





## Open Educational Resource

Title:	<b><i>Core Plus: Basic Skills for Manufacturing, Industry and the Skilled Trades</i></b>
Type:	<b>Curriculum</b>
Description:	 <p>Clover Park Technical College's (CPTC) one-quarter Fundamental Skills for Manufacturing &amp; Engineering (FSME) certificate is modeled on Core Plus, a curriculum created in Washington state through a partnership between the K-12 public education system and the Advanced Manufacturing industry. Core Plus focuses on basic skills that apply across a wide variety of industrial sectors and which prepare students for apprenticeship, additional education, or direct entry into the workforce.</p> <p>Although developed for high school use, Core Plus materials may be suitable for adult learners in any course that introduces career pathways in the Skilled Trades, Manufacturing and Industry. For this reason, CPTC is making the full Core Plus – Year One curriculum available on Skills Commons as a resource for other institutions and initiatives. This curriculum was created in partnership with industry partners, who helped identify the “baseline” skills and knowledge that students need to be successful.</p> <p>This set of learning resources, Core Plus - Year One, addresses foundational skills in 540 total hours of instruction at the high school level; the developers of Core Plus have created a Year Two - Aerospace curriculum that builds on Year One with an additional 540 hours of industry-specific instruction at the high school level. The</p>



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	<p>developers intend to add additional industry foci with specialized Core Plus - Year Two modules for Marine Technology, Construction, Medical Devices, and Agricultural Mechanics. For more information, please visit <a href="http://www.core-plus.org">www.core-plus.org</a>.</p>
<p>Inventory of Materials in ZIP File:</p>	<p>This Learning Resource Collection contains ZIP files of each of the 18 units of the Core Plus – Year One curriculum (Items 1 – 18), plus Support Materials for teaching Core Plus (Items 19 – 23).</p> <p><b>Core Plus Curriculum Files</b></p> <ol style="list-style-type: none"> <li>1. Unit 1 - Material Science</li> <li>2. Unit 2 - Shop Tools</li> <li>3. Unit 3 - Safety</li> <li>4. Unit 4 - Standard Operating Procedures &amp; Quality Management Systems</li> <li>5. Unit 5 - Semi-Precision and Precision Measurements</li> <li>6. Unit 6 - Fasteners</li> <li>7. Unit 7 - Drilling</li> <li>8. Unit 8 - Cutting and Grinding</li> <li>9. Unit 9 - Riveting</li> <li>10. Unit 10 - Print Reading</li> <li>11. Unit 11 - Applied Physics</li> <li>12. Unit 12 - Math for Industry</li> <li>13. Unit 13 - Rigging</li> <li>14. Unit 14 - Hydraulics &amp; Pneumatics</li> <li>15. Unit 15 - Electrical</li> <li>16. Unit 16 - Soldering</li> <li>17. Unit 17 - Troubleshooting &amp; Critical Thinking</li> <li>18. Unit 18 - Manufacturing Processes &amp; Principles, including Lean</li> </ol>

	<p><b>Core Plus – Support Materials</b></p> <ul style="list-style-type: none"> <li>19. Getting Started with Core Plus</li> <li>20. Core Plus Fact Sheet by Boeing</li> <li>21. Core Plus Year One Unit Descriptions</li> <li>22. Core Plus Frameworks – Mapping curriculum to Washington Career and Technical Education (CTE) state standards and Washington Math, Science and English language arts state standards</li> <li>23. Core Plus Sample Test Questions</li> <li>24. Materials and Tools Recommended for Core Plus</li> </ul>
<p>Licensed Under:</p>	<p><a href="#">Creative Commons Attribution 4.0 International License</a></p> 
<p>A Derivative from the Original Work by:</p>	<p>CPTC’s FSME was designed to align with year one of the <a href="#">Core Plus</a> curriculum. <a href="#">Core Plus</a> was developed for use in high schools by the <a href="#">Manufacturing Industrial Council</a> in partnership with the Washington State <a href="#">Office of Superintendent of Public Instruction</a>. Funding provided by <a href="#">The Boeing Company</a>.</p>
<p>This workforce solution was funded by a grant awarded by the U.S. Department of Labor’s Employment and Training Administration. The solution was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites, and including, but not limited to accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability or ownership.</p>	



## About this Project

The modern industrial workplace is a choreography of humans and machines working together to create, sustain and maximize value. Mechatronics Technicians stand at the interface between the humans and the machines driving today's fastest moving companies: They operate, monitor and maintain complex equipment when things are going right; and they help troubleshoot, manage repairs, and restore production when things go wrong.

Mechatronics is an interdisciplinary field combining elements of mechanical and electrical engineering, computer science, telecommunications, and systems and process design. Mechatronics Technicians are in high demand in any industry sector that relies on automation and robotics, including advanced manufacturing, aerospace and transportation systems, instrumentation and process control, and supply chain and logistics.

In 2014, Clover Park Technical College in Lakewood, Washington, received a four-year, \$2.5-million grant award from the U.S. Department of Labor (DOL) under Round 4 of the Trade Adjustment Assistance Community College and Career Training (TAACCCT) program for the [Connecting Competencies to Employers \(C2E\)](#) project. The goals of C2E are to prepare workers for well-paying jobs as Mechatronics Technicians and to meet workforce needs of regional industry.

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