

ADVANCED TRANSPORTATION CENTER



**Academic Credit-Based Certificate,
Advanced Certificate and Degree Programs
& Workforce Training Course Catalog**



ADVANCED TRANSPORTATION CENTER

Washtenaw Community College is at the forefront of developing curriculum and training that prepares talent for careers in ever-changing industries. To ensure that our graduates and incumbent workers have the transferable skills needed to succeed in the marketplace, WCC continuously updates its courses and programs with a focus on core practices not simply the latest trends.

New advances in information technology is transforming all industries – including the automotive industry. To ensure that new and existing employees have the skills necessary, WCC is adding connected and autonomous vehicle, intelligent transportation systems and Industry 4.0 classes and programs into its career pathways curriculum and training.

While engineering remains a key job in the mobility space, jobs around data and security, software programming, data science, infrastructure and technician jobs will be in high demand as well. The skills required of technicians include a basic understanding of programming, communication protocols, cybersecurity frameworks and experience with technical tools. From Computer Systems Engineer to Business Intelligence Analyst to Research Scientist,

WCC offers certificates, associate degrees, training and pathways to four-year degrees in each of these areas. We are also providing continuous education training to professionals as well as introducing mobility skills to students in IT, advanced manufacturing and auto service programs.

WCC has always been a leader in teaching through the application of knowledge. As a lead member of Planet M, WCC has integrated skills into its workforce development training and credit programs in IT, advanced manufacturing and auto service to ensure that students are prepared for mobility jobs. Our IT faculty is learning more everyday about vehicle dynamics, while our auto faculty is learning more about IT communication protocols and programming.

In this booklet, you will find descriptions of our academic credit-based certificate, advanced certificate and degree programs as well as workforce training classes.

For more information about the Advanced Transportation Center at Washtenaw Community College, please check us out online at wccnet.edu/atc.

ATC CURRICULUM

The Advanced Transportation Center combines information technology and automotive servicing to develop the skills and competencies required to meet the needs of area employers. The following programs are currently in place:

Intelligent Transportation Systems: Vehicle-to-vehicle and vehicle-to-infrastructure communication

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Certificates:
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Applied Data Science

The Applied Data Science certificate is intended for students who want to pursue a career in data analytics “big data” or enhance their current business skills. Students learn how to capture, manipulate, and analyze structured data—the massive volume of numeric values that can be easily stored and sorted. They learn how to transform data into information to enable faster and more intelligent decision-making.

Division: Business/Computer Technologies

Department: Computer Instruction Dept.

Advisors:

Cheryl Byrne [cbyrne@wccnet.edu]

Michael Galea [mgalea@wccnet.edu]

C# Programming for Modern Computing Environments

This program focuses on one of today’s most in-demand programming platforms, C#.Net. Students progress through a series of courses starting with basic computing logic and algorithm development, database theory, and object-oriented programming techniques. The program culminates in a hands-on capstone project targeting the creation of an application for modern embedded computer environments. The skills learned in this program will be adaptable to the development of mobile apps, embedded apps, connected vehicle applications and intelligent transportation systems, infotainment applications, desktop applications, and applications for Internet devices.

Division: Business/Computer Technologies

Department: Computer Instruction Dept.

Advisors:

John Trame [jtrame@wccnet.edu]

Computer Systems Technology

This program prepares students for employment as a microcomputer service technician. While preparing students to pass the Computer Technology Industry Association's CompTIA A+ Certification Examination, the program goes well beyond the requirements of the exam. The student will develop hands-on troubleshooting skills in solving hardware problems, working with operating systems, and relating to customers. This program also provides the foundation for Washtenaw Community College's two advanced certificates in computer networking.

Division: Business/Computer Technologies

Department: Computer Instruction Dept.

Advisors:

Michael Galea [mgalea@wccnet.edu]

Philip Geyer [pgeyer@wccnet.edu]

James Lewis [lewisja@wccnet.edu]

William Reichert [reichert@wccnet.edu]

Foundations of Information Systems

The Foundations of Information Systems certificate provides a conceptual framework for those students wishing to become a professional in computer information systems or computer programming. The student will be introduced to computer science programming logic, as well as developing algorithms to solve programming problems. In addition, students will acquire an understanding of the impact of information systems and information technology on the business, industrial, and other environments in which they will work as programmers or analysts.

Division: Business/Computer Technologies

Department: Computer Instruction Dept.

Advisors:

Philip Geyer [pgeyer@wccnet.edu]

Khaled Mansour [kmansour@wccnet.edu]

Linux/UNIX Systems

This certificate helps prepare students to complete the Linux+ and LPIC-1 industry certificates. Linux is a popular web server, file server and database hosting platform and is commonly used in everything from mobile computing devices to large-scale data center environments and supercomputers.

Division: Business/Computer Technologies

Department: Computer Instruction Dept.

Advisors:

Michael Galea [mgalea@wccnet.edu]

Philip Geyer [pgeyer@wccnet.edu]

Principles of Cybersecurity

Note: This program is also available online.

This program is designed to meet the emerging demand for highly skilled cybersecurity professionals within the information technology industry and business community. This certificate program provides an in-depth examination of cybersecurity technology with an emphasis on executing a vulnerability analysis of an organization network and network hardening. The student will be trained to use various tools to analyze networks for vulnerabilities and secure networks through the application of various defense mechanisms including firewalls, intrusion detection and Virtual Private Networks.

Division: Business/Computer Technologies

Department: Computer Instruction Dept.

Advisors:

Michael Galea [mgalea@wccnet.edu]

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Advanced Certificates:

C++ Programming

Note: This program is also available online.

This program prepares students for jobs as computer programmers where they will write C++ code and develop applications utilizing object-oriented programming techniques. Students will also develop skills that can be applied to the related jobs of programmer/analyst and software architect.

Division: Business/Computer Technologies

Department: Computer Instruction Dept.

Advisors:

Philip Geyer (pgeyer@wccnet.edu)

Khaled Mansour (kmansour@wccnet.edu)

Computer Networking Academy I

Note: This program is also available online.

This Cisco Networking Academy program prepares students for a job as a network technician where they will install, configure, and troubleshoot Local Area Networks under the supervision of a network administrator. The focus is placed on cabling systems and internetworking hardware. It also gives students the knowledge they'll need to pass the Cisco Certified Network Associate Examination.

Division Business/Computer Technologies

Department: Computer Instruction Dept.

Advisors:

Michael Galea (mgalea@wccnet.edu)

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John Trame (jtrame@wccnet.edu)

Computer Networking Operating Systems I

This program lays a foundation in preparation for a profession as a Microsoft Certified IT Professional. Students will install, configure, and troubleshoot Microsoft Client Server Networks. The program is designed to deploy and manage both Windows Server 2003 and Server 2008 with Client Workstations in simulated real-life situations. Administering, managing, monitoring, and troubleshooting of Server 2008 Active Directory, Network Services, and other Server functions are all emphasized. All Server configured activities are tested out using Client Workstations to ensure they work, just as in a real business environment. The program is structured for both those who are working towards Microsoft Server 2003 MCSA/MCSE certifications, and/or Server 2008 MCTS/MCITP certifications. Also those already having certification who want to enhance their knowledge with the newer operating systems, as well as those who may just want to learn how to effectively implement these technologies are welcome.

