

Machine Tool Technology

Degree Type

Certificate

Type

Career

Division of STEAM

Associate Dean: Bradley Cole

The purpose of this certificate program is to prepare students for immediate employment as entry level machine operators. They will become proficient in the operation of basic machine tools such as lathes, milling machines, grinders, drill presses and precision measurement equipment. To prepare for future career opportunities in the operation of machining centers, the College's first course in CNC programming is also required. Students will develop supportive skills in basic mathematics and writing appropriate to a machinist position and necessary to continue their machinist training in an associate's degree program in Machine Tool Technology.

Graduates will be able to:

- Immediately enter the workforce with the skills required to run both production and job-shop parts;
- Apply their skills to set-up and operate common manufacturing machine tools;
- Edit CNC programs "on-the-fly" to assist in production scheduling;
- Demonstrate proficiency in the use of standard and state-of-the-art metrology to verify parts to a documented drawing.

To provide students with the option of electing this program or the associate's degree in Machine Tool Technology, the first semester of both programs is identical. High school or equivalent preparation required: Two years of high school mathematics including algebra and either geometry or intermediate algebra. Students who don't have this preparation will be able to get it here, but it may take longer to complete the program. Some required classes are held at off-site locations evenings and weekends. Students must provide their own transportation.

Students must have a good working knowledge of WORD (word processing) and EXCEL (spreadsheets and charts) for science and technology courses. If not already required in their program, students who lack these skills should still take TECH 1110 and TECH 1120 to make up the deficiency. Challenge exams for these courses are also available.

Program Requirements

Item #	Title	Credits
ENGL 1010	College Composition I	3
	MATH 1230 or higher	3
MACH 1040	Precision Machining I	5
MACH 1250	Metallurgy for the Machinist	3
MACH 1540	Precision Machining II	5
MECH 1050	Engineering Graphics I	3
MECH 1560	CNC Programming	3
MECH 1570	Dimensional Metrology	3
TECH 1110	Technical Word Processing & Research	1
TECH 1120	Spreadsheet Applications in Technology	1
TECH 1030	Manufacturing Methods	3
Total Credits		33

Course Sequencing

First Semester

Intended as a guide for academic planning. It need not be followed exactly or completed in two semesters.

Item #	Title	Credits
ENGL 1010	College Composition I	3
	MATH 1230 or higher	3
MACH 1040	Precision Machining I	5
MECH 1050	Engineering Graphics I	3
TECH 1110	Technical Word Processing & Research	1
TECH 1120	Spreadsheet Applications in Technology	1

Second Semester

Item #	Title	Credits
MACH 1250	Metallurgy for the Machinist	3
TECH 1030	Manufacturing Methods	3
MACH 1540	Precision Machining II	5
MECH 1560	CNC Programming	3
MECH 1570	Dimensional Metrology	3

Footnotes

*Based on placement, students might be required to successfully complete preparatory course(s) before attempting further course or program requirements.

*All 33 credit hours of this program apply towards the specific 64 credit requirement of the Machine Tool Technology A.A.S. program allowing a student the opportunity to apply the credits earned in the certificate towards the completion of a two-year degree.

*18 of the 33 credit hours of this program apply towards the specific 64 credit requirement of the Mechanical Technology: CAD Design A.A.S. program allowing a student the opportunity to apply the credits earned in the certificate towards the completion of a two-year degree.