Networking and Cybersecurity

Institutions: Bridgerland, Davis, Dixie, Ogden-Weber, Salt Lake, Snow, Tooele, Uintah Basin, USU-Eastern

Certificate of Program Completion (Catalog Year: 2023, 30 Credits/900 Clock-Hours Required, CIP: 11.0901)

Core (21 Credits/630 Clock-Hours)		Credits	Clock-Hours
TEIT 1200	A+ Core I	3	90
TEIT 1210	A+ Core II	3	90
TEIT 2100	Computer Networks	4	120
TEIT 1300	Linux Foundations	2	60
TEIT 2200	Security +	4	120
TEIT 1100	Introduction to Networking	1	30
TEIT 1400	Introduction to Cloud	2	60
TEIT 1500	Introduction to Scripting	1	30
TEIT 1050	Career & Workplace Relations	1	30
Electives (9 Credits/270 Clock-Hours)			
Bridgerland Technical College			
TEIT 1800	Certification Test Prep I	1	30
TEIT 1810	Certification Test Prep II	1	30
TEIT 1820	Certification Test Prep III	1	30
TEIT1830	Certification Test Prep IV	1	30
TEIT 1840	Certification Test Prep V	1	30
TEIT 1850	Certification Test Prep VI	1	30
TEIT 2140	Network Traffic Analysis	1	30
TEIT 1900	Service Desk Internship	2	90
TEIT 1550	Practical Python	3	90
TEIT 1040	Introduction to Virtualization	1	30
TEIT 2900	IT Externship	2	90
TEIT 2901	Special Applications	1-6	30-180
TEIT 1090	IT STEM	1-4	30-120
TEIT 2270	Cybersecurity Analysis	3	90
TEIT 2250	Ethical Hacking	3	90
TEIT 2300	Linux +	3	90
TEIT 2160	Routing and Switching	4	120
TEIT 2320	Hybrid Server Core	4	120
TEIT 2330	Hybrid Server Advanced	4	120
TEIT 1610	Microsoft Azure Fundamentals	2	60
Davis Technical College			
TEIT 1000	Information Technology Fundamentals	2	60
TEIT 1150	Cisco CCNA Introduction to Networks	3	90
TEIT 1160	Cisco CCNA Switching, Routing, and Wireless Essentials (SWRE)	3	90
TEIT 1600	Microsoft 365 Fundamentals	3	90
TEIT 1650	Remote Desktop Technologies	1	30
TEIT 1040	Introduction to Virtualization	1	30
TEIT 1640	Deploying the Modern Desktop	1	30
TEIT 1630	Microsoft Windows Server Administration Fundamentals	2	60
TEIT 1800	Certification Test Prep I	1	30
TEIT 1810	Certification Test Prep II	1	30
TEIT 1820	Certification Test Prep III	1	30

TEIT 1830	Certification Test Prep IV	1	30
TEIT 2350	CompTIA Project +	3	90
TEIT 2900	IT Externship	2	90
TEIT 2910	Special Projects I	1	30
TEIT 2920	Special Projects II	2	60
TEIT 2930	Special Projects III	3	90
Dixie Technical College			
TEIT 1800	Certification Test Prep I	1	30
TEIT 1810	Certification Test Prep II	1	30
TEIT 1820	Certification Test Prep III	1	30
TEIT 1830	Certification Test Prep IV	1	30
TEIT 1840	Certification Test Prep V	1	30
TEIT 1850	Certification Test Prep VI	1	30
TEIT 2950	Final Project	3	90
Ogden-Weber Technical College			
TEIT 1000	Information Technology Fundamentals	2	60
TEIT 1040	Introduction to Virtualization	1	30
TEIT 1800	Certification Test Prep I	1	30
TEIT 1810	Certification Test Prep II	1	30
TEIT 1820	Certification Test Prep III	1	30
TEIT1830	Certification Test Prep IV	1	30
TEIT 1840	Certification Test Prep V	1	30
TEIT 1850	Certification Test Prep VI	1	30
TEIT 2140	Network Traffic Analysis	1	30
TEIT 2250	Ethical Hacking	3	90
TEIT 2270	Cybersecurity Analysis	3	90
TEIT 2300	Linux +	3	90
TEIT 2900	IT Externship	2	90
TEIT 2910	Special Projects I	1	30
TEIT 2920	Special Projects II	2	60
TEIT 2930	Special Projects III	3	90
TEIT 1290	Linux Computing with Raspberry Pi	2	60
TEIT 1940	Intermediate Service Desk	2	60
TEIT 1110	Introduction to Cybersecurity	1	30
Salt Lake Community College			
TEIT 1600	Microsoft 365 Fundamentals	3	90
TEIT 1610	Microsoft Azure Fundamentals	2	60
TEIT 1800	Certification Test Prep I	1	30
TEIT 1810	Certification Test Prep II	1	30
TEIT 1820	Certification Test Prep III	1	30
TEIT 2270	Cybersecurity Analysis	3	90
TEIT 1110	Introduction to Cybersecurity	1	30
Snow College			
CIS 1000	Orientation	1	30
CIS 1130	Networking Essentials	2	60
CIS 1500	Introduction to IOT	3	90
CIS 2310	Cybersecurity Essentials	3	90
Tooele Technical College			
TEIT 1800	Certification Test Prep I	1	30
TEIT 1810	Certification Test Prep II	1	30

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TEIT 1820	Certification Test Prep III	1	30
TEIT 1830	Certification Test Prep IV	1	30
TEIT 1840	Certification Test Prep V	1	30
TEIT 1850	Certification Test Prep VI	1	30
TEIT 1150	Cisco CCNA Introduction to Networks	3	90
TEIT 1160	Cisco CCNA Switching, Routing, and Wireless Essentials (SWRE)	3	90
TEIT 2150	Cisco CCNA Enterprise Networking, Security, and Automation (ENSA)	3	90
TEIT 2300	Linux +	3	90
TEIT 2250	Ethical Hacking	3	90
TEIT 2270	Cybersecurity Analysis	3	90
TEIT 2910	Special Projects I	1	30
TEIT 2920	Special Projects II	2	60
TEIT 2930	Special Projects III	3	90
TEIT 1610	Microsoft Azure Fundamentals	2	60
TEIT 1600	Microsoft 365 Fundamentals	3	90
TEIT 2320	Hybrid Server Core	4	120
TEIT 2330	Hybrid Server Advanced	4	120
Uintah Basin Technical College			
TEIT 1012	Introduction to Python	2	60
TEIT 1630	Microsoft Windows Server Administration Fundamentals	2	60
TEIT 1800	Certification Test Prep I	1	30
TEIT 1810	Certification Test Prep II	1	30
TEIT 1820	Certification Test Prep III	1	30
TEIT 1830	Certification Test Prep IV	1	30
TEIT 1840	Certification Test Prep V	1	30
TEIT 1850	Certification Test Prep VI	1	30
TEIT 2106	Technical Installation	2	60
TEIT 2250	Ethical Hacking	3	90
TEIT 2350	CompTIA Project +	3	90
TEIT 2910	Special Projects I	1	30
TEIT 2920	Special Projects II	2	60
TEIT 1910	Telecommunications	2	60
Utah State University			
TEIT 1041	Introduction to Programming	3	90
TEIT 1091	Introduction to Mobile Application Development	3	90
TEIT 1310	Website Design	3	90
TEIT 1340	Digital Video Production	3	90
TEIT 1800	Certification Test Prep I	1	30
TEIT 1810	Certification Test Prep II	1	30
TEIT 1820	Certification Test Prep III	1	30
TEIT1830	Certification Test Prep IV	1	30
TEIT 1840	Certification Test Prep V	1	30
TEIT 1850	Certification Test Prep VI	1	30
TEIT 2300	Linux +	3	90
TEIT 2441	Photoshop	3	90
TEIT 2500	Web Business	3	90
TEBP 1200	Professionalism	3	90
TEBP 1650	Management Principles	2	60

PROGRAM DESCRIPTION

This program provides education and training in preparation for careers in Information Technology and Cybersecurity. Throughout the program, students apply classroom theory to computer hardware and software, mobile devices, operating systems, networking, security, cloud technology, and other technologies relevant to the industry. Students learn to develop, defend, and protect networks and information systems against cyber-attacks while implementing and managing hardware, operating systems, local and wide-area networks, computer forensics, vulnerability assessment, security compliance, and information assurance. Through a combination of simulations, hands-on labs and/or virtual labs, students apply techniques for technology deployment, support, maintenance and troubleshooting. This training prepares students to gain valuable industry recognized certifications including: CompTIA A+, Network+, and Security+. Additional certification opportunities may include Cisco Certified Network Associate (CCNA), Microsoft, Amazon Web Services (AWS), Linux, and more.

