

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

| | | |
|---------|---------------------------------------|----|
| 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 |
| | TOTAL | 16 |

Second Semester - Spring

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|---------|--|----|
| 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 |
| | TOTAL | 16 |

Third Semester - Summer

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|---------|--|----|
| 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 |
| | TOTAL | 12 |

Fourth Semester - Fall

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|---------|-----------------------------------|----|
| 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 |
| | TOTAL | 15 |

Fifth Semester - Spring

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| ENG 160 | Technical Communications* | 3 |
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| 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 |
| | TOTAL CREDIT HOURS | 76 |

*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.