

BLUEGRASS COMMUNITY AND TECHNICAL COLLEGE

**Machine Tool Technology
Associate in Applied Science**

Academic Plan Code - 4805037019

Description:

Work activities in machine shop involve applying knowledge of machine capabilities, the properties of materials, and shop practices to set-up and operate various machines. The skills needed to position work pieces, adjust machines, and verify the accuracy of machine functions and finish products are taught by classroom instruction, demonstration, and hands on experience.

Students enrolled in the Machine Tool Technology program must achieve a minimum grade of “C” in each BRX, MTT, and IE Core.

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| General Education Core | | |
| ENG101 | Writing I | 3 |
| MT115 or MAT125 | Technical Mathematics or | (3) |
| MT125 | Technical Algebra and Trigonometry or Higher | 3 |
| | Heritage/Humanities | 3 |
| | Science | 3 – 4 |
| | Electives | 2 - 3 |
| | Social Interaction | 3 |
| | Computer Literacy | 2 - 3 |
| | Subtotal Credit Hours | 19-22 |
| Recommended Additional General Education | | |
| COM181 | Basic Public Speaking or | (3) |
| COM 252 | Introduction to Interpersonal Communications | (3) |
| | | |
| Technical Core or Support Courses | | |
| MTT110 | Fundamentals of Machine Tools A AND | 3 |
| MTT112 | Fundamentals of Machine Tools B OR | 4 |
| MTT114 | Fundamentals of Machine Tools | (7) |
| MTT118 | Metrology/Control Charts | 3 |
| MTT120 | Applied Machining I AND | 3 |
| MTT122 | Applied Machining II OR | 4 |
| MTT124 | Applied Machining | (7) |
| MTT130 | Manual Programming AND | 3 |
| MTT132 | CAD/CAM/CNC OR | 3 |
| MTT134 | Manual Programming/CAD/CAM/CNC | (6) |
| MTT210 | Industrial Machining I AND | 3 |
| MTT212 | Industrial Machining II OR | 4 |
| MTT214 | Industrial Machining | (7) |
| MTT220 | Advanced Industrial Machining I AND | 4 |
| MTT222 | Advanced Industrial Machining II | 2 |

| | | |
|---------|---|--------------|
| | OR | |
| MTT224 | Advanced Industrial Machining | (6) |
| MTT2301 | Intro to Conversational Programming AND | 3 |
| MTT2302 | Conversational Editing and Subroutines OR | 3 |
| MTT230 | Conversational Programming | (6) |
| MTT2401 | Intro to 3-D Code Sequencing and Tool path Production AND | 3 |
| MTT2402 | Advanced 3-D Code Sequencing and Macro Systems OR | 3 |
| MTT240 | Intro to 3-D Programming | (6) |
| BRX110 | Basic Blueprint Reading for Machinist AND | 2 |
| BRX210 | Mechanical Blueprint Reading for Machinist OR | 2 |
| BRX112 | Blueprint Reading for Machinist | (4) |
| | Subtotal Credit Hours | 52-55 |
| | Total Credit Hours | 71-77 |

**Machine Tool Technology
Diplomas**

Description:

Work activities in machine shop involve applying knowledge of machine capabilities, the properties of materials, and shop practices to set-up and operate various machines. The skills needed to position work pieces, adjust machines, and verify the accuracy of machine functions and finish products are taught by classroom instruction, demonstration, and hands on experience.

Students enrolled in the Machine Tool Technology program must achieve a minimum grade of “C” in each BRX, MTT, and IE Core.

| Course Number | Course Title | Credit Hours |
|---------------------------------|---|--------------|
| CNC Machinist | | |
| Academic Plan Code - 4805034069 | | |
| MTT110 | Fundamentals of Machine Tools A AND | 3 |
| MTT112 | Fundamentals of Machine Tools B OR | 4 |
| MTT114 | Fundamentals of Machine Tools | (7) |
| MTT118 | Metrology/Control Charts | 3 |
| MTT120 | Applied Machining I AND | 3 |
| MTT122 | Applied Machining II OR | 4 |
| MTT124 | Applied Machining | (7) |
| MTT130 | Manual Programming AND | 3 |
| MTT132 | CAD/CAM/CNC OR | 3 |
| MTT134 | Manual Programming/CAD/CAM/CNC | (6) |
| MTT210 | Industrial Machining I AND | 3 |
| MTT212 | Industrial Machining II OR | 4 |
| MTT214 | Industrial Machining | (7) |