Objectives:
- Develop and demonstrate skills required for positions in Information Technology & Cybersecurity.
- Demonstrate knowledge, skills, and abilities aligning with standards for industry certifications.
- Install, configure, maintain, and troubleshoot common hardware and software.
- Install, configure, maintain, and troubleshoot operating systems.
- Design, implement, and manage scalable networks.
- Identify advanced security threats and implement best practices to mitigate risks.
- Demonstrate effective verbal and written communication using industry specific terminology.

COURSE DESCRIPTIONS

A+ Core I   **3 Credit/90 Clock-Hours**

A+ Core I prepares students to be successful computer technicians, capable of installing, maintaining, troubleshooting, optimizing, and securing desktop computers, laptops, mobile devices, and printers. This course aligns with objectives of the CompTIA A+ Core 1 certification exam.

Objectives:
- Install and configure computer hardware components and peripheral devices.
- Identify and configure basic networking components and protocols.
- Install and configure laptops and other mobile devices.
- Diagnose and troubleshoot device and network issues.
- Compare and contrast cloud computing concepts.
- Configure client-side virtualization.

A+ Core II   **3 Credit/90 Clock-Hours**

A+ Core II is a follow-up to A+ Core1 and provides further instruction on installation, configuration, maintenance, and security of various common operating systems and platforms. This course aligns with the objectives of the CompTIA A+ Core 2 certification exam.

Objectives:
- Install and Configure Windows, Mac, and Linux.
- Identify best practices for safety, environmental impacts, communication, and professionalism.
- Troubleshoot common operating system, malware, and security issues.
- Identify basic vulnerabilities and protect against threats.

- Install, configure, and maintain software in computers and mobile devices.

Computer Networks   4 Credits/120 Clock-Hours

Computer Networks provides instruction on the installation, configuration, management, and troubleshooting of common components of modern computer networks. This course prepares candidates to support networks across multiple platforms and aligns with the objectives of the CompTIA Network+ certification exam.

Objectives:
- Demonstrate an understanding of core networking concepts and terminology.
- Install, configure, and verify the functionality of networking devices and components given multiple scenarios.
- Identify network security vulnerabilities and mitigations.
- Implement security for a basic network.
- Compare and contrast business continuity and disaster recovery concepts.
- Troubleshoot common network connectivity issues.

Linux Foundations   2 Credits/60 Clock-Hours

Linux Foundations focuses on the installation, configuration, and process management of a Linux workstation. Students explore shell programming, file system management, user accounts, access and permissions, and managing multiple concurrent processes to achieve higher utilization.

Objectives:
- Install and maintain a Linux workstation.
- Configure Linux from the GUI and command line.
- Configure file and access permissions.
- Perform maintenance tasks including user management, backup and restore, shut down, and reboot.

Security +   4 Credits/120 Clock-Hours

Security+ provides instruction on assessing the security posture of enterprise environments and implementing appropriate security solutions.   Instruction is given to identify, analyze, and respond to events and incidents. This course aligns with the objectives of the CompTIA Security+ certification exam.

Objectives:
- Explain security functions and purposes as they relate to network devices.
- Identify and implement risk mitigation techniques and strategies.
- Distinguish and evaluate different network and physical security threats.
- Implement network intrusion detection and prevention technologies.
- Identify and execute appropriate cryptography measures.

Introduction to Networking   1 Credits/30 Clock-Hours

Introduction to Networking provides foundational-level instruction on the concepts, models, services, settings, protocols, topologies, and devices used in computer networks. Students also explore the Open Systems Interconnection (OSI) and Transmission Control Protocol/Internet Protocol (TCP/IP) models.

Objectives:
- Define common concepts and terms associated with computer networking.

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- Identify and differentiate the purpose and function of common networking devices.
- Identify and differentiate common networking ports, protocols and services.
- Identify components of the OSI and TCP/IP models.
- Compare and contrast network topologies and access methods.

Introduction to Cloud   2 Credits/60 Clock-Hours

Introduction to Cloud provides instruction on core cloud computing concepts, services, and solutions as well as foundational knowledge from a business value perspective of the benefits and considerations for cloud computing implementation. Included is an overview of popular cloud platforms.

Objectives:
- Define the value proposition of cloud computing.
- Identify core cloud concepts, services, solutions, and management tools.
- Demonstrate an understanding of cloud security considerations, features, and best practices.
- Describe cloud identity, governance, privacy, and compliance concepts and features.
- Compare and contrast cloud pricing models and identify cost management solutions.
- Define cloud deployment models, methods, and operations.

Introduction to Scripting   1 Credits/30 Clock-Hours

Introduction to Scripting provides instruction on basic scripting concepts. Students are introduced to scripting fundamentals to automate tasks that would otherwise be performed manually. Students explore the practical use and management of scripts to perform system administration functions.

Objectives:
- Demonstrate an understanding of the features of scripting languages.
- Implement critical thinking and problem-solving skills through practical exercises.
- Perform automation of systems tasks and functions.

Career & Workplace Relations   1 Credits/30 Clock-Hours

Career and Workplace Relations is designed to help students gain insight into how their skills and professionalism enhance relationships between management and coworkers. Instruction includes employment skills such as communication, critical thinking, professional etiquette, team dynamics and more.

Objectives:
- Identify personal and transferable skills, competencies and/or abilities.
- Create an industry specific resume, cover letter, thank you letter, reference list, and online presence.
- Demonstrate effective interviewing skills.
- Submit an application for an industry specific position.
- Demonstrate effective use of job search websites.

NON-ALIGNED (ELECTIVE) COURSES
Bridgerland Technical College

Certification Test Prep I	1 Credit/30 Clock-Hours

Certification Test Prep I provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep II	1 Credit/30 Clock-Hours

Certification Test Prep II provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep III	1 Credit/30 Clock-Hours

Certification Test Prep III provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep IV	1 Credit/30 Clock-Hours

Certification Test Prep IV provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep V   1 Credit/30 Clock-Hours

Certification Test Prep V provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep VI   1 Credit/30 Clock-Hours

Certification Test Prep VI provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Network Traffic Analysis   1 Credit/30 Clock-Hours

This course provides instruction on the fundamental basics of network traffic analysis. This course will cover the process of recording, reviewing, and analyzing network traffic for performance, security and/or general network operations and management.

Objectives:
- Describe and evaluate network utilization
- Record, filter and analyze different types of network traffic
- Demonstrate use of network analysis tools
- Identify types of network connections

Service Desk Internship   2 Credits/90 Clock-Hours

This course provides instruction on customer support, technical documentation and advanced troubleshooting techniques in a service desk environment. Students will have opportunities to work directly with customers' personal equipment in a supervised environment. (Requires adviser approval).

Objectives:
- Demonstrate Advanced troubleshooting techniques and processes
- Document product, customer, and repair information in database
- Demonstrate how to find and research information to properly diagnose and repair personal computers

Practical Python   **3 Credits/90 Clock-Hours**

Practical Python provides instruction on the fundamentals of Object-Oriented Programming in Python. It includes the creation of Python scripting from basic to intermediate as well as the debugging process of creating Python code.

Objectives:
- Demonstrate how to install Python
- Demonstrate a working knowledge of Python by writing a simple syntax
- Troubleshoot Python code problems

Introduction to Virtualization   **1 Credit/30 Clock-Hours**

Introduction to Virtualization explores what Virtualization is and the critical role it plays in IT. Learn how to install, configure, and maintain virtual machines as well as the availability, applications, and virtual appliances, including their role in Virtualization.

Objectives:
- Explore Virtualization and the benefits gained from a Virtual environment
- Demonstrate how to enable Virtualization on a host system.
- Install operating systems on Virtual machines
- Import/Export Virtual machines for use in different virtualization platforms
- Configure basic processing, memory, storage, and networking in a Virtual environment
- Demonstrate how to Copy, backup, and restore virtual machines

IT Externship   **2 Credits/90 Clock-Hours**

Students will have the opportunity to develop real-world work experiences using knowledge and skills they have obtained in the program. Students will gain practical application of classroom skills through actual work situations. IT projects will be assigned to the student by cooperative businesses. Students will receive objective feedback on their performance each month. Customized student learning objectives will be developed addressing the individual needs of the organization and career interests of each student by the cooperative business and the student.

