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 1140 OR MAC 2233) AND (COP 2253)
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 4403  Computer and Network Security
3 sh (may not be repeated for credit)
Prerequisite: (CNT 4007 AND COP 4610C) OR (COP 4634 AND COP 4635)
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 4403  Cyber War Gaming
3 sh (may not be repeated for credit)
Prerequisite: CDA 3101 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. Prerequisites: CNT 4403, CIS 4385 and CDA 3101 (minimum grade C-).

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.