

# B.T.C. Instrumentation and Automation Assistant

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(1 Year)

## Objective:

To prepare students as entry-level technician and maintenance assistants to meet the needs of the electrical and process industry.

Employers include food processing, mining, semiconductor, chemical, paper, steel, petroleum, utilities and manufacturing industries. Graduates will have theoretical knowledge and hands-on experience setting up and calibrating electronic devices that measure and control temperature, level, flow, pressure, motion, force, humidity and acidity.

Graduates will be able to troubleshoot single and three phase motor controls, basic variable frequency drives, programmable logic controllers, sensors, relays, timers, solenoids, and other automation devices.

## Program Prerequisites:

Official test scores must be dated within one year of program admission.

| Placement Test | Math |
|----------------|------|
| ALEKS          | 30   |

| Code                     | Title   | Credits   |
|--------------------------|---|-----------|
| <b>Required Courses:</b> |   |           |
| ESET 1103                | Introduction to Electronics Theory              | 1         |
| ESET 1103L               | Introduction to Electronics Lab                 | 1         |
| ESET 1104                | DC Electronics Principles Theory                | 2         |
| ESET 1104L               | DC Electronics Principles Lab                   | 2         |
| ESET 1105                | AC Electronics Principles Theory                | 4         |
| ESET 1105L               | AC Electronics Principles Lab                   | 2         |
| INST 1140                | Introduction to Motors and Motor Control Theory | 2         |
| INST 2220                | Introduction to Programmable Logic Controllers  | 3         |
| INST 2240                | Theory  | 2         |
| INST 2242                | Theory  | 2         |
| INST 2251                | Laboratory                                      | 1         |
| INST 2253                | Laboratory                                      | 1         |
| INST 2254                | Laboratory                                      | 1         |
| <b>Total Credits</b>     |   | <b>24</b> |

Major Academic Plan (MAP)