

### IT Support Capstone

*IT Support Capstone* is designed for students to showcase the knowledge gained from the Information Technology Pathway. Through troubleshooting hardware, software, and networks, students problem-solve through a variety of real-world IT problems. Throughout the course, students communicate with other team members and document progress to fix a variety of devices.

- DOE Code: 5231
- Recommended Grade Level: Grade 11-12
- Required Prerequisite: Information Technology Support
- Recommended Prerequisites: Networking I
- Credits: 1-3 credits per semester, maximum of 6 credits, 2 semesters required, maximum of 2 semesters
- Counts as a Directed Elective or Elective for all diplomas

#### **Application of Content and Multiple Hour Offerings**

Intensive laboratory applications are a component of this course and may be either school based or work based or a combination of the two. Work-based learning experiences should be in a closely related industry setting. Instructors shall have a standards-based training plan for students participating in work-based learning experiences. When a course is offered for multiple hours per semester, the amount of laboratory application or work-based learning needs to be increased proportionally.

#### **Career and Technical Student Organizations (CTSOs)**

Career and Technical Student Organizations are considered a powerful instructional tool when integrated into Career and Technical Education programs. They enhance the knowledge and skills students learn in a course by allowing a student to participate in a unique program of career and leadership development. Students should be encouraged to participate in Business Professionals of America or Future Business Leaders of America, the CTSOs for this area.

### Content Standards

#### **Domain 1 – IT Support Fundamentals**

**Core Standard 1:** Students demonstrate basic and advanced skills related to IT support services.

#### **Standards**

- ITSC-1.1 Demonstrate core priorities and key responsibilities of the IT support role
- ITSC-1.2 Demonstrate what influences customer behavior when dealing with IT support (including global and different cultures)
- ITSC-1.3 Demonstrate proper communication styles (verbal, written, and non-verbal)
- ITSC-1.4 Demonstrate the process of a call ticket from the initial receipt of a support call through the solution development and closure

## **Domain 2 – Communication Skills**

**Core Standard 2:** Students apply proper communication skills related to IT support services.

### **Standards**

- ITSC-2.1 Demonstrate how to develop a rapport with customers including empathy (phone, e-mail, chat, and social media)
- ITSC-2.2 Demonstrate conflict management skills
- ITSC-2.3 Communicate open-ended questions and a proper closing
- ITSC-2.4 Display employability skills and professionalism
- ITSC-2.5 Demonstrate the proper use of messaging software
- ITSC-2.6 Demonstrate how to create and manage documents, organize information in table format, perform calculations of data, and create graphs/charts
- ITSC-2.7 Demonstrate how to manage and organize e-mail, calendar, and ticketing

## **Domain 3 – Software Troubleshooting**

**Core Standard 3:** Students demonstrate the proper procedures for troubleshooting software issues.

### **Standards**

- ITSC-3.1 Identify and demonstrate the steps involved in troubleshooting a customer software issue
- ITSC-3.2 Utilize best practices during the IT troubleshooting process for software issues
- ITSC-3.3 Demonstrate how to manage customer expectations and objections to proposed software solutions
- ITSC-3.4 Demonstrate how to setup an e-mail client, troubleshoot connectivity issues, and troubleshoot cloud storage issues across all platforms
- ITSC-3.5 Install and customize operating systems, software applications, web browsers, and cloud storage
- ITSC-3.6 Demonstrate how to troubleshoot issues with operating systems
- ITSC-3.7 Apply operating system maintenance (system updates, manage network devices, security, and backup/recovery options)
- ITSC-3.8 Configure operating systems by managing storage, files, printers, device connectivity, and authorization/authentication of users

#### **Domain 4 – Hardware Troubleshooting**

**Core Standard 4:** Students demonstrate the proper procedures for troubleshooting hardware issues.

##### **Standards**

- ITSC-4.1 Demonstrate the understanding of different types of computing devices
- ITSC-4.2 Identify and demonstrate the steps involved in troubleshooting a customer's hardware issues (motherboard, CPU, memory, power supplies, hard drives, video cards, peripheral devices, displays, etc.)
- ITSC-4.3 Utilize best practices during the IT troubleshooting process for hardware issues
- ITSC-4.4 Demonstrate how to manage customer expectations and objections to proposed hardware solutions

#### **Domain 5 – Network Troubleshooting**

**Core Standard 5:** Students demonstrate the procedures for troubleshooting network issues.

##### **Standards**

- ITSC-5.1 Demonstrate the understanding of different types of network topologies
- ITSC-5.2 Identify and demonstrate the steps involved in troubleshooting a customer's network issues (connectivity, protocols, IP addressing, etc.)
- ITSC-5.3 Utilize best practices during the IT troubleshooting process for network issues
- ITSC-5.4 Demonstrate how to design and implement a SOHO network

#### **Domain 6 – Cloud Fundamentals and Troubleshooting**

**Core Standard 6:** Students demonstrate the proper use and configuration of cloud management.

##### **Standards**

- ITSC-6.1 Explain basic core cloud concepts, types, services, and security
- ITSC-6.2 Identify and demonstrate the steps involved in troubleshooting a customer's cloud storage issues
- ITSC-6.3 Utilize best practices during the IT troubleshooting process for cloud storage issues
- ITSC-6.4 Demonstrate how to setup and maintain cloud configuration

#### **Domain 7 – Documentation**

**Core Standard 7:** Students develop and demonstrate the proper use of documentation

##### **Standards**

- ITSC-7.1 Explain the importance of proper documentation as it relates to IT support
- ITSC-7.2 Identify critical facts and information needed for documentation
- ITSC-7.3 Complete and maintain detailed documentation with proper accuracy
- ITSC-7.4 Identify and document key issues of a tier one and/or tier two IT problem