**CNC Machining**

**Science, Technology, Engineering & Mathematics Division**

Entry-level programmers as well as machinists/tool makers are needed in the college's service region. The CNC Machining Certificate primarily supports two career ladders;

* An individual with no prior experience in machining or manufacturing, who after the completion of the CNC Machining Certificate, should be able to be employed as an entry level programmer.
* An individual with prior experience using manual machines wishing to upgrade skills.

NVCC's Engineering Technologies programs prepare graduates to be engineering technicians who are able to respond to the changing demands of Connecticut's "high tech" industries.

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| **Course No.** | **Title** | **Credits** |
| MFG\*H104 | Manufacturing Processes | 4 |
| CAD\*H150 | CAD 2D | 3 |
| MFG\*H106 | Computer-Aided Mfg I | 3 |
| MFG\*H201 | Computer-Aided Mfg. II | 3 |
| Elective | Directed Elective | 3 |
| Elective | Directed Elective† | 3 |
|  | Total Credit Hours | 19 |

†Directed Electives:  
CAD\*H200 3D CAD Modeling  
CAD\*H220 Parametric Design  
EET\*H102 Electrical Applications  
MAT\*H172 College Algebra (or higher level Mathematics course)  
MEC\*H114 Statics  
MEC\*H251 Materials Strengths  
Any MFG\* course  
PHY\*H121 General Physics I  
PHY\*H122 General Physics II  
TCN\*H101 Introduction to Engineering Technology

Program Outcomes

Upon successful completion of all program requirements, graduates will be able to:

1. Demonstrate basic knowledge and understanding of engineering graphics and conventional 2-dimensional drafting practices such as orthographic and isometric projection, section, detail, auxiliary views, and geometric dimensioning and tolerancing.
2. Demonstrate proficiency in the use of CAD software for 2-dimensional applications.
3. Explain concepts and skills required for manufacturing processes.
4. Demonstrate proper setup and procedures for various manufacturing processes.
5. Write basic and advanced MDI NC programs.
6. Produce NC programs using Mastercam®, being able to;
   1. import or generate CAD files
   2. utilize tool and material libraries.
   3. generate tool pass.
   4. verify tool pass.
   5. post process using appropriate controller.