Objectives:
- Apply decision-making, critical-thinking, troubleshooting, and problem-solving skills
- Demonstrate ability to work independently
- Demonstrate ability to receive constructive criticism
- Write cooperatively with faculty and agency to create personalized objectives to be accomplished during the internship

Special Applications   **1-6 Credits/30-180 Clock-Hours**

The Special Apps course accepts transfer credit from students who have obtained content mastery through a related IT course participation. Content mastery may be obtained from curricula or transcript. Credit will be determined through competency demonstration of hardware devices and/or software systems. (Requires advisor approval).

Objectives:
- Obtain competency credit for successful completion of related IT course(s)
- Demonstrate industry level content mastery of prior learning

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- Create, design, and build skills necessary to be successful in the Information Technology career cluster

IT STEM   1-4 Credits/30-120 Clock-Hours

The IT STEM course accepts transfer credit from students who have obtained content mastery through IT STEM participation. Content mastery may be obtained from curricula. Credit will be determined through competency demonstration of hardware devices and/or software systems. (Requires advisor approval).

Objectives:
- Obtain competency credit for successful completion of IT STEM course(s)
- Demonstrate industry level content mastery of prior learning
- Create, design, and build skills necessary to be successful in the Information Technology career cluster

Cybersecurity Analysis   3 Credits/90 Clock-Hours

Cybersecurity Analysis teaches threat and vulnerability management and how to employ tools and methods to secure data and infrastructure and respond to security incidents. The CompTIA CySA+ objectives are covered and serves as a foundation for advanced security credentials.

Objectives:
- Implement appropriate tools and methods to perform a reconnaissance of a system or network
- Gather data and analyze the results of a reconnaissance
- Describe and implement techniques and procedures needed to secure an organization
- Classify threat data or activities for their impact on a security incident
- Manage incident response, recovery, and reporting

Ethical Hacking   3 Credits/90 Clock-Hours

Ethical Hacking teaches fundamental network attack strategies and countermeasures. Students learn to use various penetration testing tools to analyze network vulnerabilities and how to counter them and improve network security. This course aligns with the Certified Ethical Hacker (CEH) objectives.

Objectives:
- Perform: reconnaissance, scanning, and enumeration
- Demonstrate Access: Obtain login credentials, administrative access and escalate privileges, access by cracking
- Perform Attacks: Perform passive and active online attacks and infrastructure attacks
- Demonstrate Defense Techniques: Defend systems and devices, implement defensive systems, scan for vulnerabilities

Linux +   3 Credits/90 Clock-Hours

Linux + provides instructions on how to install, configure, manage, and maintain a Linux server. Topics include: SSH, VNC, Webmin, NIS and LDAP. Students learn to install, configure, and administer a Linux server. This course aligns with the CompTIA Linux + objectives.

Objectives:
- Configure the Linux file systems
- Configure file sharing services

- Configure network services
- Demonstrate competency with Linux Administration Tools

Routing and Switching   4 Credits/120 Clock-Hours

Routing and Switching teaches knowledge and skills related to network fundamentals, network access, IP connectivity, IP services, security fundamentals, and the automation and programmability of Cisco devices. This course meets the objectives for the Cisco Certified Network Associate (CCNA) exam.

Objectives:
- Setup and configure a router and a switch (NAT, DHCP, DNS)
- Configure IP settings
- Configure OSPF routing, VLANs and spanning trees
- Configure router and switch security and access control list

Hybrid Server Core   4 Credits/120 Clock-Hours

The Hybrid Server Core course teaches configuring and managing Windows Server on-premises, hybrid, and Infrastructure as a Service platform workloads. Learn on-premises and hybrid solutions, such as identity, security, management, compute, networking, storage, monitoring, and disaster recovery. Microsoft AZ-800 Certification objectives are covered.

Objectives:
- Deploy and manage Active Directory Domain Services in on-premises and cloud environments
- Manage Windows Servers and workloads in a hybrid environment
- Manage virtual machines and containers
- Implement and manage an on-premises and hybrid networking infrastructure
- Manage storage and file services.

Hybrid Server Advanced   4 Credits/120 Clock-Hours

The Hybrid Server Advanced course focuses more on security, high availability, backup and recovery, troubleshooting, monitoring, and migration from on-premises to Azure. Microsoft AZ-801 certification objectives are covered.

Objectives:
- Manage Windows Servers and workloads in a hybrid environment
- Secure Windows Server on-premises and hybrid infrastructures
- Implement and manage Windows Server high availability
- Implement disaster recovery
- Migrate servers and workloads
- Monitor and troubleshoot Windows Server environments.

Microsoft Azure Fundamentals   2 Credits/60 Clock-Hours

The Microsoft Azure Fundamentals course is an introduction to the Microsoft Azure cloud platform and includes instruction on foundational cloud concepts, the Azure management portal, Azure architecture and services, Azure storage and workloads, security and privacy in Azure, as well as Azure resource deployment, service monitoring, pricing, and cost management. This course aligns with the objectives of the Microsoft AZ 900 Azure Fundamentals certification exam.

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Objectives:
- Describe Azure cloud concepts, services, workloads, security and privacy
- Describe Azure core architectural components and services
- Describe Azure compute and networking services
- Describe Azure management and governance

Davis Technical College

Information Technology Fundamentals   2 Credits/60 Clock-Hours

This course provides an overview of the various career pathways related to working with computers. Throughout the class, students will be introduced to computers, including their history, hardware, operating systems, system support, programming languages, software, databases, networking, data storage, and system security. During this course, the student will perform essential IT tasks commonly performed by end-users and entry-level IT professionals. This course aligns with the objectives of the CompTIA ITF+ certification exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Cisco CCNA Introduction to Networks   3 Credits/90 Clock-Hours

CCNA Introduction to Networks curriculum introduces the architectures, models, protocols, and networking elements that connect users, devices, applications and data through the Internet and across modern computer networks. Learn to build simple local area networks (LANs) that integrate IP addressing schemes, configure foundational network security, and perform basic configurations for routers and switches.

Objectives:
- Build simple LANs, perform basic configurations for routers and switches, and implement IPv4 and IPv6 addressing schemes.
- Configure routers, switches, and end devices to provide access to local and remote network resources and to enable end-to-end connectivity between remote devices.
- Develop critical thinking and problem-solving skills using real equipment and Cisco Packet Tracer
- Configure and troubleshoot connectivity of a small network using security best practices

Cisco CCNA Switching, Routing, and Wireless Essentials (SWRE)   3 Credits/90 Clock-Hours

The Cisco CCNA Switching, Routing, and Wireless Essentials (SWRE) course focuses on switching technologies and router operations that support small-to-medium business networks and includes wireless local area network (WLAN) and security concepts. Students learn key switching and routing concepts. They can perform basic network configuration and troubleshooting, identify and mitigate local area network (LAN) security threats, and configure and secure a basic WLAN.

Objectives:
- Utilizing routers, switches and wireless devices, configure and troubleshoot VLANs,
- Wireless LANs and Inter-VLAN routing

- Configure and troubleshoot redundancy on a switched network using STP and EtherChannel
- Develop critical thinking and problem-solving skills using real equipment and Cisco Packet Tracer
- Explain how to support available and reliable networks using dynamic addressing and first-hop redundancy protocols

Microsoft 365 Fundamentals   **3 Credits/90 Clock-Hours**

The Microsoft 365 Fundamentals course provides instruction on how Microsoft 365 solutions address common organizational technology challenges including productivity, collaboration, and communication. Topics include endpoint and application management, desktop virtualization, automated operating system deployment, Microsoft 365 licensing, deployment and migration assistance, and product support options. This course aligns with the objectives of the Microsoft MS 900 certification exam.

Objectives:
- Identify and describe cloud concepts
- Describe core Microsoft 365 services and solutions
- Describe security, compliance, privacy, and trust in Microsoft 365
- Compare and contrast Microsoft 365 licensing, pricing, and support option

Remote Desktop Technologies   **1 Credit/30 Clock-Hours**

The hybrid workplace model mixes in-office and remote work to offer flexibility and support to employees. The modern support desk requires specialists to be knowledgeable in the usage of third-party remote software, cloud-based collaboration and sharing, Firewalls, VPN client configuration, remote desktop tools, and the virtual desktop interface. This course runs students through several real-world scenarios and hands-on labs.

