CTS: Computer Technology and Skills Courses

Courses

CTS 4121   Information Technology Applications in CompTIA Security+

College of Sci and Engineering, Department of Cybersecurity & Info Tech

3 sh (may not be repeated for credit)
Prerequisite: (CTS 4348) AND ((CIS 4361 AND CNT 3112) OR (CNT 4007 AND CNT 4403))

Security+ includes important foundational principles for securing a network and managing risk. Access control, identity management and cryptography are important components of the course. Mitigation and deterrent techniques are provided to prevent network attacks and expose potential vulnerabilities. Successful completion of the CompTIA Security+ exam meets the "Information Assurance (I.A.) technical and management certification requirement" outlined by the U.S. Department of Defense. Non-degree seeking students will be required to pass an online pre-test with a minimum score of 80% prior to enrollment.

CTS 4139   Information Technology Applications in CompTIA Network+

College of Sci and Engineering, Department of Cybersecurity & Info Tech

3 sh (may not be repeated for credit)
Prerequisite: CGS 3763

Network+ includes topics in network technologies, installation and configuration, media and topologies, management, and security. Certification in Network+ enhances several occupations including: network administrator, network technician, network installer, help desk technician and IT cable installer. Network+ is the "technical prerequisite option" for IT technicians requesting to join the Apple Consultants Network. Successful completion of the certification exam is recognized by the U.S. Department of Defense. Non-degree seeking students will be required to pass an online pre-test with a score of 80% or better prior to enrollment.

CTS 4323   Server Administration

College of Sci and Engineering, Department of Cybersecurity & Info Tech

3 sh (may not be repeated for credit)
Prerequisite: CGS 3763 OR COP 4634 OR COP 4610

In this course, students will develop a deep understanding and expertise in Windows Server administration, along with the seamless integration of Microsoft Azure. They will acquire skills in installing and managing both local and remote systems, essential for efficient administration of Windows Server hybrid environments. Topics covered include installation, local and remote management, file and storage services, and Hyper-V virtualization. Additionally, students will gain skills in utilizing various Microsoft Azure services, including Azure Active Directory, as well as Azure storage and networking.

CTS 4348   Linux System Administration

College of Sci and Engineering, Department of Cybersecurity & Info Tech

3 sh (may not be repeated for credit)
Prerequisite: COP 4634 OR COP 4610 OR CGS 3763

This course focuses on essential Linux administration tasks, including installation, establishing network connectivity, managing physical storage and basic security administration.

CTS 4360   Advanced Server Administration

College of Sci and Engineering, Department of Cybersecurity & Info Tech

3 sh (may not be repeated for credit)
Prerequisite: CTS 4323

This course is the second in a series of courses that provides the skills necessary to implement a core server infrastructure at the enterprise level. The course focuses on the networking skills required to deploy and support server technologies in an enterprise environment. This course includes topics related to IP fundamentals, remote access technologies, DirectAccess, domain name system (DNS), virtual private networks (VPNs), and more advanced content including software-defined networking (SDN), and distributed files system (DFS).

CTS 4362   Active Directory

College of Sci and Engineering, Department of Cybersecurity & Info Tech

3 sh (may not be repeated for credit)
Prerequisite: CTS 4360

This course covers part three in a series of server administration courses that provides the skills necessary to implement a core server infrastructure at the enterprise level. This course focuses on how to deploy and configure Active Directory Domain Services (AD DS) in a distributed environment. Other areas covered in this course include Group Policy, User and Service Account Configuration, Active Directory Federation Services (AD FS), and Active Directory Certificate Services (AD CS).

CTS 4457   Data Visualization

College of Sci and Engineering, Department of Cybersecurity & Info Tech

3 sh (may not be repeated for credit)

Students will develop skills to efficiently and effectively display data, using a variety of tools that can be used to prepare and present the data in visually compelling manners. Data visualization tools have wide applicability in a wide variety of settings and environments in documentation and presentations. Offered concurrently with CTS 5458; graduate students will be assigned additional work.

CTS 4910   Trends in Data Analytics

College of Sci and Engineering, Department of Cybersecurity & Info Tech

3 sh (may not be repeated for credit)
Prerequisite: COP 2253 OR COP 2334 OR COP 2830 OR COP 3826

This course focuses on the processing and analysis of the copious amounts of data generated in various domains. Students will utilize standard programming languages and available software packages to design and implement solutions to acquire, process and analyze data in multiple formats. Offered concurrently with CAP 5326. Graduate students will be assigned additional work.

CTS 4911   Information Technology Capstone
College of Sci and Engineering, Department of Cybersecurity & Info Tech

3 sh (may not be repeated for credit)
Prerequisite: (CNT 3112) AND ((CET 4772* AND COP 4710* AND CTS 4323* AND CTS 4348*))

Applying and integrating the knowledge of the development life cycle, project management, development tools, and skills gained throughout the major to plan, analyze, design, and build a fully functional information system/component(s) to solve a business problem for organizations. Demonstrating an understanding of the skills in documenting and presenting the project to company representatives.

CTS 4950   Innovative Solutions for Industry
College of Sci and Engineering, Department of Cybersecurity & Info Tech

3 sh (may not be repeated for credit)

Innovative Solutions for Industry is a teams-based problem-solving course that allows students to develop a deep understanding of the requirements of a specific industry. Over the academic term, students will work intimately together on teams to rapidly iterate prototypes and produce solutions to problem sponsors' needs. Student teams will utilize the lean methodology, which emphasizes customer discovery, and will experience the intensities and challenges of a startup company. Government and/or business sponsors shall support and mentor teams during the term.

CTS 5458   Data Visualization
College of Sci and Engineering, Department of Cybersecurity & Info Tech

3 sh (may not be repeated for credit)

This course provides students with skills to describe theory and concepts related to efficient and effective display of data. Students will use a variety of tools necessary to prepare and present the factual data in a visually compelling manner. Data Visualization tools have a wide applicability and tools and technologies available today allow students, researchers and other users of data leverage on these tools to empower their presentations. Offered concurrently with CTS 4457; graduate students will be assigned additional work.

* This course may be taken prior to or during the same term.