Machine Tool Technology

The Machine Tool Technology program provides training for entry-level positions in precision metalworking careers. Manual and computer numerically controlled (CNC) machines are used to develop trainee skills. The students will learn to operate lathes, mills, engine lathes, surface grinders, and other precision equipment. Graduates of this program are prepared to work in machine shops, quality control, and maintenance or production.

Program Learning Outcomes (PLO)

After completing the AAS in Machine Tool Technology degree, students will be able to:

PLO 1: Demonstrate their knowledge of safety with open discussion and presentation.

PLO 2: Demonstrate their knowledge of the operation of a manual lathe by the completion of the final project.

PLO 3: Demonstrate their knowledge of the operation of a manual mill by completion of the final project.

PLO 4: Write a CNC mill program; set up the mill; and machine a part based on given parameters and instructions.

PLO 5: Write a CNC lathe program; set up the lathe; and machine a part based on given parameters and instructions.

PLO 6: Write a CNC program using a CAM program on the CNC lathe and CNC mill based on given parameters and instructions.

Courses Measuring the Achievement of Program Learning Outcomes

Course	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
MCHN 1438	X	X	X			
MCHN 2434				X		
MCHN 2431					X	
MCHN 2438						X

MACHINE TOOL TECHNOLOGY RECOMMENDED ACADEMIC PLAN

1ST YEAR, 1ST SEMESTER			Credit Hours	✔
Term 1				
MCHN	1438	Machining I	4	☐
TECM	1301	Industrial Mathematics	3	☐
STSU	0300	Student Success	0	☐
Term 2				
MCHN	2431	Operation of CNC Turning Centers	4	☐
ARTS	1301	Art Appreciation	3	☐
			14	

1ST YEAR, 2ND SEMESTER				
Term 1				
WLDG	1337	**or** DFTG 1325	3	☐
MCHN	1441	Basic Machine Shop II	4	☐
Term 2				
MCHN	2434	Operations of CNC Machining Centers	4	☐
SOCI	1301	Introduction to Sociology	3	☐
☀ *Earned:*		*Level 1 Certificate in Machine Tool Technology - Computer Numeric Control*	**14**	

2ND YEAR, 1ST SEMESTER				
Term 1				
MCHN	1452	Intermediate Machining I	4	☐
MCHN	1191	Special Topics in Machinist/Machine Technologist	1	☐
WLDG	1428	**or** DFTG 1409	4	☐
Term 2				
MCHN	1454	Intermediate Machining II	4	☐
MCHN	1191	Special Topics in Machinist/Machine Technologist	1	☐
ENGL	1301	Composition	3	☐
☀ *Earned:*		*Level 1 Certificate in Machine Tool Technology - Operator*	**17**	

☞ *Apply for Graduation*

2ND YEAR, 2ND SEMESTER				
Term 1				
MCHN	1426	Introduction to Computer-Aided Manufacturing	4	☐
MCHN	1190	Special Topics in Machine Shop Assistant	1	☐
PHYS	1305	Elementary Physics	3	☐
Term 2				
MCHN	2438	Advanced Computer-Aided Manufacturing	4	☐
SPCH	1318	Interpersonal Communication	3	☐
			15	

☀ *Earned:*	*Associate of Applied Science in Machine Tool Technology*	**Total Hours**	**60**

*Technical Math courses (TECM) do not satisfy the core general education Natural Science/Mathematics requirement.