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