

Prepared by the Department of Business

Date of Departmental Approval: January 19, 2017

Date approved by Curriculum and Programs: February 15, 2017

Effective: Fall 2017

1. **Course Number: BIT187-002**  
**Course Title: Introduction to Networking (Cisco 1)**
2. **Description:** Using both simulated and real equipment, students learn principles and practices of planning, designing, installing, maintaining, upgrading, and troubleshooting client-server networks and how they differ from peer-to-peer networks. Emphasis is placed on Small Office/Home Office (SOHO) and small Local Area Network (LAN) network structures through Open System Interconnection (OSI) and Transmission Control Protocol/Internet Protocol (TCP/IP) modeling, IP addressing, Ethernet protocols, and media as a foundation to networking. Concepts are enforced through the basic configuration of routers and switches. This is the first of two courses needed to prepare for the Cisco Certified Entry Networking Technician (CCENT) exam/Interconnecting Cisco Networking Devices Part 1 (ICND1).
3. **Student Learning Outcomes (instructional objectives; intellectual skills):**  
Upon successful completion of this course, students are able to do the following:
  - Describe the devices and services used to support communication in SOHO and LAN data networks and the Internet.
  - Structure and describe the role of protocol layers using the OSI and TCP/IP models in data networks.
  - Identify and describe the importance of addressing and naming schemes at various layers of data networks in Ipv4 and Ipv6 environments.
  - Design, calculate, and apply subnet masks and addresses to fulfill given requirements in IPv4 and IPv6 networks.
  - Explain fundamental Ethernet concepts such as media, services, and operations.
  - Build a simple Ethernet network using routers and switches.
  - Use Cisco command-line interface (CLI) commands to perform basic router and switch configurations.
  - Utilize common network utilities to verify small network operations and analyze data traffic.
  - Recognize and apply network troubleshooting utilities.
4. **Credits:** 3 credits
5. **Satisfies General Education Requirement:** No
6. **Co-requisite:** BIT115 (IT: Windows Desktop Operating Systems)
7. **Semester(s) Offered:** Fall, Spring
8. **Suggested General Guidelines for Evaluation:** Midterm examination and cumulative final examination, written assignments outside of class, lab exercises including application of theory, problem solving, and reporting.
9. **Content Outline of Course:** (Optional)