CNT 4403 Introduction to Data and Network Security

Credits: 3


Specific course information
- Catalog description: Overview of technical aspects of data security with emphasis on the Internet. Attacks and defenses. The design of secure systems.
- Prerequisites: COP 4610
- Required, elective, or selected elective: elective

Specific goals for the course

Specific outcomes of instruction: By the end of the course students will be able to: (i) Understand the security problems introduced by the combination of the Internet with Intranets, mobile devices, and sensors. ii) Understand how all aspects of a computer system contribute to security. iii) Obtain a perspective on how a variety of mechanisms should work together to defend a system iv) Develop ability to evaluate and compare diverse systems or mechanisms with respect to their security. v) Develop a basic understanding of the theoretical and conceptual aspects that are needed to build secure systems; vi) Learn a basic use of patterns and UML to describe complex systems

Brief list of topics to be covered:
3. Cryptography: Symmetric ciphers, DES and AES. Public key systems, digital signatures, hashing, steganography
7. Network Security: Attacks. Secure layers. SSL/TLS, Kerberos, VPNs,
Firewalls. Intrusion Detection. Wireless systems
