

Academic Program Proposal - Brief

Curriculum Committee

Snow College

Date: March 16, 2016
Sponsor: Alan Hart, Industrial Technology Department Chair
Michael Medley, BAT Division Dean
Division: Business and Applied Technologies
Department: Industrial Technology Department, Machine Tool Technology Program
Type of Program: New Certificates of Completion:

- **Certificate of Completion in Manual Machining**
- **Certificate of Completion in CNC Machining**

Program Description

The Machine Tool Technology program is an existing program within the Business and Applied Technologies Division offering an AAS degree in Machine Tool Technology. Students currently take courses in all of the following areas:

- Machine Tool Math
- Operation of Computer Numerical Control (CNC)
- Metallurgy
- Blueprint Reading
- Grinder Operation
- Solidworks
- Mastercam
- Conventional Lathe & Mill
- Feeds & Speeds
- Welding

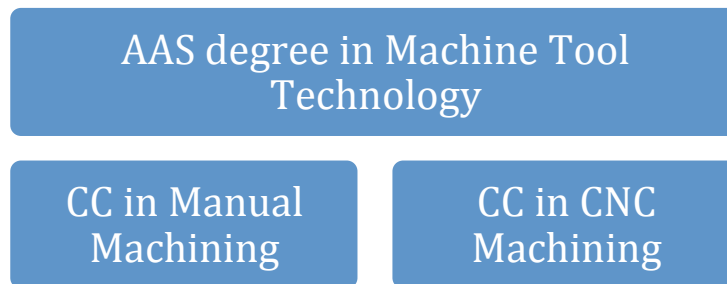
The Machine Tool Technology program currently trains students to work in machine shops and manufacturing shops as; Manual Machinist, CNC Control Programmer, CNC Operator, Tool and Die Markers, and Molders.

Certificates and Degrees

Certificate of Completion Manual Machining – Students will take courses specific to manual machining knowledge and will gain marketable skills in the same. This certificate is a superset of the Certificates of Proficiency in Lathe Technology and Milling Technology. This certificate is a subset of the AAS degree in Machine Tool Technology. Students completing this certification will be prepared to work in the machining industry at all levels of manual machining industry as lathe & turning

and/or milling and planing machine tool setters, operators, and tenders including general manual machinist. (31 credits)

Certificate of Completion CNC Machining – Student will take courses specific to CNC machining knowledge and will gain marketable skills in the same. This certificate is a superset of the Certificates of Proficiency in CNC Operations and CNC Programming. This certificate is a subset of the AAS degree in Machine Tool Technology. Students completing this certification will be prepared to work in the machining industry at all levels of CNC machining as CNC operators or programmers including general CNC machinist. (33 credits)



Justification

The majority of programs in the Business and Applied Technologies Division are AAS degrees with industry specific career and technical skillsets that lead directly to employment in specific fields. Currently, the Machine Tool Technology program fills this need by offering an AAS degree in Machine Tool Technology that leads to employment in the machining industry. Currently the Machine Tool Technology program only offers an AAS degree and does not allow for entry into the workplace at a lower level of the academic ladder. We have been instructed by our advisory committee members and by regional business owners to prepare students in a shorter time frame for some entry-level job-specific roles for which they are in need. Additionally, we have been challenged by the Governors office and the Commissions office to provide stackable credentials for students to acquire as they move through the program giving them the opportunity to exit at anytime with a marketable skillset and an industry accepted credential. We are making no changes to the curriculum nor the AAS degree pathway, we are merely adding a stackable pathway wherein a student can exit the program at predefined employable breakpoints and then return, if they desire, to pick up the next set of courses without having to repeat courses or restart the program.

Benefits

The benefits to the student are fairly clear; First, they will be able to come to Snow College and take courses that lead to employment in a shorter timeframe if they are in need of more rapid employment. Secondly, they will have the option of returning and picking up the curriculum where they left off without having to repeat courses.

Regional employers will be able to hire students at industry wages for specific job roles that do not require the entire pathway. The college will benefit from an increase in certification attainment and program completions due to the length of the certificates and the multi-certificate pathway presented to each student. We expect that the enrollment will increase as potential students discover that they can shorten their education-to-employment cycle. Completions and graduations will increase based on an increase in retention that is fueled by the intrinsic motivation value of stackable credentials being acquired along the pathway. Placements will increase because students will be able to leave and acquire work at several periods during the normal 2-year cycle instead of just at the AAS degree level.

MTT - Rework of stackable courses 030816

Status	Prefix	Course	Name	Certificate of Completion - Manual Machining	Certificate of Completion - CNC Machining	AAS
	MTT	1110	Intro to Precision Machining	3		3
	MTT	1125	Intro to Precision Machining Lab	5		5
	MTT	1210	Intermediate Precision Machining	3		3
	MTT	1225	Intermediate Precision Machining Lab	5		5
	MTT	1060	Industrial Print Reading	3		3
	MANF	2332	Mechanical CAD Drafting	4		4
modified	MTT	2330	Introduction to CNC		3	3
New	MTT	2335	Introduction to CNC lab		5	5
modified	MTT	2430	CNC Operations		3	3
New	MTT	2435	CNC Operations lab		5	5
	MANF	1300	Geometric Dimensioning		3	3
	MANF	1500	Quality Control		3	3
	BT	1010	Computer Technology and Applications		3	3
	MTT	1930	Leadership and Professional Development I	1	1	1
	MTT	2930	Leadership and Professional Development II	1	1	1
	MTT	1715	Technical Math	3	3	3
	BT	2200	Business Communications	3	3	3
	MTT	2716	Machine Tool Mathematics (Technical Math)			3
	WELD	2320	Metallurgy			4
				31	33	63