

## Associate in Applied Science Degree

# MACHINE TOOL TECHNOLOGY

The Machine Tool Technology program will prepare students for careers in modern machine tool technology. Machinists, machine operators or die makers design or produce most familiar objects, including precision parts for vehicles and military equipment, cellphone and game console cases, golf clubs, even microbrewery equipment -- all are created by skilled machinists. Students will be required to purchase appropriate safety items and tools.

HGTC's Machine Tool Technology program was developed in response to regional employers who have expressed a demand for skilled employees with both classroom and hands-on training using state-of-the-art equipment.

This program prepares students for entry-level career opportunities in modern computer-integrated manufacturing environments as machinists, tool & die makers, production-control technicians, quality-control technicians, CNC programmers, and CNC setup and operation technicians.

### CURRICULUM SEQUENCE

#### First Semester - Fall

	Course Title	Semester Credit Hours
MAT 170	Algebra, Geometry, Trigonometry I	3
MTT 101	Introduction to Machine Tool	2
MTT 106	Machine Tool Computer Applications	3
MTT 111	Machine Tool Theory and Practice I	5
MTT 120	Machine Tool Print Reading	3
	<b>TOTAL</b>	<b>16</b>

#### Second Semester - Spring

ENG 155	Communications I*	3
MTT 105	Machine Tool Math Applications	3
MTT 112	Machine Tool Theory Practice II	5
MTT 130	Fundamentals of Geometric Dimensions and Tolerances	2
MTT 141	Metals Heat Treatment	3
	<b>TOTAL</b>	<b>16</b>

#### Third Semester - Summer

CNC 206	Additive manufacturing for Non-Metals	1
MTT 241	Jigs and Fixtures	2
MTT 245	Rapid Prototype Setup and Operations	3
MTT 249	Introduction to CAM	3
MTT 250	Principles of CNC	3
	<b>TOTAL</b>	<b>12</b>

#### Fourth Semester - Fall

MTT 251	CNC Operations	3
MTT 252	CNC Setup and Operations	4
MTT 253	CNC Programming and Operations	3
PHI 110	Ethics	3
WLD 116	Welding	2
	<b>TOTAL</b>	<b>15</b>

#### Fifth Semester - Spring

(Continued)

ENG 160	Technical Communications*	3
MTT 113	Machine Tool Theory Practice III	5
MTT 254	CNC Programming I	3
MTT 255	CNC Programming II	3
PSY 103	Human Relations*	3
	TOTAL	17
	<b>TOTAL CREDIT HOURS</b>	<b>76</b>

\*Students interested in transferring to a senior institution should select ENG 101, ENG 102 and SPC 205 in place of ENG 155 and ENG 160; PSY 201 in place of PSY 103.