



Machine Tool Technology

Certificate, Career program

Division of Math, Physics, Technology & Engineering Science, Associate Dean: Bradley Cole
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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 and 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.

Program Requirements

English (ENGL 1010. By placement)*	3
Mathematics (MATH 1230 or higher)*	3
Technical Concentration (MACH 1040, 1250, 1540; MECH 1050, 1560, 1570; TECH 1110, 1120, 1030)	27
Total hours	33

*Based on placement, students may be required to take ENGL 0950 and/or ENGL 0990 before taking ENGL 1010, and MATH 0960 before taking a math credit course.

Students should take the Orientation to Technology (TECH 1050) course [offered before the semester begins] where their computer skills will be assessed. It may be possible to get credit for TECH 1110, 1120, 1130 via this assessment. If students do not pass sections of the computer assessment, they may be required to take TECH 1110, 1120 or 1130 to make up the deficiency.

Sample Sequence: intended as a guide for academic planning. It need not be followed exactly or completed in two semesters.

First Semester

English	3
Mathematics (MATH 1230 or higher)	3
Precision Machining I (MACH 1040)	5
Engineering Graphics I (MECH 1050)	3
Technical Word Processing and Research (TECH 1110)	1
Spreadsheet Applications in Technology (TECH 1120)	1

Second Semester

Metallurgy for the Machinist (MACH 1250)	3
Manufacturing Methods (TECH 1030)	3
Precision Machining II (MACH 1540)	5
CNC Programming (MECH 1560)	3
Metrology (MECH 1570)	3