Division: Business/Computer Technologies

Department: Computer Instruction Dept.

Advisors:

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William Reichert (reichert@wccnet.edu)

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Mobile Device Programming

This program prepares students to develop applications that run on mobile devices such as an iPhone, iPad or Android phone. This is a rapidly developing market. Students will develop programming skills using the current programming language(s) needed to succeed in jobs such as programmer/analyst.

Division: Business/Computer Technologies

Department: Computer Instruction Dept.

Advisors:

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Program in Java

Note: This program is also available online.

This program is intended for students who need to acquire skills in the Java programming language. The program also gives students skills that can be applied to the related jobs of programmer/analyst.

Division: Business/Computer Technologies

Department: Computer Instruction Dept.

Advisors:

Philip Geyer (pgeyer@wccnet.edu)

Khaled Mansour (kmansour@wccnet.edu)

Web Database Programming Professional

This program focuses on the development of web databases and e-commerce applications. The coursework emphasizes server-side programming and is intended for students with strong programming background. Students will be exposed to a professional team programming exercise. If a student needs exposure to front-end web development, a certificate in the Web Design and Development discipline should be considered.

Division: Business/Computer Technologies

Department: Computer Instruction Dept.

Advisors:

Philip Geyer (pgeyer@wccnet.edu)

Khaled Mansour (kmansour@wccnet.edu)



Associate Degree in Science

Computer Science: Programming in Java

This program prepares students to transfer to complete a bachelor's degree in Computer Science or Applied Computer Science and to pursue careers in computer science fields such as computer systems programming and analysis, software development and maintenance, and applications programming.

Division: Business/Computer Technologies

Department: Computer Instruction Dept.

Advisors:

Philip Geyer (pgeyer@wccnet.edu)

Khaled Mansour (kmansour@wccnet.edu)

Information Systems: Programming in C++

This program prepares students to transfer to complete a bachelor's degree in Business Administration with a major in Computer Information Systems (CIS). Undergraduates and graduates of CIS programs are prepared to create and maintain information systems for organizations, manage information systems projects, and develop strategies for effective use of enterprise information resources.

Division: Business/Computer Technologies

Department: Computer Instruction Dept.

Advisors:

Philip Geyer (pgeyer@wccnet.edu)

Khaled Mansour (kmansour@wccnet.edu)

Associate Degree in Applied Science

Computer Systems and Networking

In this program, students will learn about the latest desktop, server, and networking technologies. This program has a core of hardware, operating system and scripting that all students must complete. In addition to the common core subjects, students will select a specialized track in one of the following areas: Local and Wide Area Networking, Microsoft Network Operating Systems, Linux Network Operating Systems, Computer and Network Security, or Data Recovery.

Division: Business/Computer Technologies

Department: Computer Instruction Dept.

Advisors:

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Cybersecurity

In this program, students are introduced to the skills and strategies needed to plan and carry out security measures to protect an organization's computer networks and systems. Students will learn networking and network security skills using server, infrastructure and perimeter technologies working in Linux operating systems, Cisco infrastructure and perimeter devices, and Microsoft operating systems.

Division: Business/Computer Technologies

Department: Computer Instruction Dept.

Advisors:

Michael Galea [mgalea@wccnet.edu]

James Lewis [lewisja@wccnet.edu]

John Trame [jtrame@wccnet.edu]

Advanced Manufacturing: The latest manufacturing machines, tools and processes, including light-weighting materials

Certificate

Computer Systems Technology

This program prepares students for employment as a microcomputer service technician. While preparing students to pass the Computer Technology Industry Association's CompTIA A+ Certification Examination, the program goes well beyond the requirements of the exam. The student will develop hands-on troubleshooting skills in solving hardware problems, working with operating systems, and relating to customers. This program also provides the foundation for Washtenaw Community College's two advanced certificates in computer networking.

Division: Business/Computer Technologies

Department: Computer Instruction Dept.

Advisors:

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Fluid Power

This program prepares students for entry-level positions as a hydraulic technician. The program gives students an understanding of hydraulic and pneumatic system design including motion control, using electro-hydraulic proportional and servo valves. Students who complete the program may choose to take the Hydraulic Specialist or Technician Certification Examination through the Fluid Power Society.

Division: Adv. Tech/Public Serv. Careers

Department: Industrial Technology Dept.

Advisors:

James Popovich [jimpop@wccnet.edu]

Industrial Electronics Technology

This program prepares students for entry-level jobs in any of the industrial electricity/electronics cluster of occupations. Students will develop skills in the installation, maintenance, and troubleshooting of industrial control systems with a focus on programmable logic controllers, electronic sensors, and electronic control circuits.

Division: Adv. Tech/Public Serv. Careers

Department: Industrial Technology Dept.

Advisors:

Dale Petty (petty@wccnet.edu)

Machine Tool Programming

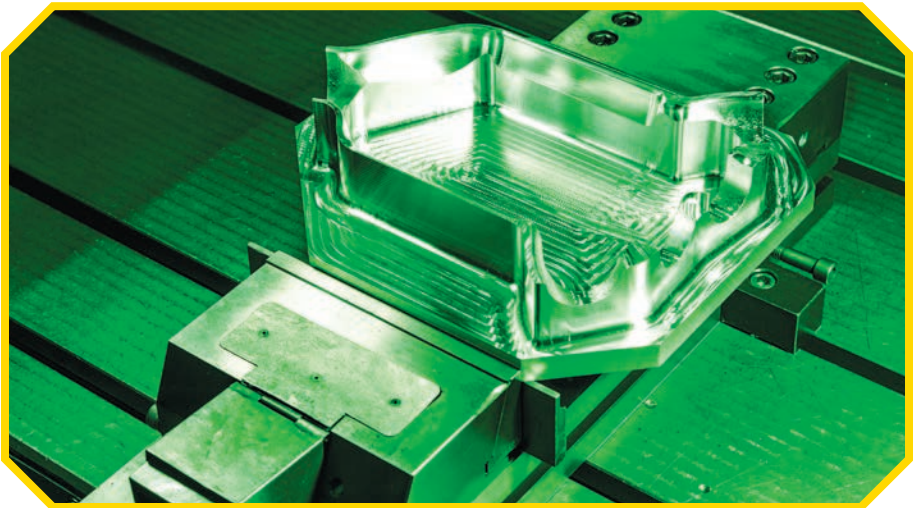
In this program, students will learn to write, read, and edit programs for CNC machine tools. They will understand core canned cycles for milling and turning operations on CNC machine tools and have the skills to do 2D and 3D modeling and posting of CNC code using CAD/CAM software. Students completing this certificate will be able to create, edit, and debug code for local manufacturing companies.

Division: Adv. Tech/Public Serv. Careers

Department: Industrial Technology Dept.

Advisors:

Thomas Penird (tpenird@wccnet.edu)



Machine Tool Setup and Operation

In this program, students learn to set up and operate CNC machine tools, traditional mills, lathes, and saws. They learn how to use basic measurement tools and read blueprints. This certificate will highlight the fundamentals of materials and processes including mechanical and physical testing and heat treatment of ferrous and non-ferrous metals. Students completing this certificate will be able to perform many of the fundamental tasks within a fabrication shop, including simple part manufacturing, set-up and operation of CNC machine tools as well as inspection using simple measurement tools.