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|---------|---|--------------|
| MTT220 | Advanced Industrial Machining I AND | 4 |
| MTT222 | Advanced Industrial Machining II OR | 2 |
| MTT224 | Advanced Industrial Machining | (6) |
| MTT2301 | Intro to Conversational Programming AND | 3 |
| MTT2302 | Conversational Editing and Subroutines OR | 3 |
| MTT230 | Conversational Programming | (6) |
| MTT2401 | Intro to 3-D Code Sequencing and Tool path Production AND | 3 |
| MTT2402 | Advanced 3-D Code Sequencing and Macro Systems OR | 3 |
| MTT240 | Intro to 3-D Programming | (6) |
| BRX110 | Basic Blueprint Reading for Machinist AND | 2 |
| BRX210 | Mechanical Blueprint Reading for Machinist OR | 2 |
| BRX112 | Blueprint Reading for Machinist | (4) |
| MT115 | Technical Mathematics or | 3 |
| MT125 | Technical Algebra and Trigonometry or Higher | (3) |
| | Computer Literacy | 2 – 3 |
| | General Education/ Applied Academics | 3 |
| | Electives | 2 – 3 |
| | Total Credit Hours | 62-64 |

Machinist

Academic Plan Code - 4805034079

| | | |
|--------|---|-----|
| MTT110 | Fundamentals of Machine Tools A AND | 3 |
| MTT112 | Fundamentals of Machine Tools B OR | 4 |
| MTT114 | Fundamentals of Machine Tools | (7) |
| MTT118 | Metrology/Control Charts | 3 |
| MTT120 | Applied Machining I AND | 3 |
| MTT122 | Applied Machining II OR | 4 |
| MTT124 | Applied Machining | (7) |
| MTT130 | Manual Programming OR | 3 |
| MTT134 | Manual Programming/CAD/CAM/CNC | (6) |
| MTT210 | Industrial Machining I | 3 |
| MTT212 | Industrial Machining II OR | 4 |
| MTT214 | Industrial Machining | (7) |
| MTT220 | Advanced Industrial Machining I AND | 4 |
| MTT222 | Advanced Industrial Machining II OR | 2 |
| MTT224 | Advanced Industrial Machining | (6) |
| BRX110 | Basic Blueprint Reading for Machinist AND | 2 |
| BRX210 | Mechanical Blueprint Reading for Machinist OR | 2 |
| BRX112 | Blueprint Reading for Machinist | (4) |
| MT115 | Technical Mathematics OR | 3 |

| | | |
|-------|--|--------------|
| MT125 | Technical Algebra and Trigonometry OR Higher | (3) |
| | Computer Literacy | 2 – 3 |
| | General Education/ Applied Academics | 3 |
| | Electives | 2 – 3 |
| | Total Credit Hours | 47-52 |

Machine Tool Technology Certificates

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Exploratory Machining

Academic Plan Code - 4805033039

| | | |
|--------|---|----------|
| MTT110 | Fundamentals of Machine Tools A AND | 3 |
| MTT112 | Fundamentals of Machine Tools B OR | 4 |
| MTT114 | Fundamentals of Machine Tools | (7) |
| | Total Credit Hours | 7 |

Machine Tool Operator I

Academic Plan Code - 4805033109

| | | |
|--------|---|----------------|
| MTT110 | Fundamentals of Machine Tools A AND | 3 |
| MTT112 | Fundamentals of Machine Tools B OR | 4 |
| MTT114 | Fundamentals of Machine Tools | (7) |
| MTT130 | Manual Programming OR | 3 |
| MTT134 | Manual Programming CAD/CAM/CNC | (6) |
| BRX110 | Basic Blueprint Reading for Machinist | 2 |
| MT115 | Technical Mathematics | 3 |
| | Total Credit Hours | 15 – 18 |

Machine Tool Operator II

Academic Plan Code - 4805033119

| | | |
|--------|---|----------------|
| MTT110 | Fundamentals of Machine Tools A AND | 3 |
| MTT112 | Fundamentals of Machine Tools B OR | 4 |
| MTT114 | Fundamentals of Machine Tools | (7) |
| MTT118 | Metrology/Control Charts | 3 |
| MTT120 | Applied Machining I AND | 3 |
| MTT122 | Applied Machining II OR | 4 |
| MTT124 | Applied Machining | (7) |
| MTT130 | Manual Programming OR | 3 |
| MTT134 | Manual Programming CAD/CAM/CNC | (6) |
| BRX110 | Basic Blueprint Reading for Machinist | 2 |
| | Computer Literacy | 2 – 3 |
| MT115 | Technical Mathematics OR | 3 |
| MT125 | Technical Algebra and Trigonometry or Higher | (3) |
| | Total Credit Hours | 27 – 31 |

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