at the forefront of information technology. IT security professionals are needed to prevent hackers from stealing vital data and to protect computer operations. Security technologists are responsible for network security infrastructure, security application software, and security monitoring. Typical career opportunities in this field range from firewall administrators to intrusion detection administrators to security technology consultants. Responsibilities can include firewall administration, network security configuration and support, and security monitoring – all focused on developing and maintaining a secure network. Graduates of this associate degree are also prepared to pursue mainstream vendor certifications with additional study.

**Average
Starting Salary**
\$48,713.00
FT Median Annual Wage

Locations

Offered at the Green Bay campus.
For information: (920) 498-5444.
Toll-free: (888) 385-6982.

This program is fully eligible for financial aid.

Follow Your Path

All credits from the following certificate(s) apply toward this associate degree:
. 611504, Networking Pathway Certificate



Requirements for Program Entry

- Completed application.
- High school transcript or equivalent. For a list of equivalents, go to www.nwtc.edu/gettingstarted.
- One year of high school algebra completed.
- User level familiarity with one or more computer operating environments.
- Ability to interact with a computer system (keyboarding or assist device).
- To be admitted to this program, learners must achieve a prior cumulative high school or college grade point average of 2.6 or higher OR a satisfactory academic skills assessment score. College grade point average must be based on 15 credits or more. To learn more about starting this program, please contact an academic advisor at (920) 498-5444 or (888) 385-6982.

CURRICULUM

Students following the study plan below will complete the IT Security Technologist Associate Degree in the number of semesters shown.

FIRST SEMESTER

10-890-101 College 101	1
10-150-163 IT:Network:Cisco 1	3
10-150-175 IT:Network: Network Essentials	3
10-154-150 IT:Support:Hardware-Intro	3
10-801-136 English Composition 1	3
10-804-133 Math & Logic	3
10-809-198 Intro to Psychology	3
SEMESTER TOTAL	19

SECOND SEMESTER

10-105-101 Career Planning	1
10-809-195 Economics	3
10-150-156 IT:Network:Linux 1	2
10-150-165 IT:Network:Microsoft Server 1	3
10-150-168 IT:Network:Cisco 2	3
10-150-192 IT:Network:PowerShell	2
10-801-196 Oral/Interpersonal Comm	3
SEMESTER TOTAL	17

THIRD SEMESTER

10-150-149 Network Monitoring	2
10-105-103 Career Preparation	1
10-150-176 Cisco Security Fundamentals	2
10-150-183 IT:Network: Virtualization 1	2
10-809-172 Intro to Diversity Studies	3
10-809-166 Intro to Ethics: Theory & App	3
SEMESTER TOTAL	13

FOURTH SEMESTER

10-150-145 IT:Network:Security Fund	3
10-150-148 Compliance Fundamentals	1
10-150-199 IT:Network: Career Experience	2
10-150-159 Linux Security Fundamentals	2
10-150-147 Microsoft Security Fundamental Elective 2	2
SEMESTER TOTAL	12

TOTAL CREDITS

61

Curriculum Note

. The credit for 10-890-101, College 101, is an Institutional Requirement for graduation. Consequently, it is not part of the program credit requirements.

Suggested Electives

Select from among these two and three credit courses:	
10-152-173, IT: Program: Part 1	(C#)
10-152-163, IT: Program: Visual	Basic
10-150-178, IT: Network: Cisco	3
10-150-187, IT: Network: Microsoft Server	2
10-150-158, IT: Network: Linux	2
10-150-184, IT: Network: Virtualization	2

Course Descriptions

10-890-101 COLLEGE 101 ...Students will utilize digital tools and resources to assess, explore, practice, apply, and evaluate both employability and learning skills. By establishing NWTC cultural values as hallmarks of success in academic, career, and personal settings the course encourages reflective, personalized development of a growth mindset and emphasizes the importance of making wise choices. To maximize the return on investment, students should take this course in their first semester as it identifies key expectations (hidden rules) of higher learning and professional employment.

10-150-163 IT:NETWORK:CISCO 1 ...cable characteristics and termination, structured cabling systems, OSI reference model, IP addressing and subnetting, network architectures and basic protocols, Ethernet switches, basic router operation and configuration.