Division: Adv. Tech/Public Serv. Careers

Department: Industrial Technology Dept.

Advisors:

Thomas Penird (tpenird@wccnet.edu)

Welding and Fabrication Principles

This certificate introduces students to safe welding and cutting practices and principles, including proper technique and position, weld quality requirements, destructive and non-destructive testing and examination methods, print reading and interpretation of welding symbols as well as basic metal fabrication. Students will use the foundation and working knowledge to weld in all processes, perform repair techniques using thermal cutting and gouging, apply the requirements to execute quality welds and apply CNC programming language that can be used to produce parts that can be assembled and welded. This certificate serves as a fundamental pathway into the Welding and Fabrication Advanced Applications certificate and Welding Technology degree. Students who successfully complete this certificate will have learned the skills sought by the workforce as an entry-level welder and fabricator.

Division: Adv. Tech/Public Serv. Careers

Department: Welding and Fabrication Dept.

Advisors:

Bradley Clink (bclink@wccnet.edu)

Bradley Hoth (bhoth@wccnet.edu)

Glenn Kay II (gkayii@wccnet.edu)

Amanda Scheffler (ascheffl@wccnet.edu)

Certificate of Completion

Introduction to Manufacturing Processes

In this program, students (including dual-enrolled high school students) interested in exploring the manufacturing industry will learn fundamentals in manufacturing including blueprint reading, 3D modeling systems and output files used to control manufacturing systems. Part manufacturing processes including measurement, safety, machining at mills, lathes and saws will be introduced. In these entry-level courses, students will learn set-up and operation procedures at CNC computerized mills and lathes, control of process at CNC mills and lathes to produced quality parts as well as fundamentals for writing programs.

Division: Adv. Tech/Public Serv. Careers

Department: Industrial Technology Dept.

Advisors:

Thomas Penird (tpenird@wccnet.edu)

Advanced Certificate

Advanced Machine Tool Programming

In this program, students will learn advanced CNC programming skills. Students will practice the fundamentals of Intuitive Probing Systems and Visual Quick Code needed to create machine tool programs. Starting with 2D and 3D CAM programming and advancing to 4th and 5th axis machining, students will learn the proper methods for creating tool paths.

Division: Adv. Tech/Public Serv. Careers

Department: Industrial Technology Dept.

Advisors:

Thomas Penird (tpenird@wccnet.edu)

Industrial Electronics Technology II

This program provides advanced instruction for students who wish to enhance their skills in the area of industrial electronic control. The courses in this certificate build on the foundation of electricity and electronic control introduced in the Industrial Electronics Technology certificate. Students will learn to apply and control electric motors, use structured techniques to program PLCs, and relate their understanding of electricity and controls to the requirements of the National Electrical Code. This program prepares students to take the State of Michigan Journeyman Electrician Licensing Exam.

Division: Adv. Tech/Public Serv. Careers

Department: Industrial Technology Dept.

Advisors:

Dale Petty (petty@wccnet.edu)

Welding and Fabrication Advanced Applications

This advanced certificate combines welding fundamentals with more complex welding, cutting and fabrication techniques and applications aimed to further develop one's skills and core competencies. Students focus on welding using processes and positions common in industry, perform destructive and non-destructive testing, identify weld failures and perform root cause analysis, execute repair techniques, perform advanced fabrication techniques and execute automated welding and cutting programming and operations. Students who successfully complete this advanced certificate will have learned a broad range of essential skill sets critical to the trade and how to apply those skills to manufacturing, automotive, construction, aerospace, oil, military, gas and power industries.

Division: Adv. Tech/Public Serv. Careers

Department: Welding and Fabrication Dept.

Advisors:

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Associate in Applied Science

Mechatronics

This program prepares students for entry-level positions as an automated equipment technician who assembles, installs, programs, troubleshoots and maintains robotic and automated equipment. Students have a choice to follow any of three different specialty tracks that will prepare them for the various applications of automation. Each track features a variety of application level classes where the student performs lab-oriented practice for required skills. It is highly recommended that beginning students take at least one technical class during their first semester. See an advisor in the Industrial Technology department for assistance.

Students must select one of the concentrations to complete as a program requirement.

Program Concentrations

Fluid Power Specialty (FPWR)

- FLP 110 Fluid Power Fundamentals - II
- FLP 214 Hydraulic Circuits and Controls
- FLP 225 Fluid Power Motion Control
- FLP 226 Pneumatics

Industrial Electronics Specialty (IELC)

- ELE 211 Basic Electronics
- ELE 254 PLC Applications
- FLP 226 Pneumatics

Numerical Control Specialty (NCTL)

- NCT 110 Introduction to Computerized Machining (CNC) - II
- NCT 120 2D CAD CAM for Shape Cutting
- NCT 121 Manual Programming and NC Tool Operation
- NCT 123 2D CAD CAM CNC Programming for Mills and Lathes
- NCT 221 Advanced Manual Programming and NC Tool Operation

Division: Adv. Tech/Public Serv. Careers

Department: Industrial Technology Dept.

Advisors:

Thomas Penird (tpenird@wccnet.edu)

Welding Technology

The Welding Technology program offers specialized welding and fabrication instruction through theoretical, practical and technical learning objectives and strategies. The core curriculum specializes in welding and fabrication and delves into the expanses of welding technology as a whole. Students are first introduced to welding, cutting and fabrication safety; theory and fundamentals; and then transition to more advanced welding and fabrication processes and applications, including weld quality, inspection, testing and repair, and automated welding, cutting systems and operations. Students who successfully complete this program will have learned a diverse skill set giving them opportunities to enter the workforce as entry-level welders, fabricators and field technicians. It also positions them for degrees in welding engineering, welding education or materials science.

Division: Adv. Tech/Public Serv. Careers

Department: Welding and Fabrication Dept.

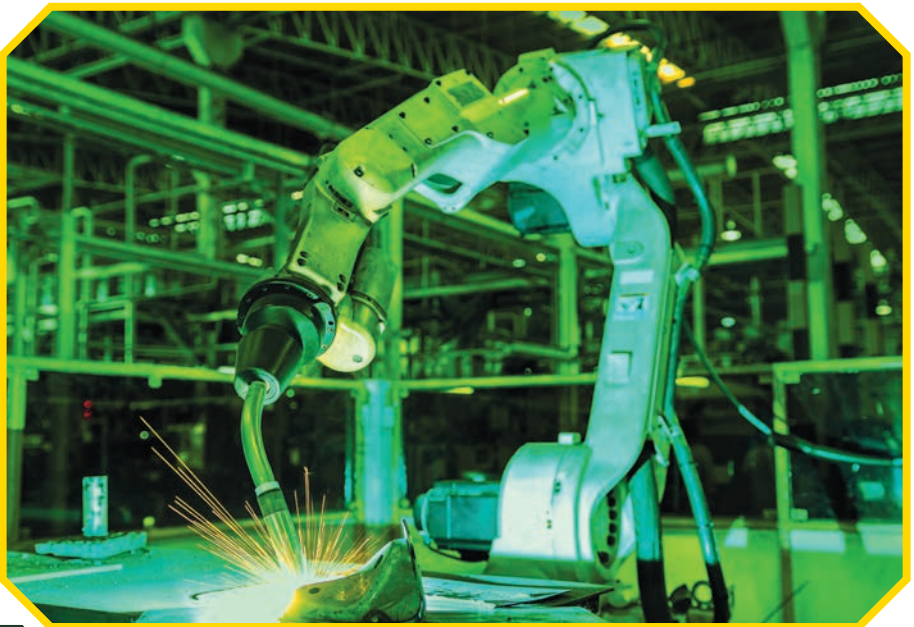
Advisors:

