Course Descriptions for all ELECTRICAL TECHNOLOGY courses
(in order by semester)

ELTC 107 Electrical Wiring I (Cr3) (3:1)
This course provides an introduction to the practices of electrical wiring with a focus on residential single and multi-family dwellings. Covers project planning, materials calculation, and National Electrical Code based installation and wiring practices. Formerly ELTC 807. Prereq.- EMEC 101.

EMEC 117 Industrial Rigging (Cr1) (1:1)
The course provides basic rigging skills required for installation, setting or moving of industrial equipment and the use of ladders and scaffolding. This introduction stresses safe application of rigging techniques, the use of various devices in equipment installation, alignment, lifting and the calculation of load, center of gravity and proper material handling.

EMEC 118 Hand and Power Tools (Cr1) (1:0)
This course covers proper selection, safe use, care and maintenance of both hand and power tools.

OSAH 100 Industry Outreach Safety Education (Cr1) (1:0)
This course is based upon the 10-hour Occupational Safety and Health Administration's General Industry and Construction Industry Outreach Training Program. The intention is to provide entry level general industry and construction industry workers a broad awareness as it relates to recognizing and preventing hazards within their respective workplaces. The discussion and information cover a variety of safety and health hazards which an employee may encounter in either workplace. This course is intended to be an orientation to the general safety practices along with introductory concepts of occupational safety and health.

ELTC 109 Electrical Wiring II (Cr3) (3:1)
Practices of electrical wiring with a focus on commercial buildings; project planning, materials calculation, and NEC-based installation and wiring practices. Formerly ELTC 809. Coreq. - ELTC 107.

ELTC 211 National Electrical Code (Cr4) (4:0)
Preparation for the Masters License Examination including interpretation and application of the current release of the National Electrical Code. Covers calculations; branch and feeder circuits; service entrances; switches, switch boards and panel boards; general equipment; motor circuits, transformers, and welders. Prereq.- ELTC 109 or permission of instructor.

EMEC 101 Electrical Fundamentals (Cr3) (2:2)
Provides a foundation of knowledge in electricity. Covers fundamental electrical concepts, EMF, current, resistance, power, AC and DC series and parallel circuit operation and analysis, inductance, capacitance, meter usage, schematics, and circuit component operation. Industrial safety stressed and math applications are reviewed. Practical lab application of concepts.

EMEC 135 Electrical Motors and Controls (Cr4) (3:2)
Concepts of electricity, electronics and controls related to industrial applications; industrial control
devices and sensors; relays and electromechanical control; electrical diagrams; transformers and power distribution; solid state power devices; motors, starters and drives; AC/DC motor control; process control fundamentals. Prereq. - EMEC 101.

EMEC 240 Industrial Control Systems I (Cr4) (3:3)
This is a first course in industrial control systems that covers programmable logic controllers (PLCs) and programmable automation controllers (PACs) operation, application, programming and troubleshooting. PLC/PAC hardware identification, input/output (I/O), network communications and I/O wiring is presented. I/O and internal addressing, tags, alias tags and data types are presented and practiced. The basic software instruction set is covered including contacts, coils, timers, counters, data manipulation, comparison and arithmetic. Program control using subroutines and controller organization is also incorporated. Prereq. - EMEC 135; Pre - or Coreq. ELEC 121 or CISC 101.

CISC 101 Introduction to Computers (Cr3) (3:0)
This course introduces computer concepts including hardware and software, an overview of application software, networking and the Internet, and current issues with respect to computers and society. Hands-on instruction in the productivity tools of word-processing, spreadsheets and presentation software.