

COMPUTER SERVICE TECH-HARDWARE (631)

Information provided includes course descriptions by subject only. For complete 2024-2025 programs/academic plans, please refer to Academic Programs (<http://catalog.blackhawk.edu/academics/>).

631-100 Microcomputer Fundamentals

Credits: 1-3

This course covers the program environment and binary functionality of the personal computer. An in-depth look at PC component identification, use, and functions are then observed. The course relies heavily on hands-on construction and preparation of the PC hardware, followed by a review of the technical resources and proper troubleshooting methods. This course incorporates a hands-on lab and performance assessment, where students work with the instructor and one another to perfect their skills.

Aid Code: 10 - undefined.

[Complete Course Listing](#)

631-101 PC Software Fundamentals

Credits: 1-3

This course familiarizes the learner with Windows and Linux operating systems, popular business applications, and computer virus eradication. Students will learn how to properly install, use and troubleshoot each operating system and software package – to include software detailing, software utilities, and licensing. This course will help to ready students for the IC3 certification along with the CompTIA A+ certification.

Aid Code: 10 - undefined.

Co-requisites: (631-100)

[Complete Course Listing](#)

631-102 PC Peripherals and Troubleshooting

Credits: 1-3

Students will apply the troubleshooting theory and repair various scenario-based problems involving computer hardware, software, and peripherals. Students will learn about the installation and setup of various computer peripherals, to include (but not limited to) various types of printers, scanners, and digital cameras.

Aid Code: 10 - undefined.

Co-requisites: (631-101) and (631-100)

[Complete Course Listing](#)

631-103 Apple Devices and Operating Systems

Credits: 1-3

The Apple Devices & Operating Systems course provides a comprehensive overview of several pieces of Apple hardware and operating systems. Students will learn the installation, configuration, and troubleshooting of the operating systems and hardware. Network installation, configuration, and troubleshooting will also be included.

Aid Code: 10 - undefined.

Pre-requisites: (631-112)

[Complete Course Listing](#)

631-104 Cyber Ethics

Credits: 1-3

In this course students will examine situations that are considered to be in a “gray” area that many IT specialists face on a daily basis. Students will evaluate the situations presented to them and determine the best action plan based on a set decision-making process.

Aid Code: 10 - undefined.

Pre-requisites: (631-111)

[Complete Course Listing](#)

631-106 IT Customer Service Fundamentals

Credits: 1-3

This course is designed to instruct students on the principles of service calls and customer relations skills needed for success as a field service technician. Practical interviews and role playing are included in this course, with emphasis on phone and electronic support skills based on an Information Technology environment.

Aid Code: 10 - undefined.

[Complete Course Listing](#)

631-107 Linux Operating Systems

Credits: 1-3

An introduction to Linux desktop and server are covered. Topics include installation, administration, Linux commands, and troubleshooting. The learner will apply previous knowledge to set up a network that combines Linux, Windows, and Apple operating systems. This course prepares students for the CompTIA Linux+ certification.

Aid Code: 10 - undefined.

Pre-requisites: (631-123)

[Complete Course Listing](#)

631-108 Manufacturing Communication Protocols

Credits: 1-3

This hands-on course focuses on the principles of network data communications. Serial and parallel protocols, network topologies and cabling media will be explored. Time will be spent studying ethernet TCP/IP, CIP, and other industrial protocols such as DeviceNet and ControlNet. Students will configure and troubleshoot networks and discuss the importance of network security.

Aid Code: 10 - undefined.

Pre-requisites: (631-115 or 620-115) and (631-138)

[Complete Course Listing](#)

631-109 Network Portfolio 1

Credits: 0.5-1

This is the first of two capstone courses for second year students. Students will create a portfolio based on a provided scenario. They will be required to provide items such as wireless assessments of the area, recommend required equipment, provide a Gantt chart, etc based on the knowledge they gained from the first semester. This is an individual project, and students will be able to use the portfolio to show to prospective employers.

Aid Code: 10 - undefined.

Pre-requisites: (631-112)

Co-requisites: (631-150)

[Complete Course Listing](#)

631-110 Network Portfolio 2

Credits: 0.5-1

This is the second course of a two part capstone portfolio project that will require students to add new features, equipment and theories based on the knowledge they have gained throughout the four semesters of the Manufacturing Information Technology Specialist program. Students will be able to apply their knowledge in areas such as Linux operating systems, advanced wireless networking, mobile device and virtual machine fundamentals as would be needed in various scenarios on a manufacturing shop floor. This portfolio will give students an organized record to share with prospective employers their knowledge and skills they have obtained throughout all their courses in this program.