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Amanda Scheffler (ascheffl@wccnet.edu)



Automotive Service: Testing, development, maintenance and repair

Certificate

Auto Body Repair

This certificate will appeal to a wide array of automobile enthusiasts wishing to start a career in the collision repair industry. Through the use of NATEF approved curriculum, students will develop core skills such as dent removal, panel replacement, welding, and automobile refinishing techniques and collision-related mechanical repair. Emphasis is placed on preparing students for employment in an ever-changing workplace that adheres to A.S.E. and I-Car standards associated with the collision repair industry. This certificate also provides a stepping-stone to WCC's Advanced Auto Body certificates.

Division: Adv. Tech/Public Serv. Careers

Department: Automotive Body Department

Advisors:

Bradley Hoth (bhoth@wccnet.edu)

Gary Sobby (sobby@wccnet.edu)



Automotive Services Technician

This program prepares students for employment as a certified automotive technician. Students will diagnose and repair malfunctions in automobile engines, suspensions and steering systems, brakes, electrical and electronic systems and engine drivability issues. This program also offers opportunities to explore vehicle performance, diesel, alternative fuel vehicles, hybrid vehicles and to participate in the building of performance vehicles. The program prepares the student for the State of Michigan Mechanic Certification tests as well as the National Institute for Automotive Service Excellence (ASE) Certification Exams.

Division: Adv. Tech/Public Serv. Careers

Department: Automotive Services Department

Advisors:

Allen Day (amday@wccnet.edu)

Michael Duff (mduff1@wccnet.edu)

Bradley Hoth (bhoth@wccnet.edu)

Motorcycle Service Technology I

The purpose of the Motorcycle Service Technology I program is to provide the student with fundamental certification as a motorcycle technician. The student will receive skill training in service department operations, vehicle set-up, mileage-based maintenances, and damage repair estimating. Areas of instruction include: troubleshooting, diagnosing, servicing, and the repair of primary and final drive systems, transmissions, brakes, suspensions, electrical, and induction systems. The program will provide the skills for the student to test for the State of Michigan Motorcycle Mechanics License.

Division: Adv. Tech/Public Serv. Careers

Department: Motorcycle Technology Dept.

Advisors:

Shawn Deron (sderon@wccnet.edu)

Bradley Hoth (bhoth@wccnet.edu)

Welding and Fabrication Principles

This certificate introduces students to safe welding and cutting practices and principles including, proper technique and position, weld quality requirements, destructive and non-destructive testing and examination methods, print reading and interpretation of welding symbols as well as basic metal fabrication. Students will use the foundation and working knowledge to weld in all processes, perform repair techniques using thermal cutting and gouging, apply the requirements to execute quality welds and apply CNC programming language that can be used to produce parts that can be assembled and welded. This certificate serves as a fundamental pathway into the Welding and Fabrication Advanced Applications certificate and Welding Technology degree. Students who successfully complete this certificate will have learned the skills sought by the workforce as an entry-level welder and fabricator.

Division: Adv. Tech/Public Serv. Careers

Department: Welding and Fabrication Dept.

Advisors:

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Advanced Certificate

Collision Repair and Refinish Technician

This advanced certificate was developed for the individual who would like to focus on a career in the collision repair and refinishing industry. Through the use of select modules and vehicles, students will develop and apply advanced welding techniques, damage analysis, structural and non-structural repair, panel replacement and refinishing techniques. Additional topics such as related mechanical and electrical repairs, overall paint jobs, color theory, and the tinting of factory colors to obtain a blendable match will be covered. Current NATEF, I-Car and ASE standards are followed and satisfactory completion of this certificate prepares students for possible entry-level employment in today's competitive and fast-paced collision repair industry.

Division: Adv. Tech/Public Serv. Careers

Department: Automotive Body Department

Advisors:

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Gary Sobbry (sobbry@wccnet.edu)

Custom Auto Body Fabrication and Chassis Design

The Custom Auto Body Fabrication and Chassis Design certificate focuses on advanced body and paint techniques used to customize automobiles and turn them into "rolling showpieces." Students will expand on knowledge acquired in the Auto Body Repair program. Working in teams, students will build, complete and show a project vehicle. Students will learn advanced sheet metal fabrication and construction of a custom automobile chassis. Areas of study will include various types of building materials and their uses, measurement, pattern development, mechanical drawing, fastener selection, MIG and TIG welding and frame design and suspension types. Other topics such as candies, pearls, tri-stage paint jobs and the application of custom graphics will be discussed. Upon acquiring this advanced certificate, employment possibilities may include specialty shop technician, custom paint technician and metal fabricator/welder.

Division: Adv. Tech/Public Serv. Careers

Department: Automotive Body Department

Advisors:

Bradley Hoth (bhoth@wccnet.edu)

Gary Sobby (sobby@wccnet.edu)

Motorcycle Service Technology II

The purpose of the Motorcycle Service Technology II Advanced Certificate program is to improve the student's skills as a motorcycle technician. Emphasis is placed on engine performance technology, dynamometer operations, and welding.

Division: Adv. Tech/Public Serv. Careers

Department: Motorcycle Technology Dept.

Advisors:

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Bradley Hoth (bhoth@wccnet.edu)

Welding and Fabrication Advanced Applications

This advanced certificate combines welding fundamentals with more complex welding, cutting and fabrication techniques and applications aimed to further develop one's skills and core competencies. Students focus on welding using processes and positions common in industry, perform destructive and non-destructive testing, identify weld failures and perform root cause analysis, execute repair techniques, perform advanced fabrication techniques and execute automated welding and cutting programming and operations. Students who successfully complete this advanced certificate will have learned a broad range of essential skill sets critical to the trade and how to apply those skills to manufacturing, automotive, construction, aerospace, oil, military, gas and power industries.

Division: Adv. Tech/Public Serv. Careers

Department: Welding and Fabrication Dept.

Advisors:

Bradley Clink (bclink@wccnet.edu)

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Amanda Scheffler (ascheffl@wccnet.edu)

Associate in Applied Science

Automotive Service Technology

This program prepares students for employment in an automotive related technical position or as a certified automotive technician. Students will diagnose and repair malfunctions in automobile engines, suspensions and steering systems, brakes, electrical and electronic systems and engine drivability issues. This program also offers opportunities to explore vehicle performance, diesel, alternative fuel and hybrid vehicles and to participate in the building of performance vehicles. The program prepares the student for the State of Michigan Mechanic Certification tests as well as the National Institute for Automotive Service Excellence (ASE) Certification Exams.