Objectives:
- Explain key applications and connectivity options of remote work environments.
- Perform analysis, diagnosis, and resolution of connectivity issues faced in a hybrid workforce environment.
- Identify the key security principles of various cloud infrastructures, apps, and storage choices.
- Compare and contrast Virtual workspaces, VDI, and Desktop as a Service (DaaS).
- Demonstrate professional, clear, and concise verbal and written communication.

Introduction to Virtualization   **1 Credit/30 Clock-Hours**

Introduction to Virtualization explores what Virtualization is and the critical role it plays in IT. Learn how to install, configure, and maintain virtual machines as well as the availability, applications, and virtual appliances, including their role in Virtualization.

Objectives:
- Explore Virtualization and the benefits gained from a Virtual environment
- Demonstrate how to enable Virtualization on a host system.
- Install operating systems on Virtual machines
- Import/Export Virtual machines for use in different virtualization platforms
- Configure basic processing, memory, storage, and networking in a Virtual environment
- Demonstrate how to Copy, backup, and restore virtual machines

Deploying the Modern Desktop	1 Credit/30 Clock-Hours

As desktops have evolved, so have methods for deploying and updating them. In this course, you'll learn how to plan and implement an operating system deployment strategy. This course will help students understand the various methods available, the scenarios they're suited for, as well as how to deploy Windows using modern methods. This course will also cover planning and implementing an update strategy for Windows.

Objectives:
- Develop an Operating System deployment and upgrade strategy.
- Understand the different methods of deployment.
- Understand which scenarios on-premise and cloud-based solutions can be used for.
- Deploy and migrate desktop operating systems.
- Plan and configure Windows Update policies.

Microsoft Windows Server Administration Fundamentals	2 Credits/60 Clock-Hours

The Microsoft Windows Server Administration Fundamentals course offers a hands-on introduction to Windows Server administration. The student will explore basic systems administration of workstations and servers in a Windows domain, emphasizing the use of Active Directory for common everyday add, move, and change tasks.

Objectives:
- Identify, define, and describe server roles, features, and services
- Install, configure, and manage server roles and services including Domain Controllers, Active Directory, Group Policy, DHCP, DNS, and Remote Access Services
- Recognize and implement the proper share permissions on File and Print Servers
- Implement effective storage solutions using RAID and other fault-tolerant storage technologies
- Identify the importance of security updates and software update packages
- Perform Server Troubleshooting, Performance Tuning and Maintenance
- Explain fault-tolerance and disaster recovery
- Configure, manage, monitor, and troubleshoot security in a Directory Services Infrastructure

Certification Test Prep I	1 Credit/30 Clock-Hours

Certification Test Prep I provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep II	1 Credit/30 Clock-Hours

Certification Test Prep II provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

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Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep III   **1 Credit/30 Clock-Hours**

Certification Test Prep III provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep IV   **1 Credit/30 Clock-Hours**

Certification Test Prep IV provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

CompTIA Project +   **3 Credits/90 Clock-Hours**

This course studies the planning and processes involved in an information technology project. Topics include planning, scheduling, and controlling aspects of a project during its life cycle. The course introduces students to project management and explains project management as it applies to managing information technology. It also helps students develop the skills required to initiate, plan, execute, control, and close projects. This course prepares students for exams such as the CompTIA Project + certification exam.

Objectives:
- Explain the benefits of IT project management
- Examine the project management lifecycle
- Demonstrate how to establish a project charter and project team
- Demonstrate project estimating and scheduling
- Describe the creation of project plans and project reporting

IT Externship   **2 Credits/90 Clock-Hours**

Students will have the opportunity to develop real-world work experiences using knowledge and skills they have obtained in the program. Students will gain practical application of classroom skills through

actual work situations. IT projects will be assigned to the student by cooperative businesses. Students will receive objective feedback on their performance each month. Customized student learning objectives will be developed addressing the individual needs of the organization and career interests of each student by the cooperative business and the student.

Objectives:
- Apply decision-making, critical-thinking, troubleshooting, and problem-solving skills
- Demonstrate ability to work independently
- Demonstrate ability to receive constructive criticism
- Write cooperatively with faculty and agency to create personalized objectives to be accomplished during the internship

Special Projects I   1 Credit/30 Clock-Hours

Special Projects I provides students with a unique or advanced skill development identified as a need in industry. Students will select their chosen topic from a previous course subject and draft a project proposal. After the project is completed, the student and faculty member will review the success of the project compared to the proposal. (Requires advisor approval).

Objectives:
- Apply decision-making, critical-thinking, troubleshooting, and problem-solving skills
- Create a draft proposal for a project focusing on networking, cybersecurity, or operating systems.
- Develop a project outline that defines the purpose, scope, and potential challenges they may face. Present the outline to faculty for approval.
- Demonstrate project management skills as they complete their project and work with the instructor to evaluate its success according to their purpose, scope, and outline.

Special Projects II   2 Credits/60 Clock-Hours

Special Projects II provides students with a unique or advanced skill development identified as a need in industry. Students will select their chosen topic from a previous course subject and draft a project proposal. After the project is completed, the student and faculty member will review the success of the project compared to the proposal. (Requires advisor approval).

Objectives:
- Apply decision-making, critical-thinking, troubleshooting, and problem-solving skills
- Create a draft proposal for a project focusing on networking, cybersecurity, or operating systems.
- Develop a project outline that defines the purpose, scope, and potential challenges they may face. Present the outline to faculty for approval.
- Demonstrate project management skills as they complete their project and work with the instructor to evaluate its success according to their purpose, scope, and outline.

Special Projects III   3 Credits/90 Clock-Hours

Special Projects III provides students with a unique or advanced skill development identified as a need in industry. Students will select their chosen topic from a previous course subject and draft a project proposal. After the project is completed, the student and faculty member will review the success of the project compared to the proposal. (Requires advisor approval).

Objectives:
- Apply decision-making, critical-thinking, troubleshooting, and problem-solving skills
- Create a draft proposal for a project focusing on networking, cybersecurity, or operating systems.
- Develop a project outline that defines the purpose, scope, and potential challenges they may face. Present the outline to faculty for approval.
- Demonstrate project management skills as they complete their project and work with the instructor to evaluate its success according to their purpose, scope, and outline.

Dixie Technical College

Certification Test Prep I   1 Credit/30 Clock-Hours

Certification Test Prep I provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep II   1 Credit/30 Clock-Hours

Certification Test Prep II provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep III   1 Credit/30 Clock-Hours

Certification Test Prep III provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep IV   1 Credit/30 Clock-Hours

Certification Test Prep IV provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep V   1 Credit/30 Clock-Hours

Certification Test Prep V provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep VI   1 Credit/30 Clock-Hours

Certification Test Prep VI provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Final Project   3 Credit/90 Clock-Hours

This course provides students a unique or advanced skill development identified as an immediate need in the current occupational industry.

Objectives:
- Demonstrate skills taught required for entry level positions in the information technology field
- Install, configure, maintain, and troubleshoot common hardware and software issues
- Design, implement and manage a scalable network
- Identify advanced security threats and implement best practices to mitigate risks
- Demonstrate effective verbal and written communication using industry specific terminology

Ogden-Weber Technical College

Information Technology Fundamentals   2 Credits/60 Clock-Hours

This course provides an overview of the various career pathways related to working with computers. Throughout the class, students will be introduced to computers, including their history, hardware, operating systems, system support, programming languages, software, databases, networking, data storage, and system security. During this course, the student will perform essential IT tasks commonly performed by end-users and entry-level IT professionals. This course aligns with the objectives of the CompTIA ITF+ certification exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Introduction to Virtualization   1 Credit/30 Clock-Hours

Introduction to Virtualization explores what Virtualization is and the critical role it plays in IT. Learn how to install, configure, and maintain virtual machines as well as the availability, applications, and virtual appliances, including their role in Virtualization.

