

INSTRUMENTATION AND CONTROLS TECHNOLOGY

INST-140 Applied Basic DC Circuits 3 cr.
Introduction to electrical fundamentals, energy sources, Ohm's law, Watt's law, series, parallel, and series-parallel circuit analysis, Kirchoff's law, Thévenin's theorem, superposition, maximum power transfer, and other theorems. Use of digital multimeters and other electronics instruments will be examined. Corequisite: MATH 096 or math Accuplacer placement. Semester Offered: Fall, Spring and Summer.

INST-144 National Electrical Code 3 cr.
This course offers an introduction to the National Electrical Code with a focus on the general portion of the code up to section 100-400, plus 900. Semester offered: Fall.

INST-145 Applied Basic AC Circuits 3 cr.
Alternating current theory to include impedance, capacitive reactance, and inductive reactance in series, parallel, and series-parallel combination, resonance and impedance in RLC circuits. Corequisite: MATH 113. Prerequisite: INST 140. Semester offered: Fall, Spring and Summer.

INST-160 Digital Electronics 5 cr.
An introduction to combination and sequential logic circuits and logic gates, Data Bus Control, binary codes, analog to digital and digital to analog conversions, multiplexing, adders and comparators. Prerequisite: INST 140. Semester Offered: Spring.

INST-171 Motors and Controls 5 cr.
This course offers an introduction to motors and motor controls. Various kinds of AC/DC machines will be investigated including AC motors and alternator, DC motors and generators, stepper and servo-motors. Prerequisite: INST 145. Semester offered: Fall and Spring.

INST-175 Renewable Energy Instrumentation 3 cr.
An introduction to the basic principles of instrumentation and control for renewable energy applications. Includes techniques for measuring mechanical, thermal and electrical quantities. Corequisite: INST 145. Semester offered: Fall.

INST-180 Semiconductor Circuits 5 cr.
An introduction to semiconductor devices, semiconductor theory, characteristic curves, diodes, zener diodes, bipolar transistors, CE, CC, and CB amplifiers, Class A, B, and C operation, load lines and quiescent points, FET. Prerequisite: INST 145. Semester Offered: Fall.

INST-190 Principles of Industrial Measurement 5 cr.
An introduction to the basic principles of process measurement, including techniques for the measurement of flow, level, temperature, pressure, and analytical process variables. Semester offered: Spring.

INST-215 Renewable Energy AC and DC Machines 3 cr.
This course offers an introduction to DC motors/generators and AC motors/alternators. The principles of operation, motor control, installation, testing and AC or DC power generation are also included. Prerequisite: INST 145. Semester offered: Spring.

INST-220 Process Control 5 cr.
Introduction to automatic process control systems. Prerequisite: INST 190. Semester Offered: Spring.

INST-235 Electromechanical Devices 5 cr.
This course covers the theory and applications of electro-mechanical devices and their associated control circuits. Topics include transducers, pneumatics, vacuum, AC and DC motors, stepper motors and servomechanisms. Prerequisite: INST 145. Semester offered: Fall, Spring and Summer.

INST-265 Industrial Wiring 4 cr.
Course is designed to develop a student's understanding and skills in the installation and wiring of industrial electrical equipment, in compliance with the National Electric Code. With the combination of hands on wiring practice and theory, the student will be able to perform industrial electrical tasks while complying with electrical safety, codes and standards. Prerequisites: INST-171, INST-235. Semester offered: Spring and Fall.

INST-271 PLC Applications 5 cr.
Introduction to Programmable Logic Controller (PLC) functions including digital and analog applications. Prerequisite, INST 160. Semester offered: Fall.

INST-284 Print Interpretation 3 cr.
This course covers industrial prints and schematics as used in the industry. This course will also cover the fundamental understanding of pumps, fans, and compressors. Prerequisites: INST-190, INST-235. Semester Offered: Spring.

JOURNALISM

JOUR-220 Writing for Mass Media 3 cr.
Emphasizes writing techniques for print and electronic media. Forms, style, and brevity are stressed. Semester offered: Fall.

JOUR-280 Cooperative Education 1-3 cr.
Cooperative Education is a planned instructional program designed to enhance the student's learning experience by coordinating actual on-the-job training related to his/her curriculum with classroom work. Individualized learning objectives will be developed that are measurable and observable. The student will be evaluated jointly by the college personnel and employer. Semester offered: On Demand.

LEARNING SUPPORT

LRNS-081 Academic Skills I 3 cr.
Provides large and small group instruction and tutoring to improve basic academic skills and study skills. S/U grading. Course may be repeated with instructor approval and is not applicable towards any degree or certificate. Semesters Offered Fall, Spring.

LRNS-095 Math 095 Skills 3 cr.
Provides academic support for students concurrently enrolled in Math 095. Utilizes large and small group instruction and tutoring that will provide opportunities for college students to improve their math and study skills helping them to succeed in their Math 095 course. S/U grading. Course may be repeated with instructor approval and is not