Division: Adv. Tech/Public Serv. Careers

Department: Automotive Services Department

Advisors:

Allen Day (amday@wccnet.edu)

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Automotive Test Technician

In this program, students will be introduced to the test and data acquisition processes used in automotive testing. Students will learn to assemble and disassemble components for automotive testing. Diagnosis, maintenance and proper operation of complex data acquisition equipment are essential. Students will learn to monitor and calibrate testing instruments. Job possibilities include working in a crash lab or other testing facility.

Division: Adv. Tech/Public Serv. Careers

Department: Automotive Services Department

Advisors:

Allen Day (amday@wccnet.edu)

Powertrain Development Technician

In this program, students will develop the knowledge and skills to perform in-car powertrain testing in unique testing environments. Jobs in this area require knowledge of automotive engine and electrical systems and experience with an automotive dynamometer. Students will learn about dynamometer set-up and testing including the operation of complex analytical test equipment and test software.

Division: Adv. Tech/Public Serv. Careers

Department: Automotive Services Department

Advisors:

Allen Day (amday@wccnet.edu)

Welding Technology

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Division: Adv. Tech/Public Serv. Careers

Department: Welding and Fabrication Dept.

Advisors:

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Workforce Training

Meeting current and future business and industry needs and providing solutions for next generation mobility, is a top priority for the WCC Workforce Development team. Emerging transformations in technology are opening doors to new career opportunities. We are positioned to prepare the future and existing workforce with training that supports smart cities and advanced transportation.

Big Data Analytics

Certificate in Data Analytics

Class ID: 15840

 **Online**

Explore topics in statistics and their applications in a variety of fields. Gain exposure to quantitative decision-making tools and techniques, which tie into real-world case studies through games, videos, interactive exercises, quizzes, real world case studies and other engaging content to ensure rapid mastery and direct application. Class videos and lessons focus on use of both Microsoft Excel and OpenOffice.

Clock Hours: 30

CEUs: 3

College Credential: Certificate of Completion

Note: Exam prep class. Participants must take exam separately from this class and demonstrate years of experience in the field to be eligible for CCISO Certification.

No-Code Predictive Analytics Using Azure Machine Learning Studio

Class ID: 17396

 **In-person**

Join us for an introduction to the world of predictive analytics which is a must for business analysts, business intelligent developers and managers. The Microsoft Azure Machine Learning Studio gives you this with collaborative, drag-and-drop capabilities on your browser, all without coding.

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

Cloud Computing

CompTIA Cloud Essentials

Class ID: 17660

 **Online**

Focus on the real-world issues and practical solutions of cloud computing in business and IT. Learn about cloud computing, cloud and service models, current technologies, infrastructure planning and more.

Clock Hours: 30

CEUs: 3

College Credential: Certificate of Completion

Note: This class prepares the student to take the CompTIA Cloud Essentials CLO-001 certification exam

Connected and Autonomous Vehicles

Mobility Analyst

Class ID: 17397

 **In-Person**

Prepare to work for city, county, state and federal road agencies, auto manufacturers and provide engineering support to ongoing operations. You will gain in-depth knowledge of the science and technology of mobility analytics, transportation network planning, traffic operations, signalized networks, crash and traffic safety analytics and infrastructure asset management. Upon completion, you will be eligible for entry-level employment as a traffic control room operator or traffic technician and be able to move on to advanced training, certification and professional advancement opportunities in the municipal engineering and consulting industry.

Clock Hours: 45

CEUs: 4.5

College Credential: Certificate of Completion

Cybersecurity

Automotive Developer Security

Class ID: SECI 1025

 **Online**

As an automotive embedded systems professional, arm yourself with the knowledge and skills required to deploy security through the development process. Master securing embedded code, threat modeling, key management, encryption of sensitive data and securing communication channels.

Bundled modules include:

Fundamentals of Secure Architecture

Fundamentals of Secure Mobile Development

Fundamentals of Cryptography

Architecture Risk Analysis and Remediation

Architecture Risk Analysis and Remediation for Embedded Systems

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

C/C++ Developer Security

Class ID: SECI 1017

 **Online**

Establish a thorough grounding in application security concepts with specific C/C++ coding and implementation practices.

Bundled modules include:

Fundamentals of Secure Architecture

Fundamentals of Secure Mobile Development

Fundamentals of Cryptography

Architecture Risk Analysis and Remediation

Architecture Risk Analysis and Remediation for Embedded Systems

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

Capturing, Processing, and Protecting Information

Class ID: 15477

 **Online**

Discover how information systems capture, process and protect information. Learn how information, whether obtained manually or electronically, needs to be processed by transforming raw data into meaningful information that can be applied to business decision making.

Clock Hours: 1

CEUs: 0.1

College Credential: Certificate of Completion

Note: Exam prep class. Participants must take exam separately from this class and demonstrate years of experience in the field to be eligible for CCISO Certification.

Certificate in Cybersecurity

Class ID: 15839

 **Online**

Gain an understanding of the critical elements of information security as well as foundational information about key certifications for professionals in the industry. Master the vocabulary of the industry through examples, videos, interactive games and review questions.

Clock Hours: 40

CEUs: 4

College Credential: Certificate of Completion

Note: Exam prep class for CCISO Certification exam.

Certified Chief Information Security Officer

Class ID: 15630

 **Online**

Solidify your knowledge in the areas that are most critical in the development and maintenance of a successful information security program. Take the next step in becoming a top-level information security executive through technical knowledge and application of information security management principles from an executive management point of view.

Clock Hours: 40

CEUs: 4

College Credential: Certificate of Completion

Note: Exam prep class for CCISO Certification exam.

Certified Information Security Manager (CISM)

Class ID: 17523

 **Online**

Increase your competency in these domains: Information Security Governance; Information Security; Incident Management; Information Risk Management and Compliance; Information Security Program Development and Management.

Clock Hours: 40

CEUs: 4

College Credential: Certificate of Completion

Note: Exam prep class. Participants must take exam separately from this class and demonstrate years of experience in the field to be eligible for CISM Certification.

Certified Information Systems Security Professional (CISSP) 2015

Class ID: 17697

 **Online**

If you're a network security professional or system administrator with at least four years of direct work experience, reinforce your knowledge with this comprehensive review of information security concepts and industry best practices.

Clock Hours: 80

CEUs: 8

College Credential: Certificate of Completion

Note: Exam prep class for CISSP Certification

Certified Secure Computer User (CSCU)

Class ID: 14536

 **Online**

The CSCU training program will provide you with the necessary knowledge and skills to protect information assets. You will be immersed into an interactive environment where you will acquire a fundamental understanding of various computer and network security threats such as identity theft, credit card fraud, online banking phishing scams, virus and backdoors, email hoaxes, sex offenders lurking online, loss of confidential information, hacking attacks and social engineering.

Clock Hours: 14

CEUs: 1.4

College Credential: Certificate of Completion

Note: Exam prep class for the CSCU Certification exam.

Certified Secure Programmer

Class ID: 14535

 Online

Gain knowledge of secure coding practices and learn how to identify security flaws and implement security countermeasures throughout the software development life cycle to improve the overall quality of products and applications. At the completion of the class, you will have the foundation required by all application developers and development organizations to produce applications with greater stability and fewer security risks to the consumer.