Objectives:
- Explore Virtualization and the benefits gained from a Virtual environment
- Demonstrate how to enable Virtualization on a host system.
- Install operating systems on Virtual machines
- Import/Export Virtual machines for use in different virtualization platforms
- Configure basic processing, memory, storage, and networking in a Virtual environment
- Demonstrate how to Copy, backup, and restore virtual machines

Certification Test Prep I   1 Credit/30 Clock-Hours

Certification Test Prep I provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep II   1 Credit/30 Clock-Hours

Certification Test Prep II provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives

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- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep III   1 Credit/30 Clock-Hours

Certification Test Prep III provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep IV   1 Credit/30 Clock-Hours

Certification Test Prep IV provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep V   1 Credit/30 Clock-Hours

Certification Test Prep V provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep VI   1 Credit/30 Clock-Hours

Certification Test Prep VI provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies

- Schedule and take the certification exam

Network Traffic Analysis   1 Credit/30 Clock-Hours

This course provides instruction on the fundamental basics of network traffic analysis. This course will cover the process of recording, reviewing, and analyzing network traffic for performance, security and/or general network operations and management.

Objectives:
- Describe and evaluate network utilization
- Record, filter and analyze different types of network traffic
- Demonstrate use of network analysis tools
- Identify types of network connections

Ethical Hacking   3 Credits/90 Clock-Hours

Ethical Hacking teaches fundamental network attack strategies and countermeasures. Students learn to use various penetration testing tools to analyze network vulnerabilities and how to counter them and improve network security. This course aligns with the Certified Ethical Hacker (CEH) objectives.

Objectives:
- Perform: reconnaissance, scanning, and enumeration
- Demonstrate Access: Obtain login credentials, administrative access and escalate privileges, access by cracking
- Perform Attacks: Perform passive and active online attacks and infrastructure attacks
- Demonstrate Defense Techniques: Defend systems and devices, implement defensive systems, scan for vulnerabilities

Cybersecurity Analysis   3 Credits/90 Clock-Hours

Cybersecurity Analysis teaches threat and vulnerability management and how to employ tools and methods to secure data and infrastructure and respond to security incidents. The CompTIA CySA+ objectives are covered and serves as a foundation for advanced security credentials.

Objectives:
- Implement appropriate tools and methods to perform a reconnaissance of a system or network
- Gather data and analyze the results of a reconnaissance
- Describe and implement techniques and procedures needed to secure an organization
- Classify threat data or activities for their impact on a security incident
- Manage incident response, recovery, and reporting

Linux +   3 Credits/90 Clock-Hours

Linux + provides instructions on how to install, configure, manage, and maintain a Linux server. Topics include: SSH, VNC, Webmin, NIS and LDAP. Students learn to install, configure, and administer a Linux server. This course aligns with the CompTIA Linux + objectives.

Objectives:
- Configure the Linux file systems
- Configure file sharing services

- Configure network services
- Demonstrate competency with Linux Administration Tools

IT Externship   **2 Credits/90 Clock-Hours**

Students will have the opportunity to develop real-world work experiences using knowledge and skills they have obtained in the program. Students will gain practical application of classroom skills through actual work situations. IT projects will be assigned to the student by cooperative businesses. Students will receive objective feedback on their performance each month. Customized student learning objectives will be developed addressing the individual needs of the organization and career interests of each student by the cooperative business and the student.

Objectives:
- Apply decision-making, critical-thinking, troubleshooting, and problem-solving skills
- Demonstrate ability to work independently
- Demonstrate ability to receive constructive criticism
- Write cooperatively with faculty and agency to create personalized objectives to be accomplished during the internship

Special Projects I   **1 Credit/30 Clock-Hours**

Special Projects I provides students with a unique or advanced skill development identified as a need in industry. Students will select their chosen topic from a previous course subject and draft a project proposal. After the project is completed, the student and faculty member will review the success of the project compared to the proposal. (Requires advisor approval).

Objectives:
- Apply decision-making, critical-thinking, troubleshooting, and problem-solving skills
- Create a draft proposal for a project focusing on networking, cybersecurity, or operating systems.
- Develop a project outline that defines the purpose, scope, and potential challenges they may face. Present the outline to faculty for approval.
- Demonstrate project management skills as they complete their project and work with the instructor to evaluate its success according to their purpose, scope, and outline.

Special Projects II   **2 Credits/60 Clock-Hours**

Special Projects II provides students with a unique or advanced skill development identified as a need in industry. Students will select their chosen topic from a previous course subject and draft a project proposal. After the project is completed, the student and faculty member will review the success of the project compared to the proposal. (Requires advisor approval).

Objectives:
- Apply decision-making, critical-thinking, troubleshooting, and problem-solving skills
- Create a draft proposal for a project focusing on networking, cybersecurity, or operating systems.
- Develop a project outline that defines the purpose, scope, and potential challenges they may face. Present the outline to faculty for approval.
- Demonstrate project management skills as they complete their project and work with the instructor to evaluate its success according to their purpose, scope, and outline.

Special Projects III **3 Credits/90 Clock-Hours**

Special Projects III provides students with a unique or advanced skill development identified as a need in industry. Students will select their chosen topic from a previous course subject and draft a project proposal. After the project is completed, the student and faculty member will review the success of the project compared to the proposal. (Requires advisor approval).

Objectives:
- Apply decision-making, critical-thinking, troubleshooting, and problem-solving skills
- Create a draft proposal for a project focusing on networking, cybersecurity, or operating systems.
- Develop a project outline that defines the purpose, scope, and potential challenges they may face. Present the outline to faculty for approval.
- Demonstrate project management skills as they complete their project and work with the instructor to evaluate its success according to their purpose, scope, and outline.

Linux Computing with Raspberry Pi **2 Credits/60 Clock-Hours**

This course will provide students the opportunity to use the Linux operating system to create ten useful projects using a Raspberry Pi computer and various peripherals.

Objectives:
- Explain basic functionality and limitations of Raspberry Pi computers
- Demonstrate programming using Raspbian and other Linux-based operating systems
- Explore thousands of project ideas that can be created using Linux and a Raspberry Pi
- Troubleshoot software and hardware errors
- Create ten useful projects using a Raspberry Pi computer

Intermediate Service Desk **2 Credits/60 Clock-Hours**

This course provides a hands-on service desk experience where students will complete activities that will hone the customer service, documentation, and troubleshooting skills needed to obtain a position as a service desk professional. This course also provides multiple opportunities to complete real world tickets as part of our free community computer support service desk.

Objectives:
- Explain the common tasks associated with the service desk
- Use best practice techniques with customers
- Research and present information to customers
- Create troubleshooting tools
- Use common troubleshooting steps
- Build clean Windows images for installation
- Perform basic Active Directory tasks
- Complete Service Desk tickets for family, friends, and the community

Introduction to Cybersecurity **1 Credits/30 Clock-Hours**

This course will provide foundational cybersecurity knowledge in preparation for more advanced cybersecurity courses as well as an introduction to career prospects in cybersecurity.

Objectives:
- Identify various types of security software
- Demonstrate the use of software to mitigate risk in a lab environment
- Define security best practices
- Analyze various software logs
- Summarize major risk frameworks
- Identify social engineering techniques
- Identify accurate and trustworthy security news sources
- Explore career opportunities in cybersecurity

Salt Lake Community College

Microsoft 365 Fundamentals   3 Credits/90 Clock-Hours

The Microsoft 365 Fundamentals course provides instruction on how Microsoft 365 solutions address common organizational technology challenges including productivity, collaboration, and communication. Topics include endpoint and application management, desktop virtualization, automated operating system deployment, Microsoft 365 licensing, deployment and migration assistance, and product support options. This course aligns with the objectives of the Microsoft MS 900 certification exam.

Objectives:
- Identify and describe cloud concepts
- Describe core Microsoft 365 services and solutions
- Describe security, compliance, privacy, and trust in Microsoft 365
- Compare and contrast Microsoft 365 licensing, pricing, and support option

Microsoft Azure Fundamentals   2 Credits/60 Clock-Hours

The Microsoft Azure Fundamentals course is an introduction to the Microsoft Azure cloud platform and includes instruction on foundational cloud concepts, the Azure management portal, Azure architecture and services, Azure storage and workloads, security and privacy in Azure, as well as Azure resource deployment, service monitoring, pricing, and cost management. This course aligns with the objectives of the Microsoft AZ 900 Azure Fundamentals certification exam.

