

# MACHINE TOOL TECHNOLOGY (MTTC)

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**MTTC 2110 - Blueprint Reading (3 Credit Hours)**

Identify types and uses of blueprints, identifying lines, and interpreting views, dimensions and tolerances.

Prerequisite(s): None  
(2/1/3)

**MTTC 2120 - Introduction to Machine Tools (6 Credit Hours)**

This course teaches the manufacturing of metal parts using machine tool operations. Topics include use of layout tools, precision measuring tools, applied shop math, hand tools, grinders and grinding wheels. The course includes lecture, discussion, and demonstrations.

Prerequisite(s): None  
(3/3/6)

**MTTC 2210 - Bench Work (3 Credit Hours)**

A course that teaches the proper use and care of tools that are used by precision metalworkers. Topics include the techniques of manufacturing mechanical parts using layout tools, precision measuring tools, and various types of measuring instruments.

Prerequisite(s): None  
(2/1/3)

**MTTC 2220 - Forming and Shaping (3 Credit Hours)**

Forming and Shaping will allow students to be able to satisfactorily manufacture parts using hydraulic and arbor presses. Topics include: identifying, manufacturing, and assembling hydraulic, arbor presses and accessories, machine maintenance and repair. Also, the associated geometry of cutting tools, and the proper use of carbide inserts and tooling will be covered.

Co-requisite(s): MTTC 2110  
(2/1/3)

**MTTC 2230 - Drill Press (6 Credit Hours)**

A course to manufacture parts using drill presses, and drilling machines. Topics include identifying types and uses of drill presses, parts and controls, and manufacturing mechanical parts using drilling, boring, counter boring, counter sink, spot facing, and tapping operations.

Prerequisite(s): None  
(3/3/6)

**MTTC 2310 - Basic Lathe I (4 Credit Hours)**

This course teaches the types of lathes, accessories, parts and controls. Topics include to calculate proper feeds and speeds, facing, turning, drilling, reaming, and boring operations; sharpening cutting tools, manufacturing mechanical parts, boring, taper-turning, and thread cutting; learning how to use steady rest, follow rest, and taper attachment; and learning the use of index-able carbide tooling.

Prerequisite(s): None  
(1/3/4)

**MTTC 2320 - Basic Lathe II (3 Credit Hours)**

Learn proper feeds and speeds for knurling, boring, taper-turning, and thread cutting using lathe accessories.

Co-requisite(s): MTTC 2310  
(1/2/3)

**MTTC 2331 - Advanced Lathe (4 Credit Hours)**

This course will cover the assembling and removing of all lathe accessories and producing projects to a given size. Topics include precision cutting of tapers, advanced threading operations, multi-lead threading, and other advanced cutting operations.

Co-requisite(s): MTTC 2310  
(0/4/4)

**MTTC 2410 - Basic Mill I (4 Credit Hours)**

A basic course to manufacture parts using milling machines and accessories. Topics include types of milling machines, accessories, parts, and controls; milling to length, squaring part, milling set-ups, associated cutting tool, and calculating proper feeds and speeds; realigning a vertical milling head, squaring up a milling vise, manufacturing 3-D parts, manufacturing mechanical parts that include, key-seats; indexing procedures using rotary table and dividing heads.

Prerequisite(s): None  
(1/3/4)

**MTTC 2420 - Basic Mill II (3 Credit Hours)**

Perform multi-angular set-ups, gear cutting, advanced indexing operations and other advanced cutting operations.

Co-requisite(s): MTTC 2410  
(1/2/3)

**MTTC 2431 - Advanced Mill (4 Credit Hours)**

The advanced mill course allows students to perform multi-angular set-ups, gear cutting, advanced indexing operations and other advanced cutting operations.

Co-requisite(s): MTTC 2410, MTTC 2420  
(0/4/4)

**MTTC 2510 - Precision Grinding (2 Credit Hours)**

This course will use surface grinders to perform precision grinding operations. Topics include types of grinders, accessories, set-up operations, wheel dressing and maintenance.

Prerequisite(s): None  
(1/1/2)

**MTTC 2710 - CNC (6 Credit Hours)**

This course teaches manufacturing parts using CNC technology. Topics include coding used in CNC technology, writing CNC programs, CAD/CAM software and installing programs in CNC machines.

Prerequisite(s): None  
(3/3/6)

**MTTC 2991 - Special Projects I (1 Credit Hour)**

A course designed for the student who has demonstrated specific special needs. Associate Provost of Technical Studies approval required.

Prerequisite(s): None  
(0/1/1)

**MTTC 2993 - Special Projects II (2 Credit Hours)**

A course designed for the student who has demonstrated specific special needs. Associate Provost of Technical Studies approval required.

Prerequisite(s): None  
(0/2/2)

**MTTC 2995 - Special Projects III (3 Credit Hours)**

A course designed for the student who has demonstrated specific special needs. Associate Provost of Technical Studies approval required.

Prerequisite(s): None  
(0/3/3)

**MTTC 2996 - Special Projects IV (3 Credit Hours)**

A course designed for the student who has demonstrated specific special needs. Associate Provost of Technical Studies approval required.

Prerequisite(s): None

(3/0/3)

**MTTC 2997 - Practicum (3 Credit Hours)**

A Practicum provides supervised on-the-job work experience related to the student's education objectives. Students participating in Practicum do not receive compensation. Associate Provost of Technical Studies approval required.

Prerequisite(s): None

(0/3/3)

**MTTC 2999 - Cooperative Education (3 Credit Hours)**

Cooperative Education provides supervised on-the-job work experience related to the student's education objectives. Students participating in Practicum do not receive compensation. Associate Provost of Technical Studies approval required.

Prerequisite(s): None

(0/3/3)