Course Information Form (CIF)

Course Code: CSC 117

Course Title: Google IT Support Professional

Department: Business/Computer Science and Technologies
Effective Date: Summer 2026
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 11.1006
Repeatability: 0

Credit Hours

Catalog Notation: 3-6-6
Credit Hour Distribution:

Lecture: 3	Lab: 6	Clinical: 0	**Total: 6**

General Course Information

Catalog Description

Introduction to fundamentals of information technology (IT) support critical for success in entry-level IT support jobs. Includes troubleshooting and customer service, networking, operating systems, system administration, and security. Course completion leads to Google IT Support Professional Certificate.

General Course Objectives

This course introduces students to the fundamentals of IT support. It engages the student in learning using a dynamic mix of hands-on labs and other interactive assessments developed by Google. Successful course completion leads to an industry-recognized certificate.

Minimum Placement Levels

English	Reading	Math
None	None	None

Prerequisites

None

Methods of Evaluation

23-27 quizzes, 17-21 labs.

Instructional Materials and Additional Supplies

Google IT Support Professional learning modules hosted by QwikLabs.

Course Content

General Learning Outcomes (GLOs)

- Technology: Students will demonstrate the ability to evaluate, select, and appropriately use current and emerging tools.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Introduction to Information Technology (IT)	1. Describe how computers were invented, how they have evolved over time, and how they work today.	1.5	3	0
Hardware	1. Summarize what each component does and explain how components work together to make a computer function.	1.5	3	0
Operating Systems	1. Describe the "boot process" of an operating system and demonstrate how to install Windows, Linux, and Mac OSX operating systems.	1.5	3	0
Networking	1. Summarize the history of the Internet. 2. Explain issues related to Internet privacy and security. 3. Project what the future of the Internet may look like.	1.5	3	0
Software	1. Explain what software is and the different types of software possibly encountered as an IT Support Specialist.	1.5	3	0
Troubleshooting	1. Explain the importance of troubleshooting and customer support. 2. Describe appropriate responses to real-world scenarios encountered at a Help Desk or Desktop Support role.	1.5	3	0
Introduction to Networking	1. Describe basics of computer networking such as the TCP/IP and OSI networking models. 2. Explain how the network layers work together. 3. Define role of networking devices such as cables, hubs and switches, routers, servers, and clients.	1.5	3	0
The Network Layer	1. Explain IP addressing schemes and how subnetting works. 2. Demonstrate how encapsulation works and how protocols such as ARP allow different layers of the network to communicate. 3. Describe the basics of routing, routing protocols, and how the Internet works.	1.5	3	0
The Transport and Application Layers	1. Examine TCP ports and sockets. 2. Identify the different components of a TCP header. 3. Show the difference between connection-oriented and connectionless protocols. 4. Explain how TCP is used to ensure data integrity.	1.5	3	0
Networking Services	1. Describe DNS and how it works. 2. Discuss why DHCP makes network administration a simpler task. 3. Explain how DNS, DHCP, and NAT technologies help keep networks secure, and how VPNs and proxies help users connect and stay secured.	1.5	3	0
Connecting to the Internet	1. Summarize the history of the Internet, how it evolved, and how it works today. 2. Describe the different ways to connect to the Internet through cables, wireless and cellar connections, and fiber connections.	1.5	3	0
Troubleshooting and the Future of Networking	1. Project the future of computer networking. 2. Outline the practical aspects of troubleshooting a network using popular operating systems.	1.5	3	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Navigating the System	1. Characterize the basics of Windows and Linux operating systems. 2. Point out how directories and files work in Windows and Linux. 3. Demonstrate practical ways to manipulate files and directories in the Windows graphical user interface, Windows command line interface, and Linux shell.	1.5	3	0
Users and Permissions	1. Configure users and permissions in Windows and Linux. 2. Show how to add, modify, and remove users for a computer and for specific files and folders by using the Windows GUI, Windows CLI, and Linux shell.	1.5	3	0
Package and Software Management	1. Explain how package installs work and how devices and drivers are managed within these operating systems. 2. Examine different packaging and file compression methods. 3. Show how to create, update, and remove software by using the Windows GUI, Windows CLI, and Linux shell.	1.5	3	0
File Systems	1. Explain how file systems work for Windows and Linux OS. 2. Classify file system types and explain why they are different for certain OS. 3. Explain disk partitioning and virtual memory and their importance to an IT Support Specialist's role. 4. Demonstrate ways to mount and unmount file systems, read disk usage, and repair file systems.	1.5	3	0
Process Management	1. Show how to start and terminate a process in Windows and Linux. 2. Apply troubleshooting tools to solve problems with processes and resources.	1.5	3	0
Operating Systems in Practice	1. Conduct remote access and troubleshoot computer problems from afar. 2. Apply virtualization tools to manage and remove virtual instances, use logs for system monitoring, and use different techniques for OS deployment.	1.5	3	0
What is System Administration	1. Define basics of system administration. 2. Define and explain organizational policies, IT infrastructure services, user and hardware provisioning, routine maintenance, troubleshooting, and managing potential issues.	1.5	3	0
Network and Infrastructure Services	1. Explain IT infrastructure services and their role in system administration. 2. Describe server operating systems, virtualization, network services, DNS for web services, and how to troubleshoot network services.	1.5	3	0
Software and Platform Services	1. Identify software and platform services and describe how to manage them. 2. Configure email services, security services, file services, print services, and platform services. 3. Describe different ways to troubleshoot platform services and common issues that occur.	1.5	3	0
Directory Services	1. Explain how Active Directory and OpenLDAP work in action. 2. Describe the concept of centralized management and how this can help System Administrators maintain and support all the different parts of an IT infrastructure.	1.5	3	0
Data Recovery and Backups	1. Describe data recovery and backups including common corporate practices like designing a disaster recovery plan and writing post-mortem documentation. 2. Compare and contrast on-site and off-site backups. Incorporate the value and importance of backup and recovery testing in analysis.	1.5	3	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Work-based Experience	1. Apply all the skills learned in a systems administration consultation project. The project includes evaluation of the IT infrastructure of three fictitious companies, outlining recommendations and advice on how to optimally support their IT infrastructure.	1.5	3	0
Understanding Security Threats	1. Identify the most common security attacks in an organization and explain how security revolves around the "CIA" principle. 2. Analyze malicious software, network attacks, client-side attacks, and the essential security terms frequently encountered in the workplace.	1.5	3	0
Cryptology	1. Discriminate between the different types of encryption practices and how they work. 2. Explain how symmetric encryption, asymmetric encryption, and hashing work. 3. Give rationale for choosing the most appropriate cryptographic method for a scenario encountered in the workplace.	1.5	3	0
AAA Security	1. Describe authentication, authorization, and accounting, and how the major components work together within an organization.	1.5	3	0
Securing Your Networks	1. Implement security measures on a network environment. 2. Utilize best practices to protect an organization's network.	1.5	3	0
Defense in Depth	1. Implement methods for system hardening, application hardening, and determine the policies for OS security.	1.5	3	0
Creating a Company Culture for Security	1. Analyze ways to create a company culture for security. 2. Develop a security plan for an organization to demonstrate the skills learned.	1.5	3	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
45	90	0