Objectives:
- Describe Azure cloud concepts, services, workloads, security and privacy
- Describe Azure core architectural components and services
- Describe Azure compute and networking services
- Describe Azure management and governance

Certification Test Prep I   1 Credit/30 Clock-Hours

Certification Test Prep I provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests

- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep II   **1 Credit/30 Clock-Hours**

Certification Test Prep II provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep III   **1 Credit/30 Clock-Hours**

Certification Test Prep III provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Cybersecurity Analysis   **3 Credits/90 Clock-Hours**

Cybersecurity Analysis teaches threat and vulnerability management and how to employ tools and methods to secure data and infrastructure and respond to security incidents. The CompTIA CySA+ objectives are covered and serves as a foundation for advanced security credentials.

Objectives:
- Implement appropriate tools and methods to perform a reconnaissance of a system or network
- Gather data and analyze the results of a reconnaissance
- Describe and implement techniques and procedures needed to secure an organization
- Classify threat data or activities for their impact on a security incident
- Manage incident response, recovery, and reporting

Introduction to Cybersecurity   **1 Credits/30 Clock-Hours**

This course will provide foundational cybersecurity knowledge in preparation for more advanced cybersecurity courses as well as an introduction to career prospects in cybersecurity.

Objectives:
- Identify various types of security software
- Demonstrate the use of software to mitigate risk in a lab environment
- Define security best practices
- Analyze various software logs

- Summarize major risk frameworks
- Identify social engineering techniques
- Identify accurate and trustworthy security news sources
- Explore career opportunities in cybersecurity

Snow College

Orientation   1 Credits/30 Clock-Hours

Orientation is designed to introduce students to the program and degree pathway
for the CIS department. Students will be introduced to the curriculum, pathways, and industry
certifications. Students will be introduced to the learning model utilized in the department to
include; online/hybrid instruction, required clock hours in class, and program outcomes. Students
will learn how to utilize software platforms used in the program for learning (e.g., Canvas,
NetAcad, and Packet Tracer).

Objectives:
- Describe the coursework, pathway, certificates, and degree.
- Describe and operate within the CIS department educational model.
- Describe the industry certifications and specialized departmental badges.
- Demonstrate proficiency with Canvas, NetAcad, and Packet Tracer.

Networking Essentials   2 Credits/60 Clock-Hours

Networking Essentials will introduce students to the importance of networking in a digital world, and
introduced network essentials required in many business functions today including business critical data
and operations, cybersecurity, and much more. Students will learn to install a home and small business
network, develop basic network troubleshooting skills, and recognize network threats and basic mitigation
techniques.

Objectives:
- Plan and install simulated home or small business networks and wireless networks.
- Verify settings and troubleshoot network connectivity.
- Identify and mitigate network security threats.

Introduction to IOT   3 Credit/90 Clock-Hours

Introduction to IOT is designed to give the student an introduction to the Internet of Things (IoT).
Students will learn how these devices connect, how they expand and transform our current technology,
and considerations for securing these devices. Students will also learn the basics of the IoT technology
and receive a better understanding of smart devices and the role they play in the modern world
technology landscape.

Objectives:
- Discuss how the current digital transformation is creating unprecedented economic opportunity.
- Describe how the IoT (Internet of Things) is bridging the gap between operational and information
  technology systems.
- Describe how standard business processes are being transformed.
- Identify the security concerns that must be considered when implementing IoT solutions.

| **Cybersecurity Essentials** | **3 Credit/90 Clock-Hours** |

Cybersecurity Essentials will introduce students to the essentials of network security concepts using Cisco equipment. Students will become familiar with network attackers and their attacks, security basics, network and web security, cryptography, operational security, firewalls, adaptive security appliances, policies and procedures related to network security.

Objectives:
- Describe security threats facing modern network infrastructures and secure network device access.
- Describe authentication, authorization, and access principles for network access and implement AAA on network devices.
- Mitigate network threats utilizing access control lists.
- Secure network management and reporting channels.
- Configure firewall and adaptive security appliances (ASA).
- Configure site-to-site VPNs utilizing the IPsec protocol.
- Describe and effective security policies related to the administration and security of a routed network.

Tooele Technical College

| **Certification Test Prep I** | **1 Credit/30 Clock-Hours** |

Certification Test Prep I provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

| **Certification Test Prep II** | **1 Credit/30 Clock-Hours** |

Certification Test Prep II provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

| **Certification Test Prep III** | **1 Credit/30 Clock-Hours** |

Certification Test Prep III provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

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Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep IV   1 Credit/30 Clock-Hours

Certification Test Prep IV provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep V   1 Credit/30 Clock-Hours

Certification Test Prep V provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep VI   1 Credit/30 Clock-Hours

Certification Test Prep VI provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Cisco CCNA Introduction to Networks   3 Credits/90 Clock-Hours

The Cisco Certified Network Associated (CCNA) Introduction to Networks curriculum introduces the architectures, models, protocols, and networking elements that connect users, devices, applications and data through the Internet and across modern computer networks. Learn to build simple local area networks (LANs) that integrate IP addressing schemes, configure foundational network security, and perform basic configurations for routers and switches.

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Objectives:
- Build simple LANs, perform basic configurations for routers and switches, and implement IPv4 and IPv6 addressing schemes.
- Configure routers, switches, and end devices to provide access to local and remote network resources and to enable end-to-end connectivity between remote devices.
- Develop critical thinking and problem-solving skills using real equipment and Cisco Packet Tracer
- Configure and troubleshoot connectivity of a small network using security best practices

Cisco CCNA Switching, Routing, and Wireless Essentials (SWRE)   3 Credits/90 Clock-Hours

The Cisco CCNA Switching, Routing, and Wireless Essentials (SWRE) course focuses on switching technologies and router operations that support small-to-medium business networks and includes wireless local area network (WLAN) and security concepts. Students learn key switching and routing concepts. They can perform basic network configuration and troubleshooting, identify and mitigate local area network (LAN) security threats, and configure and secure a basic WLAN.

Objectives:
- Utilizing routers, switches and wireless devices, configure and troubleshoot VLANs,
- Wireless LANs and Inter-VLAN routing
- Configure and troubleshoot redundancy on a switched network using STP and EtherChannel
- Develop critical thinking and problem-solving skills using real equipment and Cisco Packet Tracer
- Explain how to support available and reliable networks using dynamic addressing and first-hop redundancy protocols

Cisco CCNA Enterprise Networking, Security, and Automation (ENSA)   3 Credits/90 Clock-Hours

he Cisco Certified Networking Associate (CCNA) Enterprise Networking, Security, and Automation course covers the architecture, security, and operation of an enterprise network, along with introducing new ways in which network engineers interact with programmable infrastructure. Gain skills to configure and troubleshoot enterprise networks, learn to identify and protect against cybersecurity threats, and discover key concepts of software-defined networking, including controller-based architectures and application programming interfaces (APIs).

Objectives:
- Configure routers and switches using OSPF in point-to-point and multiaccess networks
- Mitigate threats and enhance network security using access control lists and security best practices
- Develop critical thinking and problem-solving skills using real equipment and Cisco Packet Tracer.
- Explore virtualization, SDN, and how APIs and configuration management tools enable network automation

Linux +   3 Credits/90 Clock-Hours

Linux + provides instructions on how to install, configure, manage, and maintain a Linux server. Topics include: SSH, VNC, Webmin, NIS and LDAP. Students learn to install, configure, and administer a Linux server. This course aligns with the CompTIA Linux + objectives.

Objectives:
- Configure the Linux file systems

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- Configure file sharing services
- Configure network services
- Demonstrate competency with Linux Administration Tools

Ethical Hacking   3 Credits/90 Clock-Hours

Ethical Hacking teaches fundamental network attack strategies and countermeasures. Students learn to use various penetration testing tools to analyze network vulnerabilities and how to counter them and improve network security. This course aligns with the Certified Ethical Hacker (CEH) objectives.

Objectives:
- Perform: reconnaissance, scanning, and enumeration
- Demonstrate Access: Obtain login credentials, administrative access and escalate privileges, access by cracking
- Perform Attacks: Perform passive and active online attacks and infrastructure attacks
- Demonstrate Defense Techniques: Defend systems and devices, implement defensive systems, scan for vulnerabilities

Cybersecurity Analysis   3 Credits/90 Clock-Hours

Cybersecurity Analysis teaches threat and vulnerability management and how to employ tools and methods to secure data and infrastructure and respond to security incidents. The CompTIA CySA+ objectives are covered and serves as a foundation for advanced security credentials.

