

INDUSTRIAL ELECTRONICS TECHNOLOGY (TECHNICAL AND INDUSTRIAL DIVISION)

IETTI-101 ELECTRICAL FUNDAMENTALS I (4 CR.) Provides a basic understanding of AC/DC circuits as applied to Industrial Electronics and computer related fields. The course investigates electrical component theory and provides the theorems and axioms which apply to each area of study. A good understanding of basic algebra is necessary to be successful in this course.

IETTI-102 DIGITAL ELECTRONICS (4 CR.) Industrial electronics technicians work with many types of digital electronic systems. This course introduces the student to the theories and applications of digital electronic devices, circuits and systems. The learner will be required to demonstrate mastery of all the course objectives.

IETTI-103 INTRODUCTION TO MICROCOMPUTERS (4 CR.) The learner will study and apply the fundamentals of stand-alone computer systems and applications in the Industrial Electronics field, and will learn to install and configure Windows XP and Windows 7. Current media technologies will be applied to specified settings. Network-based communications will be investigated. The course will provide basic competence in supporting microcomputers. Effective communications techniques will be used in all job-related situations.

IETTI-104 ELECTRICAL FUNDAMENTALS II (4 CR.) Students learn a variety of advanced AC electrical and electronic topics including AC power generation and distribution, three phase systems, and high power transformers. The learner will be required to demonstrate mastery of all the course objectives. A good understanding of basic algebra is needed to be successful in this course.

IETTI-105 SOLID STATE DEVICES (4 CR.) Solid state devices, also known as semiconductors, comprise most known integrated circuits; they are also found as discrete devices on printed circuit boards and other electronic equipment. This course introduces the student to the theories and applications of solid state devices as they are used in these applications. The learner will be required to demonstrate mastery of all the course objectives.

IETTI-106 EMBEDDED SYSTEMS (4 CR.) Microcontroller applications and programming.

IETTI-108 INTRODUCTION TO PLCS (4 CR.) Today's electronic technician must be familiar with programmable logic controllers (PLCs) as they are widely used in industry. The course begins with an introduction to programmable logic controller hardware, memory, I/O modules, numbering systems, and programming devices. The learner will then gain experience working with PLC wiring diagrams, PLC setup configuration, and ladder logic programming.

IETTI-201 INDUSTRIAL CONTROLS I (4 CR.) Industrial electronics technicians work with equipment that sense and control pressure, temperature, flow and level. These technicians must also calibrate and service these systems. This course also covers OP-AMPS, analog-digital conversion circuits, and PID controllers.

IETTI-204 INDUSTRIAL CONTROLS II: HUMAN MACHINE INTERFACES (4 CR.) This course will introduce the student to software and hardware that allows machine operators to interface with PLC control systems.

IETTI-205 ELECTRIC MOTORS, DRIVES AND CONTROLS (4 CR.) This course will give the student information and practical experience on motors, drives, and controls. The following topics will be covered: motors, control circuits, drive programming, installation fundamentals, start-up procedures, and maintenance and troubleshooting techniques.

IETTI-206 ELECTRIC MATERIALS AND TECHNIQUES (4 CR.) Introduces the student to electrical wiring methods and materials; safety practices and the National Electrical Code; installation of conduit and raceways; use of electrical test equipment and tools; and basic wiring techniques and theory for video, network, telephone, and fiber-optic systems. Provides the student with troubleshooting techniques and information about preventative maintenance.

IETTI-207 PROGRAM AND TROUBLESHOOT PCLS (4 CR.) Today's electronic technician must be familiar with programmable logic controllers (PLCs) as they are widely used in industry. This course continues the ladder logic programming started in IETTI 108. The learner will also be exposed to the types of PLC communications and troubleshooting with a PLC.

IETTI-208 PCLS SYSTEM APPLICATIONS (4 CR.) Today's electronic technician must be familiar with programmable logic controllers (PLCs) as they are widely used in industry. This course will give the learner additional training in programming and networking PLCs. It will also introduce him/her to motion control and operator interface devices and provide him/her with more hands-on experience.

IETTI-290 DIRECTED STUDY IN INDUSTRIAL ELECTRONICS TECHNOLOGY (1-10 CR.) Required study in area agreed upon by student and instructor. Might include specialized devices, new products, or advanced troubleshooting.

IETTI-292 DIRECTED SPECIAL PROJECTS (3 CR.)

IETTI-296 COOPERATIVE EDUCATION IN INDUSTRIAL ELECTRONICS (3 CR.) Work experience in business related to student's career goals. Student is a paid part-time employee working under the supervision of the employer and program coordinator.