Clock Hours: 20

CEUs: 2

College Credential: Certificate of Completion



Industry Certification: EC Council Certified Secure Programmer (ECSP)

Cloud Computing Security Knowledge (CCSK)

Class ID: 17659

 **Online**

Enhance your knowledge of cloud security fundamentals and prepare to take the CCSK certification exam. Explore all major domains including governance and risk management, the Cloud architectural framework and business continuity/disaster recovery.

Clock Hours: 30

CEUs: 3

College Credential: Certificate of Completion

Cloud Developer Security

Class ID: SECI 1010

 **Online**

Develop a clear understanding of the risks and threats associated with cloud computing. You will discover aspects of “big data,” cloud computing characteristics, service models, deployment models and regulatory requirements as well as platform-specific secure coding best practices, including AWS and Azure.

Bundled modules include:

Fundamentals of Secure Architecture

Fundamentals of Secure Mobile Development

Fundamentals of Cryptography

Architecture Risk Analysis and Remediation

Architecture Risk Analysis and Remediation for Embedded Systems

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

CompTIA Security+ Certification

Class ID: 17796

 **Online**

Implement and monitor security on networks, applications, and operating systems, and respond to security breaches. If you are an Information Technology professional who has networking and administrative skills in Windows-based TCP/IP networks and familiarity with other operating systems, such as OS X, Unix, or Linux, and want to further a career in IT by acquiring a foundational knowledge of security topics, this class will give you the foundation you need for advanced security certifications or career roles.

Clock Hours: 8

CEUs: 0.8

College Credential: Certificate of Completion

Note: Exam prep for the SY0-401 exam.

Database Developer Security

Class ID: SECI 1020

 **Online**

Identify the fundamentals of secure database development and the common database attacks that could be used to cause significant loss to organizations while learning about platform-specific threats and secure coding best practices.

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

EC-Council Computer Hacking Forensic Investigator (CHFI)

Class ID: 17659

 **Online**

Build on the skills you gained in the Certified Ethical Hacker class and become familiar with the areas of digital forensics and computer crimes. Master the skills needed for hacker identification and prosecution through foot-printing techniques.

Clock Hours: 50

CEUs: 5

College Credential: Certificate of Completion

Note: Exam prep class for CHFI

Embedded QA/Test Security

Class ID: SECI 1028

 **Online**

If you are responsible for embedded software testing, quality assurance or charged with verifying and assuring application security, this course will provide you with an understanding of applied techniques and a well-rounded base of knowledge to perform your tasks.

Bundled modules include:

Fundamentals of Secure Architecture

Fundamentals of Secure Mobile Development

Fundamentals of Cryptography

Architecture Risk Analysis and Remediation

Architecture Risk Analysis and Remediation for Embedded Systems

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

IT Architect Security

Class ID: SECI 1006

 **Online**

Explore best practices in the design of secure software. Ensure that you are providing and managing the strategic direction and integrity of your organization's IT architecture with the right capabilities to meet business needs.

Bundled modules include:

Fundamentals of Secure Architecture

Fundamentals of Secure Mobile Development

Fundamentals of Cryptography

Architecture Risk Analysis and Remediation

Architecture Risk Analysis and Remediation for Embedded Systems

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

Java Developer Security

Class ID: SECI 1013

 **Online**

Develop a thorough grounding in Java application security concepts. Learn to recognize and remediate common Java Web software security vulnerabilities and specific Java, JRE, and J2EE constructs, including core implementation practices.

Bundled modules include:

Fundamentals of Secure Architecture

Fundamentals of Secure Mobile Development

Fundamentals of Cryptography

Architecture Risk Analysis and Remediation

Architecture Risk Analysis and Remediation for Embedded Systems

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

Mobile Developer Security

Class ID: SECI 1008

 **Online**

Gain understanding of how to identify common mobile application risks, use mobile application development best practices, create a mobile application threat model and apply platform-specific knowledge to iOS and Android.

Bundled modules include:

Fundamentals of Secure Architecture

Fundamentals of Secure Mobile Development

Fundamentals of Cryptography

Architecture Risk Analysis and Remediation

Architecture Risk Analysis and Remediation for Embedded Systems

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

.Net Developer Security

Class ID: SECI 1015

 **Online**

Receive a solid foundation in .NET security features, including concepts such as Code Access Security and .NET cryptographic technologies. Gain an understanding of secure coding best practices that will enable you to build more secure applications in .NET.

Bundled modules include:

Fundamentals of Secure Architecture

Fundamentals of Secure Mobile Development

Fundamentals of Cryptography

Architecture Risk Analysis and Remediation

Architecture Risk Analysis and Remediation for Embedded Systems

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

Payment Card Industry Data Security Standards (PCI DSS) Developer Security

Class ID: SECI 1022

 **Online**

Master the tools required to meet the PCI DSS for systems that transmit, process or store cardholder data. You'll explore frameworks for developing and testing secure applications and receive guidance for mitigating issues.

Bundled modules include:

Fundamentals of Secure Architecture

Fundamentals of Secure Mobile Development

Fundamentals of Cryptography

Architecture Risk Analysis and Remediation

Architecture Risk Analysis and Remediation for Embedded Systems

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

PHP Developer Security

Class ID: SECI 1023

 **Online**

Improve your understanding of risk analysis, cryptography and other important topics for secure PHP-based web application development.

Bundled modules include:

Fundamentals of Secure Architecture

Fundamentals of Secure Mobile Development

Fundamentals of Cryptography

Architecture Risk Analysis and Remediation

Architecture Risk Analysis and Remediation for Embedded Systems

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

Project Manager Security

Class ID: SECI 1026

 **Online**

Gain a comprehensive baseline of application security knowledge for managing leading application development and design projects. You will be exposed to the Secure Software Development Lifecycle that promotes project management efficiency in building security into the process up front.

Bundled modules include:

- Fundamentals of Secure Architecture
- Fundamentals of Secure Mobile Development
- Fundamentals of Cryptography
- Architecture Risk Analysis and Remediation
- Architecture Risk Analysis and Remediation for Embedded Systems

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

Security for Embedded Architects

Class ID: SECI 1002

 **Online**

Discover the unique resource requirements of embedded environments and best practices for the design and architecting of secure software for embedded systems.

Bundled modules include:

- Fundamentals of Secure Architecture
- Fundamentals of Secure Mobile Development
- Fundamentals of Cryptography
- Architecture Risk Analysis and Remediation
- Architecture Risk Analysis and Remediation for Embedded Systems

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

Security for Software Architects

Class ID: SECI 1004

 **Online**

Learn how to apply secure software architecture best practices to the requirements, design and implementation phases of your software development life cycle. With an emphasis on the early phases of the software development lifecycle and defensive coding techniques, you will discover how to build security into software architecture while avoiding the systemic issues of insecure software.

Bundled modules include:

Fundamentals of Secure Architecture

Fundamentals of Secure Mobile Development

Fundamentals of Cryptography

Architecture Risk Analysis and Remediation

Architecture Risk Analysis and Remediation for Embedded Systems

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion



Systems Leadership Security

Class ID: SECI 1027

 **Online**

Develop a comprehensive baseline of application security knowledge to lead application development and design projects. You will get an overview of secure architecture, mobile development, cryptography, security risks and remediation.

