



**Career and Technical Education Pathway  
Engineering and Applied Technology  
Computer Integrated Machining**

**Computer-Integrated Machining Diploma**

The Computer-Integrated Machining Technology curriculum is designed to prepare students with the analytical, creative, and innovative skills necessary to take a production idea from an initial concept through design, development, and production resulting in a finish product. Hands-on training and coursework typically includes manual machining, computer applications, engineering design, computer-aided drafting (CAD), computer-aided machining (CAM), blueprint interpretation, advanced computerized numeric control (CNC) equipment, basic and advanced machining operations, precision measurement, and high speed multi-axis machining. Graduates should qualify for a variety of employment in Advanced Manufacturing fields, including Lathe and Turning Machine Tool Setters, Operators, and Tenders. The 2014 Median Salary in North Carolina with the diploma is \$18.50/hr (U.S. Department of Labor, 2015).

<b>GENERAL EDUCATION COURSES</b> (diploma general education is optional)			
Course Prefix/Num	Course Title		
<a href="#"><u>ENG 110</u></a> *	Freshman Composition	3	SHC
<a href="#"><u>PHY 121</u></a>	Applied Physics I	4	SHC
<b>Total Semester Hours of Credit (SHC) for General Education Courses:</b>		<b>7</b>	<b>SHC</b>
<b>CORE COURSES</b> (must earn a grade of "C" or higher)			
Course Prefix/Num	Course Title		
<a href="#"><u>BPR 111</u></a>	Blueprint Reading I	2	SHC
<a href="#"><u>MAC 121</u></a>	Introduction to CNC	2	SHC
<a href="#"><u>MAC 141</u></a>	Machining Applications I	4	SHC
<a href="#"><u>MAC 142</u></a>	Machining Applications II	4	SHC
<b>Total SHC for Core Courses:</b>		<b>12</b>	<b>SHC</b>
<b>OTHER MAJOR COURSES</b>			
Course Prefix/Num	Course Title		
<a href="#"><u>ACA 115</u></a>	Success and Study Skills	1	SHC
<a href="#"><u>BPR 121</u></a>	Blueprint Reading: Mechanical	2	SHC
<a href="#"><u>ISC 112</u></a>	Industrial Safety	2	SHC
<a href="#"><u>MAC 122</u></a>	CNC Turning	2	SHC
<a href="#"><u>MAC 124</u></a>	CNC Milling	2	SHC
<a href="#"><u>MAC 142A</u></a>	Machining Applications II Lab	2	SHC
<a href="#"><u>MAC 143</u></a>	Machining Applications III	4	SHC
<a href="#"><u>MAC 151</u></a>	Machining Calculations	2	SHC
<a href="#"><u>MAC 152</u></a>	Advanced Machining Calculations	2	SHC
<a href="#"><u>MAC 248</u></a>	Production Procedures	2	SHC
<a href="#"><u>WLD 112</u></a>	Basic Welding Processes	2	SHC
<b>Total SHC for Other Major Courses:</b>		<b>23</b>	<b>SHC</b>
<b>Total SHC for Program</b>		<b>42</b>	

\*Requires benchmark/placement testing.

**Estimated Costs:**

Textbooks: \$150 per semester

Materials: \$30-95 a semester