COMPUTER TECHNOLOGY/SKILLS

CTS 1111, Linux+ Linux+
3 hrs., 3 crs.,
(Offered fall and spring). This course instructs students on the effective installation, configuration, maintenance, and securing workstations and servers that use the Linux operating system. Course objectives align with the CompTIA Linux+ certification.

CTS 1120, Computer & Network Security (Security +) Computer & Network Security (Security +)
3 hrs., 3 crs.,
(Offered spring). Prerequisites: *CTS1650 or instructor permission. This course introduces students to the terminology and concepts associated with network and systems security. Topics addressed include operating system security viruses, worms and malicious software; authentication, encryption and account-based security; wireless security; web, remote access /VPN; perimeter defenses; and security management. This course prepares students to pass the CompTIA Security+ exam.

CTS 1131, A+ Hardware A+ Hardware
3 hrs., 3 crs.,
(Offered fall). This course provides students with the hands-on experience and knowledge to properly install, configure, upgrade, troubleshoot, and repair microcomputer systems. Students learn common safety, preventative maintenance, and effective problem-solving strategies. This course prepares students for the CompTIA A+ exam.

CTS 1133, Desktop Operating Systems (A+ Software) Desktop Operating Systems (A+ Software)
3 hrs., 3 crs.,
(Offered fall). This course provides students with skills related to system-level operating system software. The course provides training in the installation, configuration, maintenance, and troubleshooting of Microsoft Windows, Linux, and Unix-based O/S. This course prepares students to pass the CompTIA A+ exam.

CTS 1134, Networking Essentials (Network +) Networking Essentials (Network +)
3 hrs., 3 crs.,
Prerequisite: CTS1650. This course instructs students in basic network concepts, terminology, and techniques including data communications and network services, OSI and TCP/IP Models, topologies, protocols, network implementation and support. This course prepares students to pass the CompTIA Network+ exam.

CTS 1154, Technical Support Technical Support
3 hrs., 3 crs.,
(Offered spring). This course provides students with a broad-based knowledge of service desk technologies, tools and techniques that will prepare students to implement and support enterprise support operations within an organization.

CTS 1390, Installing and Configuring Windows Server Installing and Configuring Windows Server
3 hrs., 3 crs.,
(Offered spring). This course is the first of a series of three courses which provide the skills and knowledge necessary to implement a core Windows Server infrastructure in an existing enterprise environment. The three courses in total collectively cover implementing, managing, maintaining, and provisioning services and infrastructure in a Windows Server environment. While there is some cross-over in skill sets and tasks across the courses, this course primarily covers the initial implementation and configuration of those core services, such as active directory domain services, networking services, and initial hyper-v configuration.

CTS 1391, Administering Windows Server Administering Windows Server
3 hrs., 3 crs.,
Prerequisite: *CTS1390. The course is the second course in a series of three courses, which provide the skills and knowledge necessary to implement a core Windows Server infrastructure in an existing enterprise environment. The three courses in total will collectively cover implementing, managing, maintaining and provisioning services and infrastructure in a Windows Server environment. While there is some cross-over in skill sets and tasks across the courses, this course will primarily cover the administration tasks necessary to maintain a Windows Server infrastructure, such as user and group management, network access and data security.

CTS 1392, Configuring Advanced Windows Server Configuring Advanced Windows Server
3 hrs., 3 crs.,
Prerequisite: *CTS1390, *CTS1931. This is the third course in a series of three courses, which provides the skills and knowledge necessary to implement a core Windows Server infrastructure in an existing enterprise environment. While there is some cross-over in skill sets and tasks across the three courses this course will primarily cover advanced configuration and services tasks necessary to deploy, manage and maintain a Windows Server infrastructure, such as identity management and identity federation, network load balancing, business continuity and disaster recovery, fault tolerance, and rights management.

CTS 1650, Network Fundamentals Network Fundamentals
3 hrs., 3 crs.,
(Offered fall and spring). This course introduces students to learn and apply the basics of computer networking using common network devices. The course covers the OSI model, industry standards, network topologies, IP addressing/subnetting, and network design. This is the first of a series of courses to prepare students for industry certification including the Cisco CCNA.

CTS 1651, Router Technology/Router Protocols and Concepts Router Technology/Router Protocols and Concepts
3 hrs., 3 crs.,
(Offered spring). Prerequisite: *CTS1650. This course is designed to prepare students to apply and understand the basics of networking hardware. The course covers beginning router configurations, routed and routing protocols, and an introduction to LAN switching. This is the second in a four part series to prepare students for the Cisco certified networking associate examination.

