Computer Tech Integration (CTI)

CTI 110. Web, Programming, and Database Foundation. 3.0 Credits.
Class-2.0. Clinical-0.0. Lab-2.0. Work-0.0
This course covers the introduction of the tools and resources available to students in programming, mark-up language and services on the Internet. Topics include standard mark-up language Internet services, creating web pages, using search engines, file transfer programs; and database design and creation with DBMS products. Upon completion students should be able to demonstrate knowledge of programming tools, deploy a web-site with mark-up tools, and create a simple database table.
Prerequisites: Take 1 group: Take DMA 010 DMA 020 DMA 030 DMA 040 DMA 050; Take MAT 003. Take 1 group: Take DRE 097 DRE 098; Take ENG 002

CTI 120. Network and Security Foundation. 3.0 Credits. Class-2.0. Clinical-0.0. Lab-2.0. Work-0.0
This course introduces students to the Network concepts, including networking terminology and protocols, local and wide area networks, and network standards. Emphasis is placed on securing information systems and the various implementation policies. Upon completion, students should be able to perform basic tasks related to networking mathematics, terminology, media and protocols.
Prerequisites: Take 1 group: Take DMA 010 DMA 020 DMA 030 DMA 040 DMA 050; Take MAT 003. Take 1 group: Take DRE 097 DRE 098; Take ENG 002

CTI 130. Operating Systems and Device Foundation. 6.0 Credits.
Class-4.0. Clinical-0.0. Lab-4.0. Work-0.0
This course covers the basic hardware and software of a personal computer, including installation, operations and interaction with popular microcomputer operating systems. Topics include components identification, memory-system, peripheral installation and configuration, preventive maintenance, hardware diagnostics/repair, installation and optimization of system software, commercial programs, system configuration, and device-drivers. Upon completion, students should be able to select appropriate computer equipment and software, upgrade/maintain existing equipment and software, and troubleshoot/repair non-functioning personal computers.
Prerequisites: Take 1 group: Take DMA 010 DMA 020 DMA 030 DMA 040 DMA 050; Take MAT 003. Take 1 group: Take DRE 097 DRE 098; Take ENG 002

CTI 140. Virtualization Concepts. 3.0 Credits. Class-1.0. Clinical-0.0. Lab-4.0. Work-0.0
This course introduces operating system virtualization. Emphasis is placed on virtualization terminology, virtual machine storage, virtual networking and access control. Upon completion, students should be able to perform tasks related to installation, configuration and management of virtual machines.

CTI 141. Cloud and Storage Concepts. 3.0 Credits. Class-1.0. Clinical-0.0. Lab-4.0. Work-0.0
This course introduces cloud computing and storage concepts. Emphasis is placed on cloud terminology, virtualization, storage networking and access control. Upon completion, students should be able to perform tasks related to installation, configuration and management of cloud storage systems.
Prerequisites: Take CTI 140, minimum grade of C

CTI 240. Virtualization Administration I. 3.0 Credits. Class-1.0. Clinical-0.0. Lab-4.0. Work-0.0
This course covers datacenter virtualization concepts. Topics include data storage, virtual network configuration, virtual machine and virtual application deployment. Upon completion, students should be able to perform tasks related to virtual machine and hypervisor installation and configuration.
Prerequisites: Take CTI 141, minimum grade of C

CTI 241. Virtualization Administration II. 3.0 Credits. Class-1.0. Clinical-0.0. Lab-4.0. Work-0.0
This course covers administration of datacenter virtualization infrastructure. Topics include access control, fault tolerance, scalability, resource management, virtual machine migration and troubleshooting. Upon completion, students should be able to perform tasks related to virtualization security, data protection and resource monitoring.

CTI 260. Data Center Troubleshooting. 3.0 Credits. Class-2.0. Clinical-0.0. Lab-2.0. Work-0.0
This course covers troubleshooting in a highly available, high performance, storage and computing system. Topics include provisioning, monitoring, diagnosing, and taking corrective actions in storage environments relating to Storage Area Network (SAN), Network Attached Storage (NAS), data protection and recovery. Upon completion, students should be able to demonstrate an understanding of SAN and NAS technologies, topologies, configuration, data protection, and fault triage and remediation.
Prerequisites: Take CTI 241, minimum grade of C

CTI 270. Data Center Design and Problem Resolution. 3.0 Credits.
Class-2.0. Clinical-0.0. Lab-2.0. Work-0.0
This course provides students an opportunity to complete a significant data center hardware and software design and configuration project, including disaster recovery planning. Emphasis is placed on adhering to optimal practices that can provide a highly available, stable, manageable, secure and scalable environment and maintaining it using a variety of utilities and system tools. Upon completion, students should be able to design, deploy and administer the hardware and software components of a highly available data center.
Prerequisites: Take CTI 260, minimum grade of C

CTI 289. Computer Technology Integration Capstone Project. 3.0 Credits. Class-1.0. Clinical-0.0. Lab-6.0. Work-0.0
This course provides students an opportunity to complete a significant integrated technology project from the design phase through implementation with minimal instructor support. Emphasis is placed on technology policy, process planning, procedure definition, systems architecture, and security issues to create projects for the many areas in which computer technology is integrated. Upon completion, students should be able to create, implement, and support a comprehensive technology integration project from the planning and design phase through implementation.
Prerequisites: Take CTI 110 CTI 120 CTS 115 DBA 120 WEB 115 WEB 210, minimum grade of C