Bundled modules include:

Fundamentals of Secure Architecture

Fundamentals of Secure Mobile Development

Fundamentals of Cryptography

Architecture Risk Analysis and Remediation

Architecture Risk Analysis and Remediation for Embedded Systems

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

Test/QA Security

Class ID: SECI 1030

 **Online**

As a software tester or quality assurance professional, arm yourself with the knowledge and skill required to verify and assure application security. You will receive special emphasis on applied testing techniques and meeting compliance requirements.

Bundled modules include:

Fundamentals of Secure Architecture

Fundamentals of Secure Mobile Development

Fundamentals of Cryptography

Architecture Risk Analysis and Remediation

Architecture Risk Analysis and Remediation for Embedded Systems

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

Web 2.0 Developer Security

Class ID: SECI 1019

 **Online**

Equip yourself with all the information needed to understand, avoid and mitigate the risks posed by web vulnerabilities. Gain a detailed background on the most common and recent attacks against web-based applications, such as cross-site scripting attacks and cross-site request forgery attacks. Learn platform specific secure-coding best practices, including coverage of HTML5 and AJAX.

Bundled modules include:

Fundamentals of Secure Architecture

Fundamentals of Secure Mobile Development

Fundamentals of Cryptography

Architecture Risk Analysis and Remediation

Architecture Risk Analysis and Remediation for Embedded Systems

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

Security Compliance Procedures - NIST 800-171 - Part I

Class ID: SECI 1000

 **Online**

In the first of two courses, you will be provided with the resources that organizations and government contractors must comply with regarding the protection of controlled unclassified information in non-federal information systems. You will discover strategies for managing access control, security awareness and training, auditing and accountability, configuration management, identification and authentication, incident response and security maintenance.

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

Currently In Development

Security Compliance Procedures - NIST 800-171 - Part II

Class ID: SECI 1001

 **Online**

In the second of two courses, you will be trained in protecting media, personnel security, physical protection, risk assessment, security assessment, systems and communications protection and system and information integrity.

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

Currently In Development

Fiber Optics

Certified Fiber Optics Specialist in Splicing

Class ID: 17393

 **In-Person**

Through this two-day, 16-hour course, you will be exposed to the importance of high performance splicing and the points necessary to achieve these splices. 85% hands-on classroom activities will provide you training in both fusion and mechanical splicing of either single or multimode fiber optic cables. You will be responsible for successfully making and testing both mechanical and fusion splices, correctly and efficiently installing spliced fibers into splice trays and enclosures and achieving a splice loss of less than 0.15 dB for all splices while demonstrating proficiency in interpretation of splice loss using OTDR splice traces.

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

Note: This class prepares participants to take the Certified Fiber Optic Specialist in Splicing - CFOS/S

Certified Fiber Optics Specialist in Testing and Maintenance

Class ID: 17394

In-Person

Receive advanced training in the testing and maintenance of fiber optics networks in this two-day, 16-hour program. Discover a general, easy-to-understand approach to fiber optics testing standards with little theory and considerable hands-on activities. You will learn about the variety of testing standards, equipment and technological approaches used in fiber network testing and splicing and how to choose among them. This 85% hands-on class explores the overall spectrum of testing and maintenance of single mode fiber optics networks and provides a detailed overview and demonstration of various pieces of equipment used in testing and maintenance. Subject matter includes a detailed study of ANSI/TIA/EIA-526-(7) A, OTDR fundamentals and uses, OTDR vs. Insertion Loss Testing, Return Loss Testing, and Attenuation testing using the Power Source and Light Meter.

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

Note: This class prepares participants to take the Certified Fiber Optic Specialist - Testing and Maintenance - CFOS/T exam.



Certified Fiber Optic Specialist Outside Plant (CFOS/O)

Class ID: 18504

In-Person

In this two-day, 16-hour fiber optic specialist course for students who will be directly involved with installing Outside Plant (OSP) Fiber Optics Cabling, you will have lecture sessions along with 85% hands-on activities. Become familiar with industry standards governing the installation, testing, and troubleshooting of OSP fiber optics cable used in the Outside Plant Rugged Environment. You will learn how to properly identify OSP fiber cabling types, recognize various outside plant closures used in OSP fiber installation, install, prepare, terminate, splice, and properly test and troubleshoot installed OSP fiber cable to existing standards. Hands-on activities include both mechanical and fusion splicing.

Clock Hours: 16

CEUs: 1.6

College Credential: Certificate of Completion

Note: This class prepares participants to take the Certified Fiber Optic Specialist Outside Plant - CFOS/O exam.

Certified Fiber Optic Technician (CFOT)

Class ID: 17395

In-Person

In this introductory three-day fiber optic tech training, you will be given a combination of theory and 85% hands-on activities. You will be introduced to industry standards governing Fiber to the Desk, Fiber to the Home and Distribution Cabling; learn how to identify fiber types and recognize various connectors used in fiber installation; and install, terminate, splice, and properly test installed fiber cable to existing standards.

Clock Hours: 24

CEUs: 2.4

College Credential: Certificate of Completion

Notes: This class prepares participants to take the Certified Fiber Optic Technician - CFOT exam.

Mobile Technologies

CompTIA Mobility+

Class ID: 17688

 **Online**

Become a versatile CompTIA Mobility+ certified professional able to manage the complex environments that trends such as bring-your-own-device create. Gain an understanding of different mobile technologies as well as over-the-air systems.

Clock Hours: 40

CEUs: 4

College Credential: Certificate of Completion

Note: This class prepares participants to take the CompTIA Mobility+ MBO-001 Certification exam.

Networking

Cisco 300-101 ROUTE - Implementing Cisco IP Routing

Class ID: 17687

 **Online**

Become acquainted with using advanced IP addressing and routing in implementing scalable and highly secure Cisco routers that are connected to LANs, WANs, and IPv6 and configuring highly-secure routing solutions to support branch offices and mobile workers. You will enjoy FREE access for 12 months to a cloud-based lab platform to assist you in developing the practical information technology skills necessary to succeed in high-demand IT jobs.

Clock Hours: 40

CEUs: 4

College Credential: Certificate of Completion

Note: This class prepares participants to take the Cisco 300-101 ROUTE: Implementing Cisco IP Routing Certification exam.

Cisco 300-115 SWITCH - Implementing Cisco IP Switched Networks

Class ID: 16717

 **Online**

Learn skills for planning, configuring, and verifying the implementation of complex enterprise switching solutions that use the Cisco Enterprise Campus Architecture. You'll enjoy FREE 12-month access to a cloud-based lab platform to assist you in developing the practical information technology skills necessary to succeed in high-demand IT jobs.

Clock Hours: 40

CEUs: 4

College Credential: Certificate of Completion

Note: This class prepares participants to take the Cisco SWITCH 300-115 Certification exam.

