

Telecommunications Systems Technology (TEL)

Courses

TEL-107. Computers and Data Networks. 3 Credits.

LECT 2 hrs LAB 2 hrs

This course is a continuation of topics introduced in earlier courses. Data networking, including concepts of essential computer components, data storage, network operating systems, computer networking models and communication framework for the transmission of voice, text and video data will be explored in greater detail. The laboratory component will cover topics on computer setup, network setup and integration and operating system utilities.

Prerequisites: CMP-130 and CMP-200.

TEL-110. Routing I. 3 Credits.

LECT 2 hrs LAB 2 hrs

The course introduces basic routing principles in a network environment, supplemented with industry-standard labs, such as those provided by CISCO. Lecture and laboratory assignments are an integral part of the course. The course focuses on network terminology and protocols, local area networks (LANs), wide area networks (WANs), Open System Interconnection (OSI) networking model, cabling, cabling tools, routers, router programming, Ethernet, Internet Protocol addressing/subnetting and network standards.

Additional Fees: Course fee applies.

TEL-120. Routing II (CISCO). 3 Credits.

LECT 2 hrs LAB 3 hrs

The course follows CISCO's CCNA2 curriculum for Routers and Routing Basics. The course focuses on initial router configuration, CISCO IOS software management, routing protocol configuration, TCP/IP and access control lists (ACLs). Through lectures and laboratory assignments, students develop the skills to configure and maintain a router as well as the creation of software firewalls.

Prerequisites: TEL-110

Additional Fees: Course fee applies.

TEL-220. Routing III (CISCO CCNA3 & CCNA4). 4 Credits.

LECT 3 hrs LAB 3 hrs

This course follows CISCO's CCNA3 curriculum for Switching and Intermediate Routing and CISCO's CCNA4 curriculum for WAN Technologies. The first half of the course focuses on advanced IP addressing techniques (Variable Length Subnet Masking (VLSM), intermediate routing protocols (RIP v2, single-area OSPF, EIGRP), command-line interface configuration of switches, Ethernet switches, Virtual LANs (VLANs), Spanning Tree Protocol (STP) and VLAN Trunking Protocol (VTP). The second half of the course focuses on advanced IP addressing techniques (Network Address Translation (NAT), Port Address Translation (PAT), and (DHCP), WAN terminology and technology, PPP, ISDN, DDR, Frame Relay, network management and an introduction to optical networking. Preparation is also given to the study of CISCO's CCNA certification examination. Students learn through lecture and laboratory assignments.

Prerequisites: TEL-120

Additional Fees: Course fee applies.

TEL-233. Network Operating Systems. 3 Credits.

LECT 2 hrs LAB 3 hrs

This course is an introduction to various network operating systems. Emphasis is placed on the study of a server in a client/server computer network. Topics of study include installation of a network operating system, securing a system, creating users and groups, partitioning of hard drive, installation of transport protocols, creating and maintaining printers, event viewing, performance monitoring, registry modification, configuring a server, creating and maintaining the active directory and troubleshooting the network.

Additional Fees: Course fee applies.

TEL-290. Independent Study in Telecommunications Systems Technology. 3 Credits.

LECT 3 hrs

Students, in consultation with a Telecommunications Technology advisor, undertake an in-depth analysis of a selected topic, problem or issue related to the telecommunications industry or pursue additional related work experience. Students are responsible for developing a statement of goals and strategies, maintaining a weekly log and preparing a written and oral summary report. Written permission must be obtained from the department before registering for this course.

Prerequisites: Permission of department chair.

TEL-291. Special Topics in Telecommunications Systems Technology. 3 Credits.

LECT 2 hrs LAB 3 hrs

These courses provide students with an examination of selected topics or issues in telecommunications systems technology. Topics may differ each time the course is offered. Students should consult a Telecommunications Technology advisor for additional information.

Prerequisites: Permission of department chair

Additional Fees: Course fee applies.

TEL-292. Special Topics in Telecommunications Systems Technology. 3 Credits.

LECT 2 hrs LAB 3 hrs

These courses provide students with an examination of selected topics or issues in telecommunications systems technology. Topics may differ each time the course is offered. Students should consult a Telecommunications Technology advisor for additional information.

Prerequisites: Permission of department chair

Additional Fees: Course fee applies.