

ADMFG 140: Introduction to CNC

This course is an introductory overview of the use of CNC in manufacturing. It covers basic shop safety, CNC operations, CNC programming, and quality assurance.

Course Student Learning Outcomes

1. Demonstrate knowledge of composites, machining, and software terminology.
2. Demonstrate knowledge of Vectric VCarve (CAD/CAM Software) by successfully engaging in: Geometry creation; Geometry manipulation; Tool path creation; Tool path application; Program verification methods; Post processing operation.
3. Demonstrate knowledge of WinCNC by successfully: Importing CAD/CAM programs; Operating CNC router.
4. Demonstrate knowledge of CNC machine safety.
5. Demonstrate ability to set up and operate CNC router.
6. Demonstrate ability to change tools manually and automatically with CNC software.
7. Identify the requirements and detailed instructions necessary for record keeping for composite part machining.
8. Calculate standard tolerances.
9. Solve technical mathematical problems (software code manipulation).
10. Document technical abilities in written and verbal reports.

Credits: 3

Program: **Advanced Manufacturing / Composites Technology**