Objectives:
- Implement appropriate tools and methods to perform a reconnaissance of a system or network
- Gather data and analyze the results of a reconnaissance
- Describe and implement techniques and procedures needed to secure an organization
- Classify threat data or activities for their impact on a security incident
- Manage incident response, recovery, and reporting

Special Projects I   1 Credit/30 Clock-Hours

Special Projects I provides students with a unique or advanced skill development identified as a need in industry. Students will select their chosen topic from a previous course subject and draft a project proposal. After the project is completed, the student and faculty member will review the success of the project compared to the proposal. (Requires advisor approval).

Objectives:
- Apply decision-making, critical-thinking, troubleshooting, and problem-solving skills
- Create a draft proposal for a project focusing on networking, cybersecurity, or operating systems.
- Develop a project outline that defines the purpose, scope, and potential challenges they may face. Present the outline to faculty for approval.
- Demonstrate project management skills as they complete their project and work with the instructor to evaluate its success according to their purpose, scope, and outline.

Special Projects II   2 Credits/60 Clock-Hours

Special Projects II provides students with a unique or advanced skill development identified as a need in industry. Students will select their chosen topic from a previous course subject and draft a project

proposal. After the project is completed, the student and faculty member will review the success of the project compared to the proposal. (Requires advisor approval).

Objectives:
- Apply decision-making, critical-thinking, troubleshooting, and problem-solving skills
- Create a draft proposal for a project focusing on networking, cybersecurity, or operating systems.
- Develop a project outline that defines the purpose, scope, and potential challenges they may face. Present the outline to faculty for approval.
- Demonstrate project management skills as they complete their project and work with the instructor to evaluate its success according to their purpose, scope, and outline.

Special Projects III   **3 Credits/90 Clock-Hours**

Special Projects III provides students with a unique or advanced skill development identified as a need in industry. Students will select their chosen topic from a previous course subject and draft a project proposal. After the project is completed, the student and faculty member will review the success of the project compared to the proposal. (Requires advisor approval).

Objectives:
- Apply decision-making, critical-thinking, troubleshooting, and problem-solving skills
- Create a draft proposal for a project focusing on networking, cybersecurity, or operating systems.
- Develop a project outline that defines the purpose, scope, and potential challenges they may face. Present the outline to faculty for approval.
- Demonstrate project management skills as they complete their project and work with the instructor to evaluate its success according to their purpose, scope, and outline.

Microsoft Azure Fundamentals   **2 Credits/60 Clock-Hours**

The Microsoft Azure Fundamentals course is an introduction to the Microsoft Azure cloud platform and includes instruction on foundational cloud concepts, the Azure management portal, Azure architecture and services, Azure storage and workloads, security and privacy in Azure, as well as Azure resource deployment, service monitoring, pricing, and cost management. This course aligns with the objectives of the Microsoft AZ 900 Azure Fundamentals certification exam.

Objectives:
- Describe Azure cloud concepts, services, workloads, security and privacy
- Describe Azure core architectural components and services
- Describe Azure compute and networking services
- Describe Azure management and governance

Microsoft 365 Fundamentals   **3 Credits/90 Clock-Hours**

The Microsoft 365 Fundamentals course provides instruction on how Microsoft 365 solutions address common organizational technology challenges including productivity, collaboration, and communication. Topics include endpoint and application management, desktop virtualization, automated operating system deployment, Microsoft 365 licensing, deployment and migration assistance, and product support options. This course aligns with the objectives of the Microsoft MS 900 certification exam.

Objectives:
- Identify and describe cloud concepts

- Describe core Microsoft 365 services and solutions
- Describe security, compliance, privacy, and trust in Microsoft 365
- Compare and contrast Microsoft 365 licensing, pricing, and support option

Hybrid Server Core   **4 Credits/120 Clock-Hours**

The Hybrid Server Core course teaches configuring and managing Windows Server on-premises, hybrid, and Infrastructure as a Service platform workloads. Learn on-premises and hybrid solutions, such as identity, security, management, compute, networking, storage, monitoring, and disaster recovery. Microsoft AZ-800 Certification objectives are covered.

Objectives:
- Deploy and manage Active Directory Domain Services in on-premises and cloud environments
- Manage Windows Servers and workloads in a hybrid environment
- Manage virtual machines and containers
- Implement and manage an on-premises and hybrid networking infrastructure
- Manage storage and file services.

Hybrid Server Advanced   **4 Credits/120 Clock-Hours**

The Hybrid Server Advanced course focuses more on security, high availability, backup and recovery, troubleshooting, monitoring, and migration from on-premises to Azure. Microsoft AZ-801 certification objectives are covered.

Objectives:
- Manage Windows Servers and workloads in a hybrid environment
- Secure Windows Server on-premises and hybrid infrastructures
- Implement and manage Windows Server high availability
- Implement disaster recovery
- Migrate servers and workloads
- Monitor and troubleshoot Windows Server environments.

Uintah Basin Technical College

Introduction to Python   **2 Credits/60 Clock-Hours**

Intro to Python will cover functional programming in python. Students will learn common functions, loops, operators, and conditionals. They will lean how to implement and manipulate lists, tuples, and dictionaries. They will create basic python scripts such as Fizzbuzz and text-based adventure games. This course will prepare students for further python training.

Objectives:
- Demonstrate understanding of Python functions, create custom functions.
- Demonstrate understanding of loops, and conditionals.
- Create a text-based adventure game utilizing all tools learned.

Microsoft Windows Server Administration Fundamentals   **2 Credits/60 Clock-Hours**

The Microsoft Windows Server Administration Fundamentals course offers a hands-on introduction to Windows Server administration. The student will explore basic systems administration of workstations and

servers in a Windows domain, emphasizing the use of Active Directory for common everyday add, move, and change tasks.

Objectives:
- Identify, define, and describe server roles, features, and services
- Install, configure, and manage server roles and services including Domain Controllers, Active Directory, Group Policy, DHCP, DNS, and Remote Access Services
- Recognize and implement the proper share permissions on File and Print Servers
- Implement effective storage solutions using RAID and other fault-tolerant storage technologies
- Identify the importance of security updates and software update packages
- Perform Server Troubleshooting, Performance Tuning and Maintenance
- Explain fault-tolerance and disaster recovery
- Configure, manage, monitor, and troubleshoot security in a Directory Services Infrastructure

Certification Test Prep I   **1 Credit/30 Clock-Hours**

Certification Test Prep I provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep II   **1 Credit/30 Clock-Hours**

Certification Test Prep II provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep III   **1 Credit/30 Clock-Hours**

Certification Test Prep III provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep IV   **1 Credit/30 Clock-Hours**

Certification Test Prep IV provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep V   **1 Credit/30 Clock-Hours**

Certification Test Prep V provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep VI   **1 Credit/30 Clock-Hours**

Certification Test Prep VI provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Technical Installation   **2 Credits/60 Clock-Hours**

This course will focus on combining technical skills with light construction. Students will learn how to install and configure physical network infrastructure, security and door access, and smart home technologies. This course will provide instruction in the use of small construction tools including stud finders, cordless drills, saws etc. This course covers the basics of low-voltage technician skills. Students will also learn basic electronic soldering skills.

Objectives:
- Demonstrate the use of basic network and construction tools.
- Successfully install and configure smart home technologies, security devices, and network infrastructure.
- Explain basic low-voltage electrical theory.

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Ethical Hacking   **3 Credits/90 Clock-Hours**

Ethical Hacking teaches fundamental network attack strategies and countermeasures. Students learn to use various penetration testing tools to analyze network vulnerabilities and how to counter them and improve network security. This course aligns with the Certified Ethical Hacker (CEH) objectives.

Objectives:
- Perform: reconnaissance, scanning, and enumeration
- Demonstrate Access: Obtain login credentials, administrative access and escalate privileges, access by cracking
- Perform Attacks: Perform passive and active online attacks and infrastructure attacks
- Demonstrate Defense Techniques: Defend systems and devices, implement defensive systems, scan for vulnerabilities

CompTIA Project +   **3 Credits/90 Clock-Hours**

This course studies the planning and processes involved in an information technology project. Topics include planning, scheduling, and controlling aspects of a project during its life cycle. The course introduces students to project management and explains project management as it applies to managing information technology. It also helps students develop the skills required to initiate, plan, execute, control, and close projects. This course prepares students for exams such as the CompTIA Project + certification exam.