Aid Code: 10 - undefined.

Co-requisites: (631-165)

[Complete Course Listing](#)

631-112 PC Hardware Interfacing

Credits: 0.05-1

This is the second of two part capstone course project that will require students to use information that they have gained throughout the second semester to collaborate on a group project. Students will combine the planning stage in the first semester capstone course, PC Hardware Assessment, to assemble a computerized machine, paying special attention to decision making as it pertains to choosing different operating systems and networking within a larger system. Students will also be expected to incorporate the ideals of Green IT (recycling) and cyber ethics throughout this production project.

Aid Code: 10 - undefined.

Pre-requisites: (631-111)

[Complete Course Listing](#)

631-113 Virtual Machine Fundamentals

Credits: 1-3

This course is an introduction to virtual machines. Topics include various types of virtual machine software and their installation, administration, usefulness, and troubleshooting, as well as how these apply to IT and manufacturing.

Aid Code: 10 - undefined.

Co-requisites: (631-107) and (631-114) and (631-121)

[Complete Course Listing](#)

631-120 Ind Computer Applications

Credits: 1-3

The Industrial Computer Applications course is designed to meet the need for foundational computer training in industrial occupations. Using a self-paced, modular format, the ICA course is flexible to meet the needs of students with varying backgrounds in computer usage. Topics covered include: PC parts identification (including communications ports), operating system usage, file management, word processing, spreadsheet usage, and Internet usage.

Aid Code: 10 - undefined.

[Complete Course Listing](#)

631-122 Service Support Internship

Credits: 0.05-1

This internship-style course provides an opportunity for the student to experience on the job training in which they will be able to apply concepts, principles and skills gained throughout IT Programs. Students will engage in on the job training in areas such as installing operating systems, troubleshooting hardware and software issues, as well as reconfiguring small and large networking systems. Students will gain the practical knowledge necessary to be able to work collaboratively and apply their knowledge in the workplace.

Aid Code: 10 - undefined.

[Complete Course Listing](#)

631-124 Microcomputer Fundamentals 1: PC Components

Credits: 0.5-1

This course covers an in-depth look at PC component identification, use, and functions. Students will employ various methods to help learn this criteria and skills.

Aid Code: 10 - undefined.

[Complete Course Listing](#)

631-125 Microcomputer Fundamentals 2: PC Assembly

Credits: 0.5-1

The course relies heavily on hands-on construction and preparation of the PC hardware, followed by a review of the technical resources. This course incorporates a hands-on lab and performance assessment, where students work with the instructor and one another to perfect their skills.

Aid Code: 10 - undefined.

Co-requisites: (631-124)

[Complete Course Listing](#)

631-126 Microcomputer Fundamentals 3: Intro to Web Programming

Credits: 0.5-1

This course is designed to provide the student with an introduction into foundational web programming knowledge and skills. The student will learn to plan, design, construct, and integrate basic web sites using HTML5 and CSS.

Aid Code: 10 - undefined.

Co-requisites: (631-125)

[Complete Course Listing](#)

631-127 PC Software Fundamentals 1: Operating Systems**Credits:** 0.5-1

This course familiarizes the learner with Windows and Linux operating systems. Students will learn how to properly install and use each operating system to include software detailing, software utilities, and licensing. This course will help to ready students for the IC3 certification along with the CompTIA A+ certification.

Aid Code: 10 - undefined.**Co-requisites:** (631-126)

Complete Course Listing

631-128 PC Software Fundamentals 2: Software Applications**Credits:** 0.5-1

This course familiarizes the learner with popular business applications and computer virus eradication. Students will learn how to properly install and use each software package. This course will help to ready students for the IC3 certification along with the CompTIA A+ certification.

Aid Code: 10 - undefined.**Co-requisites:** (631-127)

Complete Course Listing

631-129 PC Software Fundamentals 3: Troubleshooting Operating Systems**Credits:** 0.5-1

This course familiarizes the learner with operating system and application software troubleshooting methods. This course will help to ready students for the IC3 certification along with the CompTIA A+ certification.

Aid Code: 10 - undefined.**Co-requisites:** (631-128)

Complete Course Listing

631-130 PC Peripherals and Troubleshooting 1: Peripherals**Credits:** 0.5-1

Students will learn about the installation and setup of various computer peripherals, to include (but not limited to) various types of printers, scanners, and digital cameras.

