

COURSE DESCRIPTIONS

Course ELT1010: Electro-assembly 1

Students apply basic fabricating and servicing techniques to construct and test electronic and electromagnetic devices and cables.

Course ELT1030: Conversion & Distribution

Students experiment and work with principles of electrical energy conversion and distribution.

Course ELT1050: Electronic Power Supply 1

Students construct different types of alternating and direct current power supplies, and demonstrate their application in electrical/electronic systems.

Course ELT1060: Digital Technology 1

Students construct and demonstrate logic systems and their unique functions.

Course ELT1080: Control Systems 1

Students construct process control systems, demonstrate their basic operation, and demonstrate procedures for testing them.

Course ELT1090: Analog Communication 1

Students install and demonstrate the fundamentals of various consumer audio integrated systems.

Course ELT1100: Electronic Communication

Students demonstrate the fundamentals of video systems, and describe their uses.

Course ELT1110: Security Systems 1

Students install and demonstrate the fundamentals of sensors, control units and warning devices used in security systems.

Course ELT1130: Robotics 1

Students apply the fundamentals of robotic systems and basic robotic functions.

Course ELT2010: Electro-assembly 2

Students apply electro-assembly technology to manufacture circuit boards.

Course ELT2020: Electrical Servicing

Students demonstrate the fundamental concepts of repairing, servicing and maintaining electrical and electronic equipment.

Course ELT2030: Branch Circuit Wiring

Students demonstrate the fundamentals of branch circuit wiring used in residential/commercial buildings.

Course ELT2050: Electronic Power Supply 2

Students construct and demonstrate the fundamentals of electronic power supply technology.

Course ELT2060: Digital Technology 2

Students demonstrate knowledge of digital principles, by using small-scale transistor-transistor logic (TTL) and complementary metal oxide semiconductor (CMOS) integrated technology.

Course ELT2070: Computer Technology

Students develop the knowledge and skills required to install and configure a disc operating system and to set up a computer network.

Course ELT2080: Control Systems 2

Students demonstrate how process control technology is used in real-world applications.

Course ELT2310: Network Structures

Students acquire an understanding of network infrastructure and assess the advantages and disadvantages of different types of networks. They also develop knowledge of data transmission principles in a computer network and compare features of different network topologies and transmission methods.

Course ELT2320: Network Media & Devices

Students develop an understanding of different connectivity strategies for linking computers and other devices in a local area network (LAN). They acquire knowledge of industry standards for network cables and gain practical experience through installing cabling, connectors and other hardware components.

Course ELT2330: OSI Model (Open System Interconnection)

Students develop knowledge of the Open System Interconnection (OSI) reference model and its use as a conceptual framework for analyzing network communication tasks. They examine OSI reference model characteristics, the functions of each of its seven layers, and how data moves between layers of the reference model when computers establish a network connection.

Course ELT2340: Network Protocols

Students acquire basic knowledge of upper-layer protocol suites that permit the networking of computers. They examine reasons for the extensive use of the Transmission Control Protocol/Internet Protocol (TCP/IP) in computer networks, and develop knowledge and skills relevant to installing, configuring and maintaining a TCP/IP client on a network.

Course ELT2350: Local Area Networks

Students extend their understanding of technologies used in a local area network (LAN) and examine specifications for an Ethernet LAN. They develop knowledge of a general strategy for network design and apply the strategy to design, implement and troubleshoot a small LAN.

Course ELT2090: Analog Communication 2

Students demonstrate the fundamental concepts of electronic analog communication systems.

Course ELT2100: Radio Communication

Students demonstrate the fundamental concepts of electromagnetic communication systems.

Course ELT2110: Security Systems 2

Students demonstrate the fundamentals of security technology used in homes, businesses and transportation systems.

Course ELT2120: Electro-optics

Students demonstrate basic knowledge of lasers and other light wave communication applications in various electronic systems.

Course ELT2130: Magnetic Control Devices

Students demonstrate the fundamentals of electromagnetic control devices.

Course ELT2140: Robotics 2

Students demonstrate the fundamental concepts of sensor devices and control systems, by building an electronic circuit to control a direct wire or mobile robot.

Course ELT2150: Electronic Controls

Students demonstrate the fundamentals of ladder/relay logic programming, and demonstrate how the program's logic controller system operates.

Course ELT3010: Electro-assembly 3

Students apply photographic processes to construct a printed circuit for an electronic project.

Course ELT3020: Electronic Servicing

Students develop and apply basic processes and skills to service and repair consumer-based electronic products.

Course ELT3030: Power Systems & Services

Students construct, operate, analyze and evaluate various single-phase and three-phase power systems and services.

Course ELT3040: Generation/Transformation

Students operate, experiment with and analyze alternators and transformers used in power generation and distribution.

Course ELT3060: Digital Technology 3

Students demonstrate knowledge of digital principles by using medium-scale transistor-transistor logic (TTL) and complementary metal oxide semiconductor (CMOS) integrated technology.

Course ELT3070: Digital Applications

Students experiment with large-scale and very large-scale integrated circuits, and demonstrate their applications to practical situations.

Course ELT3080: Microprocessors

Students compare the internal architecture of microprocessors and program them, using instruction sets.

Course ELT3090: Microprocessor Interface

Students demonstrate how to interface microprocessors/microcontrollers with real-world applications.

Course ELT3310: Network Operating Systems

Students examine the features, advantages and disadvantages of major network operating systems, and the criteria involved in selecting network operating systems that are appropriate in specific networking environments. They develop knowledge and skills required to install and configure different network and client operating systems, and develop a strategy for troubleshooting problems resulting from the installation of operating system software.

Course ELT3320: Routing Fundamentals

Students extend their knowledge of wide area networks (WANs) by examining the process by which information is routed through an internetwork. They examine the major functions and components of a router, develop knowledge of common routing protocols, and gain practical experience in basic router configuration.

Course ELT3330: Wide Area Networks

Students develop basic knowledge of the technologies employed in a wide area network (WAN) and of how a WAN may be used to connect local area networks (LANs) at different locations. They gain practical experience in using WAN technologies to establish remote network access, and they analyze emerging WAN technologies with respect to impact on global networking.

Course ELT3340: Internet Processes

Students apply their knowledge of wide area network (WAN) technologies to an Internet environment. Course content focuses on the significance and utility of Internet Protocol (IP) addressing schemes in Internet communication and on the function of WAN protocols and services in providing Internet access. Students develop knowledge of internetworking career paths and related educational opportunities.

Course ELT3350: Network Management

Students acquire knowledge of internal and external risks to a network and develop strategies for protecting network data and securing a network. They also develop and apply a general strategy for troubleshooting network problems and acquire knowledge of the basic roles and responsibilities associated with network maintenance and support.

Course ELT3100: Analog Communication 3

Students demonstrate the principal concepts of electronic analog communication systems.

Course ELT3110: Amplifiers

Students demonstrate knowledge of various types and classes of amplifiers.

Course ELT3130: Data/Telemetry Systems

Students demonstrate the fundamentals of various data/telemetry systems, and demonstrate their applications to the real world.

Course ELT3140: Motors

Students demonstrate knowledge of electric motor operation and loading characteristics.

Course ELT3150: Robotics 3

Students demonstrate remote/autonomous control systems, by constructing circuits to control robotic behaviour.

Course ELT3160: Control Applications

Students demonstrate the fundamentals of programmed controls, and demonstrate how sensing devices are integrated to control output devices.