CTS 2193, Cloud Essentials Cloud Essentials
3 hrs., 3 crs.,
Prepares the student to demonstrate knowledge of what cloud computing means from a business and technical perspective, as well as what is involved in moving to and governing the cloud.

CTS 2314, Network Defense and Countermeasures Network Defense and Countermeasures
3 hrs., 3 crs.,
Prerequisite: *CTS1120 or permission of instructor. In this course, students take an in-depth look at network defense concepts and techniques. Students examine theoretical concepts that make the world of networking unique.
This course also adopts a practical hands-on approach when examining network defense techniques. Along with examining different network defense strategies, this course will explore the advancement of network implementation, as well as timeless problem solving strategies. The course also covers such essential practices as developing a security policy and then implementing that policy by performing network address translation, packet filtering, and installing proxy servers, firewalls, and virtual private networks.

CTS 2315, Intrusion Detection and Firewalls Intrusion Detection and Firewalls
3 hrs., 3 crs.,
(Offered spring). Prerequisite: *CTS1120. In this course, students take an in-depth look at intrusion detection standards and techniques. This course is designed for the student and network administrator who need to learn the basics of network firewall security. It covers installation techniques, discusses how to make an intelligent choice of firewall technology, and presents firewall troubleshooting. It features hands-on experience and case projects that allow the student to practice skills as they are learned.

CTS 2370, Virtual Infrastructure: Installation and Configuration Virtual Infrastructure: Installation and Configuration
3 hrs., 3 crs.,
Prerequisites: CTS1111 and CTS1390. This course provides students with a background in virtualization technology which serves as a precursor to cloud-based and distributive computing. The course includes an overview of virtualization technology with lectures dedicated to current virtualization products: VMware Workstation, VMware Server, Microsoft Virtual PC, Microsoft Virtual Server, and Hyper-V. Additional lectures focus on using virtualization software in networked server environments and include building virtual networks, implementing high-availability clusters, enhancing performance and security, and using VMware VSphere and Microsoft Virtual Machine Manager to centralize management of multiple virtual servers. Many hands-on activities are included, which allow the student to work with virtual computing concepts, using real-world situations to build the skills necessary for a successful understanding of virtualization.

CTS 2652, Advanced Router Technology (CISCO-CCNA) Advanced Router Technology (CISCO-CCNA)
3 hrs., 3 crs.,
(Offered fall). This course is designed to prepare a student to apply and understand the advanced principles and applications of networking hardware. The course covers advanced router configurations, LAN switching, network management, and advanced network design. This course will help prepare students for the Cisco Certified Networking Associate (CCNA) examination.

CTS 2653, Cisco Project-based Learning/Accessing the WAN Cisco Project-based Learning/Accessing the WAN
3 hrs., 3 crs.,
Prerequisite: CTS1651. This course teaches the principles, applications, and implementation of networking hardware. This course covers advanced network design and advanced network management projects. This is the fourth of a four-part series to prepare students for the Cisco Certified Networking Associate Examination.

CTS 2940, Cybersecurity Capstone Cybersecurity Capstone
3 hrs., 3 crs.,
(Offered spring). Prerequisite: *CGS1103, *CTS2315, *CIS2352, *CIS2381, or permission of instructor. The capstone project is designed to be inclusive of any possible expression of research and scholarly output in cybersecurity, ranging from the practical development of systems and software related to cybersecurity to the theoretical analysis or interpretive contribution to a research topic. In all cases, the capstone Project should demonstrate the student's summative expression of what the student has learned in the Cybersecurity AS (CYSE-AS) program and should be evidenced in the form of a significant project document.

CTS 2941, Network Services Technology Capstone Network Services Technology Capstone
3 hrs., 3 crs.,
(Offered spring). Prerequisite: *CTS1650, *CTS1134, *CTS1651, *CTS2652, and *CTS2653, or permission of instructor. This capstone course gives students the opportunity to demonstrate their mastery of the knowledge and skills that they have earned in the Network Systems Technology (CYBR-AS) degree program. The students will apply their knowledge and skills to solve/design/implement real-world networking problems and solutions. This course should be taken during the student's last semester of the CYBR-AS program. This course provides the student with the opportunity to design/implement and potentially deploy a network system solution.