Aid Code: 10 - undefined.**Co-requisites:** (631-129)

Complete Course Listing

631-131 PC Peripherals and Troubleshooting 2: Printers & Laptops**Credits:** 0.5-1

Students will apply the troubleshooting theory and gain repair knowledge by reviewing laptops and printer hardware and software. Students will be required to disassemble and re-assemble working laser printers and laptops.

Aid Code: 10 - undefined.**Co-requisites:** (631-130)

Complete Course Listing

631-132 PC Peripherals and Troubleshooting 3: Troubleshooting Hardware**Credits:** 0.5-1

Students will apply the troubleshooting theory and repair various scenario-based problems involving computer hardware, software, and peripherals.

Aid Code: 10 - undefined.**Co-requisites:** (631-131)

Complete Course Listing

631-133 IT Customer Service Fundamentals 1**Credits:** 0.5-1

This course is designed to instruct students on the principles of service calls and customer relations skills needed for success as a professional IT service technician. Practical interviews and role playing are included in this course, with emphasis on phone and electronic support skills based on an Information Technology environment.

Aid Code: 10 - undefined.

Complete Course Listing

631-134 IT Customer Service Fundamentals 2**Credits:** 0.5-1

This course continues to instruct students on the principles of service calls and customer relations skills needed for success as a professional IT service technician. There is a heavy emphasis on business skills and working in teams in an Information Technology environment.

Aid Code: 10 - undefined.**Co-requisites:** (631-133)

Complete Course Listing

631-135 IT Customer Service Fundamentals 3**Credits:** 0.5-1

The student will gain knowledge and experience in applying the techniques used in problem troubleshooting, end-user support and customer service. The student will also become familiar with and apply the tools used in user supply and help desk operations.

Aid Code: 10 - undefined.**Co-requisites:** (631-134)

Complete Course Listing

631-136 Network Fundamentals 1**Credits:** 0.5-1

This course covers the basic theories and technologies involved in Local Area Networks (LAN) and Wide Area Networks (WAN). Students gain knowledge in cabling schemes, specific hardware and software types, protocols and OSI layers. Both the physical and logical aspects of networks will be studied, giving students the ability to apply basic entry level technician skills in common office environments and manufacturing LANs.

Aid Code: 10 - undefined.**Co-requisites:** (631-111)

Complete Course Listing

631-137 Network Fundamentals 2

Credits: 0.5-1

This course is a continuation of the basic theories and technologies involved in Local Area Networks (LAN) and Wide Area Networks (WAN). Students will continue to gain knowledge in cabling schemes, specific hardware and software types, protocols and OSI layers. Both the physical and logical aspects of networks will be studied, giving students the ability to apply basic entry level technician skills in common office environments and manufacturing LANs.

Aid Code: 10 - undefined.

Co-requisites: (631-136)

[Complete Course Listing](#)

631-138 Network Fundamentals 3

Credits: 0.5-1

This course is a culmination of the basic theories and technologies involved in Local Area Networks (LAN) and Wide Area Networks (WAN). Students will apply the gained knowledge in cabling schemes, specific hardware and software types, protocols and OSI layers. Both the physical and logical aspects of networks will be studied, giving students the ability to apply basic entry level technician skills in common office environments and manufacturing LANs.

Aid Code: 10 - undefined.

Co-requisites: (631-137)

[Complete Course Listing](#)

631-139 Troubleshooting Network Resources 1

Credits: 0.5-1

This course is designed to prepare the network technician for a variety of networked environments and focuses on the installation, configuration, and troubleshooting of network operating systems and network hardware. Security, resource sharing, cable installation, and troubleshooting are emphasized. The student will also create a basic network diagram and peer to peer network utilizing the operating systems installed on their lab PC.

Aid Code: 10 - undefined.

Co-requisites: (631-138)

[Complete Course Listing](#)

631-140 Troubleshooting Network Resources 2

Credits: 0.5-1

This course introduces network monitoring tools and techniques. Troubleshooting theory and methods will also be revisited and reinforced to help prepare the future network technician.

Aid Code: 10 - undefined.

Co-requisites: (631-139)

[Complete Course Listing](#)

631-141 Troubleshooting Network Resources 3

Credits: 0.5-1

This course is a culmination of the competencies learned throughout the series. Students will use knowledge gained to develop, configure, and troubleshoot network operating systems and network hardware.

Aid Code: 10 - undefined.

Co-requisites: (631-140)

[Complete Course Listing](#)

631-142 Cyber Ethics 1

Credits: 0.5-1

In this course students will examine situations that are considered to be in a "gray" area that many IT specialists face on a daily basis. Students will evaluate the situations presented to them and determine the best action plan based on a set decision-making process. Ethics and computer crime will be studied.