CISCO 300-135 - Troubleshooting and Maintaining Cisco IP Networks

Class ID: 17686

 **Online**

Gain the knowledge and skills necessary to plan and perform regular maintenance on complex enterprise routed and switched networks and use technology-based practices and a systematic ITIL-compliant approach to perform network troubleshooting. You will have FREE access for 12 months to a cloud-based lab platform to assist you in developing the practical information technology skills necessary to succeed in high-demand IT jobs.

Clock Hours: 40

CEUs: 4

College Credential: Certificate of Completion

Note: This class prepares participants to take the Cisco 300-135 TSHOOT: Troubleshooting and Maintaining Cisco IP Networks Certification exam.

CISCO Certified Network Associate (CCNA) 100-105 and 200-105

Class ID: 17740

 **Online**

Become proficient with network switching and routing concepts including: spanning tree protocol, VLAN trunking, dynamic routing protocols and IPv4 and IPv6 troubleshooting. Get experience with various WAN technologies and encapsulation protocols, as well as various aspects of network device management and security.

Clock Hours: 120

CEUs: 12

College Credential: Certificate of Completion

Note: This class prepares participants to take the CISCO Certified Network Associate (CCNA) 100-105 and 200-105 Certification exams.

CISCO Certified Network Professional (CCNP)

Class ID: 17462

 **Online**

Experience using advanced IP addressing and routing in implementing scalable and highly secure CISCO routers that are connected to LANs, WANs and IPv6, configuring highly-secure routing solutions to support branch offices and mobile workers, gain the knowledge and skills necessary to plan and perform regular maintenance on complex enterprise routed and switched networks, use technology-based practices and a systematic ITIL-compliant approach to perform network troubleshooting.

Clock Hours: 120

CEUs: 12

College Credential: Certificate of Completion

Note: This class prepares participants to take the Cisco 300-101 ROUTE, 330-135 TSHOOT, and 300-115 ROUTE Certification exams.

CompTIA Network+ Certification

Class ID: 17795

 **Online**

For entry-level computer support professionals with a basic knowledge of computer hardware, software, and operating systems wishing to prepare for the CompTIA® Network+® (Exam N10-006) or who wish to increase their knowledge and understanding of networking concepts and acquire the required skills to prepare for a career in network support or administration, this is the class for you. You will learn the major networking technologies, systems, skills, and tools being used in modern networks.

Clock Hours: 8

CEUs: 0.8

College Credential: Certificate of Completion

Note: This class prepares participants to take the CompTIA N10-006 Network+ Certification exam.

Network+ Security+, CCNA

Class ID: 17453

 **Online**

Gain hands-on expertise in performance-based labs that simulate real-world, hardware, software and command line interface environments. Learn to identify risk; participate in risk mitigation activities; and provide infrastructure, information, operational, and application security. This class includes FREE access for 12 months to a cloud-based lab platform to assist you in developing the practical information technology skills necessary to succeed in high-demand IT jobs.

Clock Hours: 240

CEUs: 24

Industry Credentials: CompTIA N10-005: Network+, Syo-401: Security+ and CISCO CCNA 100-105 and 200-105 Certifications

Operating Systems

Comp TIA A+ 220-901 and 220-902

Class ID: 17727

 **Online**

Gain hands-on expertise in network connectivity issues and security; mobile device hardware; networking and troubleshooting hardware and peripherals for PC, iOS, Android, Apple OS X and Linux; the fundamentals of cloud computing and operational procedures; and installing and configuring operating systems including Windows. You will enjoy FREE access for 12 months to a cloud-based lab platform to assist you in developing the practical information technology skills necessary to succeed in high-demand IT jobs.

Clock Hours: 50

CEUs: 5

College Credential: Certificate of Completion

Note: This class prepares participants to take the CompTIA A+ 220-901 and 220-902 Certification exams.

Comp TIA A+ 220-902

Class ID: 17736

 **Online**

Enhance your IT professional skills and gain experience with iOS, Android, Apple OS X and Linux; cybersecurity; the fundamentals of cloud computing and operational procedures; and installing and configuring operating systems including Windows. Enjoy FREE 12-month access to a cloud-based lab platform to assist you in developing the practical information technology skills necessary to succeed in high-demand IT jobs.

Clock Hours: 25

CEUs: 2.5

College Credential: Certificate of Completion

Note: This class prepares participants to take the CompTIA A+ 220-902 Certification exam.

CompTIA A+ Certification

Class ID: 17794

 **Online**

If you are getting ready for a career as an entry-level information technology professional or computer service technician, the CompTIA® A+® class is the first step in your preparation. The class will build on your existing user-level knowledge and experience with personal computer software and hardware to present fundamental skills and concepts that you will use on the job. You will acquire the essential skills and information you will need to install, configure, optimize, troubleshoot, repair, upgrade, and perform preventive maintenance on PCs, digital devices, and operating systems.

Clock Hours: 8

CEUs: 0.8

College Credential: Certificate of Completion

Note: This class prepares participants to take the CompTIA A+ 220-901 Certification exam.

Supporting and Troubleshooting Windows 10

Class ID: 16969

 **Online**

Achieve the knowledge and skills required to support and troubleshoot Windows 10 PCs and devices in a Windows Server domain environment including an understanding of Windows 10 features, how they can be used in an Active Directory environment and how to troubleshoot them.

Clock Hours: 40

CEUs: 4

College Credential: Certificate of Completion

Programming

Java Programming Fundamentals 3.0, Self-Paced

Class ID: 17261

 **Online**

Explore how to solve simple problems using the fundamental syntax and semantics of the Java programming language, write Java programs, extend error handling techniques and more.

Clock Hours: 112

CEUs: 11.2

College Credential: Certificate of Completion

Note: This class prepares participants to take the Oracle Java Certification Exam - Associate Level.

PMI Agile Certified Professional (PMI-ACP) Exam Preparation

Class ID: 17800

 **Online**

Build up a solid foundation in this three-day class. You will be introduced to PMI Agile concepts and practices with banks of sample questions, apply agile principles directly to a real-world project taken directly from your industry and engage in numerous discussion groups focusing on agile best practices.

Clock Hours: 8

CEUs: 0.8

College Credential: Certificate of Completion

Programming in C#

Class ID: 16962

 **Online**

Enrich your programming skills to create Windows applications using the C# language.

Clock Hours: 40

CEUs: 4

College Credential: Certificate of Completion

Programming in HTML5 with JavaScript and CSS3

Class ID: 16973

 **Online**

Receive an introduction to HTML5, CSS3 and JavaScript and gain basic programming skills.

Clock Hours: 40

CEUs: 4

College Credential: Certificate of Completion

Virtualization

VMware® vSphere: Install, Configure, Manage v6.0

Class ID: 17798

 **Online**

Designed for system administrators or systems engineers, acquire a solid understanding of how to administer a vSphere infrastructure for an organization of any size.

Clock Hours: 8

CEUs: 0.8

College Credential: Certificate of Completion

VMware® Horizon (with View): Install, Configure, Manage v6.2

Build upon the skills of installing, configuring, and managing the View component.

Use this hands-on training class to master the ability to deliver virtual desktops and applications through a single virtual desktop infrastructure platform.

Clock Hours: 8

CEUs: 0.8

College Credential: Certificate of Completion



For more information on the
Advanced Transportation
Center at WCC visit:

wccnet.edu/atc