



Mechatronics - Multi-Skilled Maintenance Technology A.A.S.

Career Community: Electrical and Manufacturing

Curriculum Code: 1780

Effective: Fall 2022– Summer 2027

Description

A Mechatronics—Multi-Skilled Maintenance Technician will have knowledge of electrical, electronic, computer, mechanical, fluid power, robotic and programmable logic controller systems. Mechatronics Technicians install, maintain, troubleshoot, test, and repair technologically diverse equipment in industries such as manufacturing, aerospace, automotive, medical, material processing, consumer products, and defense systems.

Milestone

In addition to the required General Education courses in Math and English, completion of ELTE 108, METD 150, and METS 125 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for the ELTE and METS courses.

Contact Information

Visit the Center for Manufacturing Excellence website, or in person at West Campus Building, 5708 Cornerstone Drive, Lansing MI 48917, Room M103, telephone number 517-483-1104 or by [email](mailto:manufacturing@lcc.edu) (manufacturing@lcc.edu).

General Education - Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*
ENGL 124, Technical Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours

- Mathematics or Applied Mathematics – *Select one*
MATH 115, Technical Math II, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*
PHYS 200, Intro to Applied Physics, 4 credits / 5 billing hours

Program of Study Required Courses

| Course Code | Course Title | Credit / Billing Hours |
|-------------|---------------------------------|------------------------|
| ELTE 108 | Practical Electricity I | 2 / 3 |
| ELTE 129 | Machine Controls I-A | 2 / 2.5 |
| ELTE 130 | Machine Controls I-B | 2 / 2.5 |
| ELTE 132 | Control Panel Assembly | 2 / 3 |
| ELTE 260 | Programmable Controllers I | 4 / 6 |
| METD 150 | Industrial Blueprint Reading | 3 / 3 |
| METM 108 | Machine Tool Operations | 4 / 6 |
| METS 110 | Mechanical Power Transmissions | 4 / 6 |
| METS 125 | Intro to Hydraulics/ Pneumatics | 4 / 6 |
| METS 145 | Automated Systems | 3 / 4.5 |
| METS 160 | Introduction to Robotics | 3 / 4.5 |
| METS 250 | Gen. Prevent/Predictive Maint | 3 / 4.5 |
| METS 260 | Advanced Robotics Capstone | 3 / 4.5 |
| TECH 102 | General Industry Safety | 2 / 3 |
| WELD 108 | Welding for Non-Majors | 4 / 6 |

Minimum Total Credit Hours

62 credits / 83 billing hours

Recommended Course Sequence

| Semester I |
|---|
| Gen Ed – Mathematics or Applied Mathematics |
| ELTE 108 (First 8 weeks) – Milestone course |
| ELTE 129 (Second 8 weeks) |
| METD 150 – Milestone course |
| METS 160 |
| TECH 102 |

| Semester II |
|-----------------------------|
| ELTE 130 (First 8 weeks) |
| ELTE 132 (Second 8 weeks) |
| METM 108 |
| METS 125 – Milestone course |
| METS 145 |

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| Semester III |
| Gen Ed – English Composition or Applied English |
| Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab |
| ELTE 260 |
| METS 110 |

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| Semester IV |
| Gen Ed – English Composition (Second Course)/ Communications or Applied Communications |
| Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences |
| METS 250 |
| WELD 108 |

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| Semester V (Summer) |
| METS 260 |

LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.