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## SECTION HEADING

### CST 1410: Broadband Technology

#### Description

Broadband Technology provides students with basic knowledge and skills. The student develops an understanding the need for transmitting more than one type of signal simultaneously by way of divided channel. Emphasis is placed on the exploration of the technology of voice and data integration, frame relay, Synchronous Optical Network (SONET), Asynchronous Transfer Mode (ATM)/cell relay, Switched Multi-megabit Digital Service (SMDS), Broadband Integrated Services Digital Network (BISDN), Digital Subscriber Line (DSL), and Virtual Private Network (VPN). This course presents and explains the many and varied techniques, solutions, principles, and challenges both carriers and end users utilize, experience, and overcome in implementing broadband and voice-over IP services.

#### Credits

3

#### Topics to be Covered

1. Fundamentals of Broadband Technology
2. Voice communication systems
3. Data communication systems
4. Broadband Network Infrastructure
5. Broadband network services
6. Video and Multimedia networking
7. Voice over IP

#### Learning Outcomes

1. Describe SIP and SIP Applications.
2. Set up Internet-based services.
3. Describe importance of Internet transparency.
4. Identify relevant standards and specifications.
5. Troubleshoot potential quality-of-service and security problems.
6. Discuss the basics of VoIP, VoIP codecs and VoIP Protocols.
7. Describe new technologies such as P2P technology, VoWiFi, WiMax, and 3G Networks.
8. Explain QoS issues arising from deploying new technologies.
9. Solve the performance issues that arise when VoIP is deployed.

#### Credit Details

Lecture: 2

Lab: 1

OJT: 0