10-150-175 IT:NETWORK:NETWORK ESSENTIALS...develop the knowledge, skills, process, and understanding of client OS installation, configuration, administration, and troubleshooting; network connectivity; standard system maintenance procedures; command line introduction; and basic PowerShell script writing.

10-154-150 IT:SUPPORT:HARDWARE-INTRO ...computer network terminology, component identification, computer/peripheral configuration and maintenance, basic operating systems concepts and installations, basic networking concepts and configurations and troubleshooting using the Cisco IT Essentials curriculum.

10-801-136 ENGLISH COMPOSITION 1 ...learners develop knowledge/skills in planning, organizing, writing, editing. Students will also analyze audience/purpose, use elements of research, format documents using standard guidelines, and develop critical reading skills. (Prerequisite: Accuplacer Rdg score greater/equal to 55 AND Sentence Skills greater/equal to 75; OR ACT Rdg score greater/equal to 16 AND Eng greater/equal to 18; OR preparatory courses-contact academic advisor at 920-498-5444)

10-804-133 MATH & LOGIC ...Students will apply problem solving techniques from discrete mathematics. Topics include symbolic logic, sets, algebra and base number systems (Prerequisite: Accuplacer Arith score greater/equal to 65 AND Rdg score greater/equal to 55; OR ACT Math score greater/equal to 15 AND ACT Rdg score greater/equal to 16; OR prep courses-contact academic advisor 920-498-5444).

10-809-198 INTRODUCTION TO PSYCHOLOGY ...survey of theoretical foundations of human behavior such as sensation and perception, motivation, emotions, learning, personality, psychological disorders, therapy, stress, and human diversity in personal, social and vocational settings. (Prerequisite: Cumulative GPA of 2.6 or greater OR satisfactory reading and writing assessment scores OR 10-831-107, College Reading and Writing 1 with "B" or better OR Corequisite: 10-831-102, English Comp Prep)

10-105-101 CAREER PLANNING ...experiential learning introduction. Learn how personal branding allows candidates to differentiate themselves from the competition through appearance, personality, and marketing competency. Career portfolio introduced. (Corequisite: 10-890-101, College 101)

10-809-195 ECONOMICS ...scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment, and global economic issues. (Prerequisite: Accuplacer Rdg score greater/equal to 55 AND Sentence Skills greater/equal to 60; OR ACT Rdg score greater/equal to 16 AND English greater/equal to 15; OR 10-831-107, College Reading and Writing with a B or better)

10-150-156 IT:NETWORK:LINUX 1...an introductory look at the Linux operating system. Installation and configuration; boot up and login process; directory structure purpose/use; maneuvering in the Command Line Interface; understanding Long Directory Listings; Users and Groups; modifying permissions; remote access; starting and stopping services. (Prerequisites: 10-150-175, IT:Network:Network Essentials)

10-150-165 IT:NETWORK:MICROSOFT SERVER 1 ...Acquire necessary skills for supporting and configuring Windows Server including installation and configuration of an Active Directory Domain. Account administration, group policy management and core server roles and features are identified while preparing for MCSA Exam 70-410. (Prerequisite: 10-150-175, IT:Network:Network Essentials)

10-150-168 IT:NETWORK:CISCO 2 ...Basic configuration of routers and switches; resolving common issues with RIP, OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. (Prerequisite: 10-150-163, IT:Network: Cisco 1; 10-150-175 IT: Network: Network Essentials)

10-150-192 IT:NETWORK:POWERSHELL...introduction to PowerShell concepts and how it is used for managing Microsoft networks; develop fundamental understanding of Windows management through the use of native command-lets, programming logic, and script development. (Prerequisite: 10-150-175 IT: Network: Network Essentials, Corequisite: 10-150-165, IT:Network:Microsoft Server 1)

10-801-196 ORAL/INTERPERSONAL COMMUNICATION ...the communication process, perception and self-concept, language, listening, nonverbal communication, interpersonal relationships, communication in groups and public communication; prepare and deliver an oral presentation. (Prerequisite: Accuplacer Rdg score greater/equal to 55 AND Sentence Skills score greater/equal to 60; OR ACT Rdg score greater/equal to 16 AND English score greater/equal to 16; OR preparatory course-contact an academic advisor at 920-498-5444)