Aid Code: 10 - undefined.

[Complete Course Listing](#)

631-143 Cyber Ethics 2

Credits: 0.5-1

In this course students will continue to examine situations that are considered to be in a "gray" area that many IT specialists face on a daily basis. Students will evaluate the situations presented to them and determine the best action plan based on a set decision-making process. Main areas of study will include: Intellectual property, Privacy, freedoms, and software development.

Aid Code: 10 - undefined.

Co-requisites: (631-142)

[Complete Course Listing](#)

631-144 Cyber Ethics 3

Credits: 0.5-1

In this course students will continue to examine situations that are considered to be in a "gray" area that many IT specialists face on a daily basis. Students will evaluate the situations presented to them and determine the best action plan based on a set decision-making process. Main areas of study will include: The ethical impact on IT and organization and social networking.

Aid Code: 10 - undefined.

Co-requisites: (631-143)

[Complete Course Listing](#)

631-145 Apple Devices and Operating Systems 1: Hardware

Credits: 0.05-1

The Apple Devices & Operating Systems course provides a comprehensive overview of several pieces of Apple hardware and operating systems. Students will learn the installation, configuration, and troubleshooting of Apple hardware.

Aid Code: 10 - undefined.

Co-requisites: (150-157)

[Complete Course Listing](#)

631-146 Apple Devices and Operating Systems 2: Operating Systems**Credits:** 0.5-1

The Apple Devices & Operating Systems course provides a comprehensive overview of several pieces of Apple hardware and operating systems. Students will learn the installation, configuration, and troubleshooting of the operating systems and software.

Aid Code: 10 - undefined.**Co-requisites:** (631-145)

Complete Course Listing

631-147 Apple Devices and Operating Systems 3: Networking**Credits:** 0.5-1

The Apple Devices & Operating Systems course provides a comprehensive overview of several pieces of Apple hardware and operating systems. Students will learn the installation, configuration, and troubleshooting of the operating systems and hardware. This course covers Apple network installation, configuration, and troubleshooting.

Aid Code: 10 - undefined.**Co-requisites:** (631-146)

Complete Course Listing

631-148 Wireless Networking 1**Credits:** 0.5-1

This course introduces the student to wireless fundamentals. As a hand-on course, students will cover basic wireless installation, implementation, and troubleshooting for various types of wireless networks. Some topics that will be discussed are RF Basics, wireless networking devices, and the 802.11 standard. This course will help prepare students for the CWTS (Certified Wireless Technology Specialist) certification.

Aid Code: 10 - undefined.**Co-requisites:** (631-147)

Complete Course Listing

631-149 Wireless Networking 2**Credits:** 0.5-1

This course continues the introduction to wireless fundamentals. As a hand-on course, students will cover basic wireless installation, implementation, and troubleshooting for various types of wireless networks. Some topics that will be discussed are RF Basics, wireless networking devices, and the 802.11 standard. This course will continue to help prepare students for the CWTS (Certified Wireless Technology Specialist) certification.

Aid Code: 10 - undefined.**Co-requisites:** (631-148)

Complete Course Listing

631-150 Wireless Networking 3**Credits:** 0.5-1

This course continues the introduction to wireless fundamentals by implementing advanced wireless topics. As a hand-on course, students will cover WLAN site surveys and troubleshooting for various types of wireless networks. This course will continue to help prepare students for the CWTS (Certified Wireless Technology Specialist) certification.

Aid Code: 10 - undefined.**Co-requisites:** (631-149)

Complete Course Listing

631-151 Manufacturing Networking 1**Credits:** 0.5-1

This course focuses on the principles of network data communications. Serial and parallel protocols, network topologies and cabling media will be explored. Time will be spent studying ethernet and the TCP/IP protocol.

Aid Code: 10 - undefined.**Co-requisites:** (631-138)

Complete Course Listing

631-152 Manufacturing Networking 2**Credits:** 0.5-1

This hands-on course focuses on the principles of network data communications. Students will configure and troubleshoot networks and discuss the importance of network security.

Aid Code: 10 - undefined.**Co-requisites:** (631-151)

Complete Course Listing

631-153 Manufacturing Networking 3**Credits:** 0.5-1

This hands-on course focuses on the principles of network data communications. Serial and parallel protocols, network topologies and cabling media will be explored. Students will create ethernet cables and install network cable in various areas.

