

Information Security

ISEC 129 IT Essentials 4 credits

This course introduces students to the fundamentals of computer hardware and software, mobile devices, security and networking concepts, and the responsibilities of an IT professional. Topics include mobile devices, Linux, and client-side virtualization, as well as expanded information about Microsoft Windows operating systems, security, networking, and troubleshooting. This course prepares students to take the CompTIA A+ certification exams. Three lecture and two laboratory hours per week.

ISEC 130 Introduction to Networks 4 credits

This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple local area networks (LAN), perform basic configurations for routers and switches, and implement IP addressing schemes. Three lecture and two laboratory hours per week. Co-requisite: ISEC 129 IT Essentials; or departmental approval.

ISEC 131 Switching, Routing, and Wireless Essentials 4 credits

This course focuses on switching technologies and router operations that support small-to-medium business networks, including wireless local area networks (WLAN) and security concepts. Students perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, and configure and secure a basic WLAN. Three lecture and two laboratory hours per week. Prerequisite: ISEC 130 Introduction to Networks.

ISEC 132 Enterprise Networking, Security, and Automation 4 credits

This course describes the architecture, components, operations, and security to scale for large, complex networks, including wide area network (WAN) technologies. The course emphasizes network security concepts and introduces network virtualization and automation. Students learn how to configure, troubleshoot, and secure enterprise network devices and understand how application programming interfaces (API) and configuration management tools enable network automation. Three lecture and two laboratory hours per week.

Prerequisite: ISEC 131 Switching, Routing, and Wireless Essentials.