Objectives:
- Explain the benefits of IT project management
- Examine the project management lifecycle
- Demonstrate how to establish a project charter and project team
- Demonstrate project estimating and scheduling
- Describe the creation of project plans and project reporting

Special Projects I   **1 Credit/30 Clock-Hours**

Special Projects I provides students with a unique or advanced skill development identified as a need in industry. Students will select their chosen topic from a previous course subject and draft a project proposal. After the project is completed, the student and faculty member will review the success of the project compared to the proposal. (Requires advisor approval).

Objectives:
- Apply decision-making, critical-thinking, troubleshooting, and problem-solving skills
- Create a draft proposal for a project focusing on networking, cybersecurity, or operating systems.
- Develop a project outline that defines the purpose, scope, and potential challenges they may face. Present the outline to faculty for approval.
- Demonstrate project management skills as they complete their project and work with the instructor to evaluate its success according to their purpose, scope, and outline.

Special Projects II   **2 Credits/60 Clock-Hours**

Special Projects II provides students with a unique or advanced skill development identified as a need in industry. Students will select their chosen topic from a previous course subject and draft a project proposal. After the project is completed, the student and faculty member will review the success of the project compared to the proposal. (Requires advisor approval).

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Objectives:
- Apply decision-making, critical-thinking, troubleshooting, and problem-solving skills
- Create a draft proposal for a project focusing on networking, cybersecurity, or operating systems.
- Develop a project outline that defines the purpose, scope, and potential challenges they may face. Present the outline to faculty for approval.
- Demonstrate project management skills as they complete their project and work with the instructor to evaluate its success according to their purpose, scope, and outline.

Telecommunications   2 Credits/60 Clock-Hours

This course will focus on the telecommunications equipment that supports the backbone of the modern internet. Students will learn how to install, program, and maintain edge routers, MSPP's (MultiService Provisioning Platform), ODXC (Optical Digital Cross Connect), and other communication devices. They will also learn how to create and implement emergency power backup plans.

Objectives:
- Identify common communication cables
- Demonstrate best practices when running cables and cable management
- Program common communication devices
- Identify vulnerabilities in the network and implement security measures
- Create and implement an emergency power backup plan

Utah State University

Introduction to Programming   3 Credit/90 Clock-Hours

This course introduces computer programming/software engineering and applications. Students learn the fundamentals of computer programming, simple controls and data structures, and operating system commands. Students learn to design, code, and test their own programs, and apply mathematical skills.

Objectives:
- Modify existing Python programs
- Write original Python programs
- Demonstrate the use of:
  - Different data types and variables
  - Decision structures such as If and If-elif-else
  - Loops structures such as While, and For
  - Functions
  - Lists, Tuples, Dictionaries and Sets
  - String manipulations
  - Files (read and write)
  - Classes and Object-Oriented Programming

Introduction to Mobile Application Development   3 Credit/90 Clock-Hours

This course introduces students to the fundamentals of mobile application development. Students learn to design, code and test their own mobile applications.

Objectives:
- Create mobile apps using Android Studio

- Debug mobile apps
- Explain and use:
    - Techniques to create native app interfaces
    - Different activities and pass data between them
    - Activities to display list data in an app
    - Persistent data to store, retrieve, and manipulate data files
    - Hardware and device sensor APIs in programs in order to capture and integrate sensor data
- Discuss how monetize and publish apps

Website Design	3 Credit/90 Clock-Hours

This course focuses on design and construction of Web pages using HTML, Cascading Style Sheets, and JavaScript. Students will have hands-on experience creating and publishing web pages. This course also focuses on basics of hosting, publishing, promoting, and maintaining websites.

Objectives:
- Understand web hosting and critique website designs
- Demonstrate use of HTML5 and Cascading Style Sheets (CSS) in developing web pages
- Develop web pages using images, multimedia, tables and forms.
- Apply basic JavaScripting to web Pages
- Publish, Promote, and Maintain a website
- Evaluate and use Website Builders or Content Management Systems (CMS)

Digital Video Production	3 Credit/90 Clock-Hours

This course covers fundamentals of digital video production, including recording, editing, and uploading of video using current video-editing programs and techniques. Students will have hands-on experience with projects to help them apply current digital video production concepts.

Objectives:
- Explain how professional audio-visual production is directed and managed to create useful multimedia materials
- Discuss basic video production techniques that make a quality recording and production
- Create video/audio resources from concept inception through storyboarding, scripting, recording, editing and media conversion
- Create digital video productions more effectively using graphics, titling, and/or channel masks in the video editing process
- Create audio and video effects and animation
- Prepare video for use in HTML pages, YouTube, or other multimedia storage locations

Certification Test Prep I	1 Credit/30 Clock-Hours

Certification Test Prep I provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests

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- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep II   **1 Credit/30 Clock-Hours**

Certification Test Prep II provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep III   **1 Credit/30 Clock-Hours**

Certification Test Prep III provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep IV   **1 Credit/30 Clock-Hours**

Certification Test Prep IV provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep V   **1 Credit/30 Clock-Hours**

Certification Test Prep V provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Certification Test Prep VI   1 Credit/30 Clock-Hours

Certification Test Prep VI provides instruction in preparation for industry exams. Students will access additional testing materials and resources for their exam preparation. Students will review the exam outline, objectives, grading scale, requirements, and recommendations for the specified industry exam.

Objectives:
- Identify areas for improvement of certification learning objectives
- Demonstrate competency by passing practice tests
- Demonstrate proficiency in test-taking strategies
- Schedule and take the certification exam

Linux +   3 Credits/90 Clock-Hours

Linux + provides instructions on how to install, configure, manage, and maintain a Linux server. Topics include: SSH, VNC, Webmin, NIS and LDAP. Students learn to install, configure, and administer a Linux server. This course aligns with the CompTIA Linux + objectives.

Objectives:
- Configure the Linux file systems
- Configure file sharing services
- Configure network services
- Demonstrate competency with Linux Administration Tools

Photoshop   3 Credits/90 Clock-Hours

This course is designed to teach the use of Photoshop. Students will gain hands-on experience from basic touch up and editing to advance editing and creation of graphics for various uses including images for the Websites.

Objectives:
- Perform photo corrections and work with selections and layers
- Use masks and channels and work with typographic design
- Perform vector drawing and advanced compositing
- Prepare files for the Web and produce and understand how to print with consistent coloring

Web Business   3 Credits/90 Clock-Hours

This course is an introduction to Web-based business. Students will learn business concepts relating to on-line and world-wide e-commerce. Also marketing concepts, design strategies, and technical issues as they relate to Web-based businesses will be discussed.

Objectives:
- Review technology infrastructure of the Internet and the World Wide Web
- Understand the implications of selling on the web — regional and worldwide
- Develop marketing concepts on the web in conjunction with social media, mobile, and online auctions.
- Explain how to improve efficiency and reduce costs
- Discuss the environment of electronic commerce involving ethical, legal, and tax Issues

- Explain web server hardware and software, electronic commerce software and associated security needs
- Plan for electronic commerce including the implementation of payment systems that are commonly used

Professionalism   3 Credits/90 Clock-Hours

Professionalism explores behaviors, attitudes, and human skills essential for workplace success. Students will study how to build strong customer relations and provide outstanding customer service in a diverse workplace. Students will use professional skills to prepare for potential career opportunities.

Objectives:
- Explain the importance of human skills for success in the workplace
- Explore the foundations of a service culture and develop relationship management skills
- Demonstrate preparedness for potential career opportunities
- Practice acceptable workplace conduct, including self-management, willingness to learn, and workplace relationships

Management Principles   2 Credits/60 Clock-Hours

Management principles will address strategies related to starting, owning, operating, and growing a small business. Students will explore marketing, financial management, leadership, ethics, and growth opportunities. Upon successful completion of this course, students will be able to demonstrate industry-level competency.

Objectives:
- Explore the human and legal aspects of starting and organizing a business
- Practice analyzing and managing the financial aspects of a business including cash flow, financing, and profit management
- Demonstrate an understanding of how to manage the operations of a business effectively and efficiently