Aid Code: 10 - undefined.**Co-requisites:** (631-152)

Complete Course Listing

631-154 Wireless Networking Implementation 1**Credits:** 0.5-1

This course builds from the knowledge gained in the Wireless Networking courses. The hands-on learning continues as students will focus on advanced RF Technologies, learn regulations and standards, and implement network security using a small home/office WAP. This course will continue to help prepare students for the CWTS (Certified Wireless Technology Specialist) certification.

Aid Code: 10 - undefined.**Co-requisites:** (631-109)

Complete Course Listing

631-155 Wireless Networking Implementation 2

Credits: 0.5-1

The course continues to build from the knowledge previously gained in Wireless Networking courses. The hands-on learning continues as students will focus on advanced RF Technologies, learn regulations and standards, implement network security, complete wireless surveys, as well as configure a building-wide wireless network. This course will continue to help prepare students for the CWTS (Certified Wireless Technology Specialist) certification.

Aid Code: 10 - undefined.

Co-requisites: (631-154)

[Complete Course Listing](#)

631-156 Wireless Networking Implementation 3

Credits: 0.5-1

The course continues to build from the knowledge previously gained in Wireless Networking courses. The hands-on learning continues as students will focus on advanced RF Technologies, learn regulations and standards, implement network security, complete advanced wireless surveys, and configure a wireless network within a manufacturing lab for manufacturing equipment. This course will continue to help prepare students for the CWTS (Certified Wireless Technology Specialist) certification.

Aid Code: 10 - undefined.

Co-requisites: (631-155)

[Complete Course Listing](#)

631-157 Linux Operating Systems 1

Credits: 0.5-1

An introduction to Linux desktop is covered. Topics include installation, administration, Linux commands, and troubleshooting. This course prepares students for the CompTIA Linux+ certification.

Aid Code: 10 - undefined.

Co-requisites: (631-156)

[Complete Course Listing](#)

631-158 Linux Operating Systems 2

Credits: 0.5-1

This is an advanced course that is a continuation of the previous Linux desktop course. Advanced topics include configuration, administration, Linux commands, and troubleshooting. This course prepares students for the CompTIA Linux+ certification.

Aid Code: 10 - undefined.

Co-requisites: (631-157)

[Complete Course Listing](#)

631-159 Linux Operating Systems 3

Credits: 0.5-1

This course will have the learner apply previous and newly gained knowledge to set up a Linux network that could include Windows, and Apple operating systems. This course prepares students for the CompTIA Linux+ certification.

Aid Code: 10 - undefined.

Co-requisites: (631-158)

[Complete Course Listing](#)

631-160 Malicious Software Fundamentals 1

Credits: 0.5-1

Students will be introduced to various types of malicious software found throughout the Information Technology industry that infect various types of equipment. Through this course, they will be able to analyze malicious software, understand its functionality, and engage in removing the malicious software from several types of operating systems and machines.

Aid Code: 10 - undefined.

[Complete Course Listing](#)

631-161 Malicious Software Fundamentals 2

Credits: 0.5-1

Students will learn what the building blocks of various types of malicious software. Through this course, they will be able to analyze malicious software, understand its functionality, and engage in removing the malicious software from several types of operating systems and machines.

Aid Code: 10 - undefined.

Co-requisites: (631-160)

[Complete Course Listing](#)

631-162 Malicious Software Fundamentals 3

Credits: 0.5-1

Students will be introduced to various types of malicious software found throughout the Information Technology industry that infect various types of equipment. Through this course, they will be able introduced to cryptography. They will learn the definition, and how it's used throughout the industry.

Aid Code: 10 - undefined.

Co-requisites: (631-161)

[Complete Course Listing](#)

631-163 Mobile Device Fundamentals 1

Credits: 0.5-1

This course first provides students with a hands-on exploration of different mobile device hardware to gain an understanding of their functions. Students will then examine the different operating systems that are used in today's devices.

Aid Code: 10 - undefined.

Co-requisites: (631-159)

[Complete Course Listing](#)

631-164 Mobile Device Fundamentals 2**Credits:** 0.5-1

This is a continuation course that will provide students with a hands-on exploration of different mobile device hardware to gain an understanding of their functions. Students will then examine the different operating systems that are used in today's devices.

Aid Code: 10 - undefined.**Co-requisites:** (631-163)[Complete Course Listing](#)**631-165 Mobile Device Fundamentals 3****Credits:** 0.5-1

This course provides students with a hands-on exploration of mobile device management, networking, security, and troubleshooting.

Aid Code: 10 - undefined.**Co-requisites:** 631-164[Complete Course Listing](#)