

CNT: Computer Networks Courses

Courses

CNT 1000 Introduction to Networking
3 sh (may not be repeated for credit)
Prerequisite: COP 1000*

Introduction to networking concepts and technologies. Topics include network topologies, popular network protocols, network devices and components, cabling, switching, data transfer and flow control, routing and forwarding, multiple access techniques.

CNT 1401 Cybersecurity Fundamentals I
3 sh (may not be repeated for credit)
Prerequisite: CNT 1000 AND COP 1000

This course provides an overview of information systems security, malicious attacks and aspects of information security risk management in today's business environments. Topics include definition of terms, concepts, elements, and goals incorporating industry standards and practices with a focus on access controls availability, vulnerability, integrity, and confidentiality aspects of information systems.

CNT 2402 Cybersecurity Fundamentals II
3 sh (may not be repeated for credit)
Prerequisite: CNT 1401

This course provides an overview of security challenges and strategies of countermeasure in the IT infrastructure environment. Topics include cryptography, network principles and layered architecture, attack methods, defense mechanisms, technologies and U.S compliance laws protecting information systems security.

CNT 4007 Theory and Fundamentals of Networks
3 sh (may not be repeated for credit)
Prerequisite: (MAC 2233 OR MAC 1147) AND ((COP 2334 AND COT 3100))

A functional systematic examination of the key components and theories of modern computer networks, including protocol stack, mobile networking, network security, multimedia networking and network management. Emphasizes the internet for studying network fundamentals and includes the use of tools to analyze network operations.

CNT 4014C IT Administration
3 sh (may not be repeated for credit)
Prerequisite: COP 2253 OR COP 2830

Introduction to principles behind design, installation, and support of organization's LAN, WAN, network segment, intranet, or Internet, including maintenance of network hardware and software, and monitoring of network to ensure availability to system users. Topics include gathering of data to determine customer needs, identification, interpretation, and evaluation of system and network requirements and technical-management issues.

CNT 4403 Computer and Network Security
3 sh (may not be repeated for credit)
Prerequisite: (COP 3530 OR COP 3022) AND (CNT 4007)

This course provides students with an understanding of the concepts of computer and network security using currently available technology. The course provides students with an understanding of the options available to mitigate threats within a system and teach students the techniques that can be taken to protect a network and communication assets from cyber threats.

CNT 4416 Cyber War Gaming
3 sh (may not be repeated for credit)
Prerequisite: CAP 4136 AND CIS 4385 AND CNT 4403

Every organization, whether part of the government or the private sector, needs battle-tested IT personnel in order to defend its networks against attack. The most effective way to provide this experience is to recreate the exact scenarios, no matter how nefarious, they will see in the real world. This course provides exercises that use different specialties (network, security, visualization, software, etc.) into color-coded red and blue teams that perform specific roles in attacking and defending IT infrastructures.

CNT 4526 Wireless and Mobile Communications
3 sh (may not be repeated for credit)
Prerequisite: CGS 2920 AND COP 2830

Introduces common wireless technologies and wireless network architectures including common carrier cellular networks. Learners will examine characteristics of these technologies and identify their roles in enterprise-class information technology operations. Learners will identify common tools and applications associated with these technologies and explain their roles in design, deployment and management of them. Wireless technologies strengths and weaknesses are described in the context of their effect on enterprise security, performance and cost management.

CNT 6519 Wireless Network Security
3 sh (may not be repeated for credit)

The objective of the course is to study and understand the security and research challenges of existing and emerging wireless networks. Students will learn about various security issues such as key management, privacy, authentication and secure data aggregation and the algorithms used to resolve these issues.

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