

# INDUSTRIAL MECHATRONICS, SC

## Program Description

The Skills Certificate, Industrial Mechatronics will instruct students on foundational and intermediate components of electrical, fluid, and mechanical power, and their applications in the field of manufacturing. These three components are commonly utilized in concert with one another on production lines as part of an automated process that individuals entering the field will be expected to comprehend and provide service in the event of faults.

This program is not eligible for financial aid. However, it may be eligible for scholarship funding if the student is awarded scholarships.

## Recommended Course Schedule

| 1st semester          |  | Units    |
|-----------------------|--|----------|
| ELM 110               | Electrical/Electronic Circuits               | 3        |
| MPT 160               | Mechanical Drive Systems I                   | 3        |
| MT 108                | Fluid Power (Pneumatics, Electro-pneumatics) | 3        |
| <b>Semester Total</b> |  | <b>9</b> |
| <b>Total Units</b>    |  | <b>9</b> |

## Program Requirements

Skills Certificates can consist of a single course or a short set of courses that provide training for entry-level positions or career advancement. These short-term certificates may also prepare students to take state, national and/or industry-recognized certifications or licensing exams.

Skills certificates are awarded upon completion of coursework and marked on a student's transcripts at the end of the semester. Students cannot declare a skills certificate as one's major. Skills Certificates are not eligible for Financial Aid.

To earn a skills certificate, students must:

1. Maintain a minimum cumulative GPA of 2.0.
2. Have no financial or library obligation to the college.

| Code                            | Title  | Units    |
|---------------------------------|--|----------|
| <b>Certificate Requirements</b> |  |          |
| ELM 110                         | Electrical/Electronic Circuits               | 3        |
| MT 108                          | Fluid Power (Pneumatics, Electro-pneumatics) | 3        |
| MPT 160                         | Mechanical Drive Systems I                   | 3        |
| <b>Total Units</b>              |  | <b>9</b> |

## Program Outcomes

Students completing the certificate will:

PSLO1: Describe the theoretical principles behind core elements of mechatronics such as Ohm's Law, Kirchhoff's law, and Pascal's Rule.

PSLO2: Interpret schematics for electrical, pneumatic/hydraulic, and mechanical systems.

PSLO3: Assemble schematics for electrical, fluid, and mechanical applications.

PSLO4: Manually operate electrical, fluid, and mechanical systems.

PSLO5: Utilize diagnostic equipment to troubleshoot faults in electrical, fluid, and mechanical systems.