10-150-149 NETWORK MONITORING ...this course provides the opportunity for the learner to develop the knowledge, skills, process and understanding of protocol analysis at the packet level focusing on network performance, real-time monitoring of network traffic, and the configuration of Intrusion Detection Systems to continually monitor network traffic for security anomalies. (Prerequisite: 10-150-163, IT: Network: Cisco 1)

10-105-103 CAREER PREPARATION ...create professional resume and cover letter, prepare for interviews, understand interviewing techniques, participate in a mock interview. (Prerequisites: 10-105-101, Career Planning; 10-801-136, English Composition 1)

10-150-176 CISCO SECURITY FUNDAMENTALS ...this course will provide the learner the opportunity to develop the knowledge, skills, process and understanding of configuration, troubleshooting and monitoring Cisco network devices to maintain integrity, confidentiality, and availability of data and devices; managing secure access, VPN encryption, firewalls, intrusion prevention, web and email content security, and endpoint security. (Prerequisites: 10-150-163, IT: Network: Cisco 1; 10-150-168, IT: Network: Cisco 2)

10-150-183 IT:NETWORK: VIRTUALIZATION 1...provides the opportunity for the learner to develop the knowledge, skill, process, and understanding of designing, implementing, and securing aspects of virtualization environments including but not limited to, storage technologies, virtual network infrastructure, and virtual machine installation, configuration, and migration. (Prerequisites: 10-150-163, IT:Network:Cisco 1; 10-150-175, Network Essentials)

10-809-172 INTRO TO DIVERSITY STUDIES...basic American values of justice and equality by teaching vocabulary, history of immigration/conquest, transcultural communication, legal liability, multicultural majority/minority relations, ageism, sexism, gender, sexual orientation, the disabled/ADA. (Prerequisite: Accuplacer Rdg score greater/equal to 55 AND Sentence Skills greater/equal to 60; OR ACT Rdg score greater/equal to 16 AND English greater/equal to 15; OR 10-831-107, College Reading and Writing with a B or better)

10-809-166 INTRO TO ETHICS: THEORY & APP ...basic understanding of theoretical foundations of ethical thought; analyze/compare relevant issues using diverse ethical perspectives; critically evaluate individual, social/professional standards of behavior--applying a systematic decision-making process. (Prerequisite: Accuplacer Rdg score greater/equal to 55 AND Sentence Skills greater/equal to 60; OR ACT Rdg score greater/equal to 16 AND English greater/equal to 15; OR 10-831-107, College Reading and Writing with a B or better)

10-150-145 IT:NETWORK:SECURITY FUNDAMENTALS ...examine common security vulnerabilities and defenses used to protect network resources. Included is a discussion of security policies, user awareness training, network monitoring, and secure network design. (Prerequisites: 10-150-156, IT:Network:Linux 1; 10-150-165, IT:Network:Microsoft Server 1; 10-150-168, IT:Network:Cisco 2)

10-150-148 COMPLIANCE FUNDAMENTALS ...this course provides the learner the opportunity to build an understanding of information security compliance regulations and guidelines including PCI DSS, HIPPA, etc. to ensure the steps needed to protect confidential information including Non-Public Personal Information. (Prerequisite: 10-801-136, English Composition 1)

10-150-199 IT:NETWORK: CAREER EXPERIENCE...Students can select any hands on experience related to: Internship, Field Research, Service Learning, Simulations, Capstone, Industry Related, or International. Instructor approval required. (Prerequisite: 10-105-103, Career Preparation)

10-150-159 LINUX SECURITY FUNDAMENTALS ...this course provides the learner the opportunity to develop the knowledge, skills, process and understanding of configuration, troubleshooting and monitoring networking equipment using Linux. Linux will be used to maintain integrity, confidentiality, and availability of data and devices; managing secure access, configure VPN access, firewall, intrusion detection, web content security, and endpoint security. (Prerequisites: 10-150-157, IT: Network: Linux 1; 10-150-165, IT: Network: Microsoft Server 1)

10-150-147 MICROSOFT SECURITY FUNDAMENTALS ...this course provides the learner the opportunity to build an understanding of security layers; authentication, authorization and accounting through VPN technologies; network security policies; operating system hardening, patch management and endpoint security, network application security; security reporting and auditing using PowerShell as well as other software tools. (Prerequisite: 10-150-165, IT: Network: Microsoft Server 1; 10-150-192 IT: Network: PowerShell)