

CNC OPERATIONS AND PROGRAMMING FUNDAMENTALS, CERTIFICATE OF COMPLETION

The CNC Operations and Programming Fundamentals Certificate introduces students to the principles and practical applications of computerized numerical control (CNC) technology. Through hands-on instruction in manual programming and Mastercam software, students develop the technical skills to design, program, and produce precision components used in advanced manufacturing.

Program Learning Outcomes

1. Demonstrate foundational knowledge of CNC principles and manual programming by interpreting part drawings, selecting appropriate tools, and writing two-axis programs for machining operations.
2. Apply industry-standard CNC programming software (Mastercam) to design, simulate, and generate toolpaths for two- and three-dimensional machining processes in milling and turning applications.

Certificate of Completion

A certificate leading to improved employability or job opportunities.

For more information regarding noncredit, please visit <https://orangecoastcollege.edu/academics/adult-education/index.html> (<https://orangecoastcollege.edu/academics/adult-education/>)

Course	Title	Hours
Required Courses		
MACH A030N	Introduction to Computerized Numerical Control and Manual Programming Noncredit	54
MACH A033N	Computerized Numerical Control Programming-Mastercam 1 Noncredit	72
MACH A034N	Computer Numerical Control (CNC) Programming-Mastercam 2 Non-credit (Total Hours)	72
Total Hours		198

Course	Title	Hours
Year 1		
Semester 1		
MACH A030N	Introduction to Computerized Numerical Control and Manual Programming Noncredit	54
MACH A033N	Computerized Numerical Control Programming-Mastercam 1 Noncredit	72
<i>Hours</i>		<i>124</i>
Semester 2		
MACH A034N	Computer Numerical Control (CNC) Programming-Mastercam 2 Non-credit	72
<i>Hours</i>		<i>72</i>
Total Hours		198