



# Curriculum Map

## Knox Technical Center Maintenance Technician

Term	Course Sequence		Total Theory Hours	Total Practical Hours	Total Course Hours
	Course #	Course Name			
1	MTEC1-0100	Maintenance Operations <ul style="list-style-type: none"> <li>• Success in the Workplace</li> <li>• Industrial Safety &amp; OSHA</li> <li>• Maintenance Principles &amp; Recordkeeping</li> <li>• Maintenance Tools/Fasteners</li> <li>• Print Reading</li> <li>• Troubleshooting</li> <li>• Mechanical Rigging and Installation               <ul style="list-style-type: none"> <li>○ Maintenance Operations Certification</li> </ul> </li> </ul>	36	36	<b>72</b>
	MTEC1-0200	Introduction to Windows, Word, and Google <ul style="list-style-type: none"> <li>• Digital Literacy</li> <li>• Google Applications</li> <li>• Microsoft Word</li> </ul>	5	31	<b>36</b>
2	MTEC2-0100	Basic Mechanical Systems <ul style="list-style-type: none"> <li>• Power Transmission</li> <li>• Bearings, Seals, &amp; Lubrication</li> <li>• Shafts, Couplings, &amp; Alignment</li> <li>• Belts, Pulleys; Chains, Sprockets; Gears, Gearboxes</li> <li>• Conveyor Systems</li> <li>• Troubleshooting               <ul style="list-style-type: none"> <li>○ Basic Mechanical Systems Certification</li> </ul> </li> </ul>	41	83	<b>124</b>
	MTEC2-0200	Basic Hydraulic & Pneumatic Systems <ul style="list-style-type: none"> <li>• Fluid Power Fundamentals</li> <li>• Hydraulic Systems</li> <li>• Pneumatic Systems</li> <li>• Advanced Fluid Power</li> </ul>	38	76	<b>114</b>
3	MTEC3-0100	Electrical Systems <ul style="list-style-type: none"> <li>• Fundamentals of Electricity</li> <li>• Ohm's Law, Kirchoff's Laws, and the Power Equation</li> <li>• Electrical Test &amp; Measurement Equipment</li> <li>• Alternating Current</li> <li>• Electrical Components and Circuit Materials</li> <li>• Transformers</li> </ul>	24	48	<b>72</b>

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		<ul style="list-style-type: none"> <li>• Motors, Generators, &amp; Alternators</li> <li>• Motor Controls</li> <li>• Industrial Wiring Diagrams &amp; Practices</li> <li>• Electrical Troubleshooting</li> </ul>			
	MTEC3-0200	Electronic Control Systems <ul style="list-style-type: none"> <li>• Diodes, Rectifiers, &amp; Power Supplies</li> <li>• Transistors &amp; Integrated Circuits</li> <li>• Sensors &amp; Variable Frequency Drives</li> <li>• Programmable Logic Controllers</li> <li>• Human-Machine Interfaces</li> </ul>	24	48	<b>72</b>
4	MTEC4-0100	Process Control Systems <ul style="list-style-type: none"> <li>• Industrial Process Control</li> <li>• Heating &amp; Refrigeration</li> <li>• HVAC System Control &amp; Design</li> </ul>	16	34	<b>50</b>
	MTEC4-0200	Maintenance Welding <ul style="list-style-type: none"> <li>• Welding Safety Equipment &amp; Processes</li> <li>• Maintenance Welding Procedures &amp; Inspection</li> <li>• Cutting Procedures</li> </ul>	16	34	<b>50</b>
	MTEC4-0300	Maintenance Piping <ul style="list-style-type: none"> <li>• Piping Systems, Components, &amp; Materials</li> <li>• Piping Tools, Connections, &amp; Fittings</li> </ul>	16	34	<b>50</b>

Hours in session: 640 total hours

Certification(s)/Credentials: National Institute for Metalworking Skills (NIMS) Industrial Technology Maintenance

- Maintenance Operations
- Basic Mechanical Systems

Calendar: September 1, 2021 through June 9, 2022

Curriculum is pending approval by the Board of Education, ODHE, and COE.