

# Undergraduate Certificate - IT Infrastructure Security

The undergraduate certificate in IT Infrastructure Security covers the design of secure networks, and teaches how to develop risk mitigation plans and perform intrusion detection in IT network environments. This online program seeks to enhance your ability to assess, mitigate, and manage security risks in IT infrastructure.

The U.S. National Security Agency (NSA) and the Committee on National Security Systems (CNSS®) recognize this program as meeting the CNSS National Training Standards 4011 and 4013E, which are required for network security professionals who assist federal agencies in protecting the nation's vital information resources. Courseware in this online program meets the topical requirements of the DoD Directive 8570.1M Information Assurance Management (IAM) Technical I category.

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## Certificate Objectives

Upon successful completion of this certificate, the student will be able to:

- Appraise the impact of operating system and network security on Information Technology Management and global ecommerce.
- Establish the need for a reference model and examine the Open Systems Interconnection (OSI) and Transmission Control Protocol/Internet Packet (TCP/IP) reference models.
- Discuss the technical risks, performance factors and security issues related to operating system and network security on ecommerce, information technology management, and global commerce.
- Examine the principles that enable viruses, worms, and Trojan horses to propagate and proliferate throughout the system.
- Differentiate between active and passive intrusion detection and examine the scope and procedures for implementing border and firewall security.
- Appraise the process for assessing network and application security and analyze the corresponding risk mitigation strategies and techniques.
- Assess the configuration, functionality, and risks of filtering and evaluate security systems such as firewalls, border routers, switches, and intrusion detection systems sensors.

## Certificate Requirements (18 semester hours)

Code	Title	Semester Hours
ISSC231	Networking Concepts	3
ISSC242	Hardening Operating Systems	3
ISSC262	Red and Blue Team Security	3
ISSC363	IT Security: Risk Management	3
ISSC421	Computer and Network Security	3
ISSC461	IT Security: Countermeasures	3
Total Semester Hours		18