

LANSING COMMUNITY COLLEGE

Computer, Engineering/Manufacturing Industrial Technologies

Curriculum Code: 1484
(Effective Fall 2018 –
Summer 2023)

Industrial Maintenance Technician C.A. Pathway

This certificate is designed for an apprentice, pre-apprentice, or person interested in advancing his/her skill set in the industrial maintenance trade. Ideally, this curriculum should be taken concurrently with an industry-based work experience or apprenticeship or in preparation for an apprenticeship in industrial or machine maintenance and repair.

For More Information

Contact the Trades Technology Program, West Campus Building, Room M103, telephone number (517) 483-5338 or Student Services West Campus, West Campus Building, Room M106, telephone number (517) 267-5452.

| Semester I | Course Title | Prerequisites | Credit/Billing Hours |
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Program of Study Requirements

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

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| METD 150 | Industrial Blueprint Reading | None | 3 / 3 |
| METS 102 | Industrial/Construction Safety | Reading Level 3 and Writing Level 2 | 2 / 3 |

Electives - *Select 1-2 courses for a minimum of 4 credits*

16 elective credits are required for this certificate. Courses may not be duplicated.

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| ELTE 108 | Practical Electricity I | Minimum 2.0 in (ELTE 102 or DCTM 102 or HVAC 102 or METS 102 or WELD 102 or concurrently) and Reading Level 3 and Writing Level 2 and (Math Level 3 or minimum 2.0 in MATH 105 or MATH 106) | 2 / 3 |
| ELTE 109 | Practical Electricity II | Minimum 2.0 in ((ELTE 102 or DCTM 102 or HVAC 102 or METS 102 or WELD 102 or concurrently) and (ELTE 108 or concurrently)) and Reading Level 3 and Writing Level 2 and (Math Level 3 or minimum 2.0 in MATH 105 or MATH 106) | 2 / 3 |
| ELTE 131 | Machine Controls I | Minimum 2.0 in (ELTE 110 or ELTE 108) and Reading Level 3 and Writing Level 2 and Math Level 3 | 4 / 5 |

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| MATH 115 | Technical Math II | (Minimum 2.0 in MATH 114 within 2 years or Math Level 5 within 2 years) and Reading Level 5 | 4 / 4 |
| METM 108 | Machine Tool Operations | Reading Level 3 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106) | 4 / 6 |
| METM 112 | Introduction to CNC Machining | Minimum 2.0 in METM 108 and Reading Level 3 and Writing Level 4 and Math Level 4 | 4 / 6 |
| METM 190 | Metallurgy and Heat Treatment | Reading Level 5 and Writing Level 6 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106) | 4 / 6 |
| METS 110 | Mechanical Power Transmissions | Minimum 2.0 in (METS 102 or DCTM 102 or ELTE 102 or HVAC 102 or WELD 102 or concurrently) and Reading Level 3 and Writing Level 2 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106) | 4 / 6 |
| METS 120 | Industrial Pneumatics | Minimum 2.0 in (METS 102 or DCTM 102 or ELTE 102 or HVAC 102 or WELD 102 or concurrently) and Reading Level 3 and Writing Level 2 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106) | 4 / 6 |
| METS 210 | Lubrication and Bearings | Minimum 2.0 in (METS 102 or DCTM 102 or ELTE 102 or HVAC 102 or WELD 102 or concurrently) and Reading Level 3 and Writing Level 2 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106) | 4 / 6 |
| WELD 105 | Advanced ARC Welding | Minimum 2.0 in WELD 103 and Reading Level 3 and Writing Level 2 | 4 / 6 |
| WELD 111 | Gas Tungsten ARC Welding | Minimum 2.0 in (WELD 103 or AUTO 100 or AUTB 114) and Reading Level 3 and Writing Level 2 | 4 / 6 |
| Credits | | | 9 / 10-12 |

| Semester II | Course Title | Prerequisites | Credit/Billing Hours |
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| Program of Study Requirements | | | |
| METS 130 | Industrial Hydraulics | Minimum 2.0 in (METS 102 or DCTM 102 or ELTE 102 or HVAC 102 or WELD 102 or concurrently) and Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106) | 4 / 6 |
| METS 140 | Rigging | Minimum 2.0 in (METS 102 or DCTM 102 or ELTE 102 or HVAC 102 or WELD 102 or concurrently) and Reading Level 3 and Writing Level 2 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106) | 3 / 4.5 |
| WELD 103 | Combination Welding | Reading Level 3 and Writing Level 2 | 4 / 6 |
| Credits | | | 11 / 16.5 |
| Semester III | Course Title | Prerequisites | Credit/Billing Hours |
| Electives - <i>Select at least 3 courses for a minimum of 12 credits</i> <i>16 elective credits are required for this certificate. Courses may not be duplicated.</i> | | | |
| ELTE 108 | Practical Electricity I | Minimum 2.0 in (ELTE 102 or DCTM 102 or HVAC 102 or METS 102 or WELD 102 or concurrently) and Reading Level 3 and Writing Level 2 and (Math Level 3 or minimum 2.0 in MATH 105 or MATH 106) | 2 / 3 |
| ELTE 109 | Practical Electricity II | Minimum 2.0 in ((ELTE 102 or DCTM 102 or HVAC 102 or METS 102 or WELD 102 or concurrently) and (ELTE 108 or concurrently)) and Reading Level 3 and Writing Level 2 and (Math Level 3 or minimum 2.0 in MATH 105 or MATH 106) | 2 / 3 |
| ELTE 131 | Machine Controls I | Minimum 2.0 in (ELTE 110 or ELTE 108) and Reading Level 3 and Writing Level 2 and Math Level 3 | 4 / 5 |

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| MATH 115 | Technical Math II | (Minimum 2.0 in MATH 114 within 2 years or Math Level 5 within 2 years) and Reading Level 5 | 4 / 4 |
| METM 108 | Machine Tool Operations | Reading Level 3 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106) | 4 / 6 |
| METM 112 | Introduction to CNC Machining | Minimum 2.0 in METM 108 and Reading Level 3 and Writing Level 4 and Math Level 4 | 4 / 6 |
| METM 190 | Metallurgy and Heat Treatment | Reading Level 5 and Writing Level 6 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106) | 4 / 6 |
| METS 110 | Mechanical Power Transmissions | Minimum 2.0 in (METS 102 or DCTM 102 or ELTE 102 or HVAC 102 or WELD 102 or concurrently) and Reading Level 3 and Writing Level 2 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106) | 4 / 6 |
| METS 120 | Industrial Pneumatics | Minimum 2.0 in (METS 102 or DCTM 102 or ELTE 102 or HVAC 102 or WELD 102 or concurrently) and Reading Level 3 and Writing Level 2 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106) | 4 / 6 |
| METS 210 | Lubrication and Bearings | Minimum 2.0 in (METS 102 or DCTM 102 or ELTE 102 or HVAC 102 or WELD 102 or concurrently) and Reading Level 3 and Writing Level 2 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106) | 4 / 6 |
| WELD 105 | Advanced ARC Welding | Minimum 2.0 in WELD 103 and Reading Level 3 and Writing Level 2 | 4 / 6 |

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| WELD 111 | Gas Tungsten ARC Welding | Minimum 2.0 in (WELD 103 or AUTO 100 or AUTB 114) and Reading Level 3 and Writing Level 2 | 4 / 6 |
| | | | Credits 12 / 17-18 |
| | | | Total Credits 32 / 43.5-46.5 |