

# COURSES

## PDF MACHINE TOOL TECHNOLOGY

### MTT105 Machine Shop I 3 Credits

Prerequisite: DFT 110 or Co-requisite of DFT 110. Introduces basic machine shop skills that include lathe operation, lathe speeds and feeds, precision measuring techniques, layout methods, band saw and drill press operations, and exposure to the science of heat-treating of metals. Shop safety and etiquette will be stressed.

### MTT106 Machine Shop Practice I 1-2 Credits

Corequisite: MTT 105. Expands the student's manual skills by putting into practice the theories, and user skills introduced in MTT 105. The emphasis will be geared to a more practical, hands-on experience through the use of lathes, layout techniques, vertical and horizontal band saws, measuring instruments and some vertical mill work. Shop safety and cleanup are always stressed.

### MTT110 Machine Shop II 3 Credits

Expands skills introduced in MTT 105 to an intermediate level and introduces further skills which include vertical mill, drill sharpening, speed feeds and some production methods.

### MTT111 Machine Shop Practice II 1-2 Credits

Corequisites: MTT110 Further develops student's manual skills by putting into practice the theories and user skills introduced MTT 110. The emphasis will be a more practical, hands-on experience through the use of vertical mill work, layout techniques, vertical and horizontal band saws, measuring instruments and some lathes. Shop safety and cleanup are always stressed.

### MTT230 Computer Numerical Control I 4 Credits

Prerequisite: MTT 105 and MTT 110 or consent of instructor. Offers an introductory class to provide a basic understanding of computer numerical control. The student is introduced to the axis systems, absolute and incremental programming, tool offsets, controller operation, and fixture offsets. To better understand CNC programming process, CNC II is recommended as a follow-up. Includes 3 hours lecture, 3 hours lab per week.

### MTT232 Computer Numerical Control II 4 Credits

Prerequisite: MTT 230 or consent of instructor. Provides a continuation of MTT 230. Offers the student additional practical experience for development of skills with additional information and exposure to more complex applications of programming, mirror imaging, polar coordinates, tool compensation, threading and computer integrated manufacturing. Includes 3 hours lecture, 3 hours lab per week.

### MTT250 Machine Shop III 3 Credits

Prerequisites: MTT110 & DFT110 or consent of instructor Expands skills introduced in MTT 105 and MTT 110 to a more advanced level by developing projects that emphasize tolerances, plan of procedure and blueprint reading. Introduces further skills for surface grinding and tool and cutter grinding.

### MTT251 Machine Shop Practice III 1-2 Credits

Corequisites: MTT250 Further develops student's manual skills by putting into practice the theories and user skills introduced in MTT 250. The emphasis will be a more practical, hands-on experience through the use of vertical mill work, layout techniques, vertical and horizontal band saws, measuring instruments and lathes. Shop safety and cleanup are always stressed.

### MTT260 Machine Shop IV 3 Credits

Prerequisites: MTT 250 or consent of instructor Concentrates on areas of interest leading to design of an advanced project emphasizing skills learned in MTT 105, MTT 110 and MTT 250.

### MTT261 Machine Projects 1-6 Credits

Prerequisites: consent of instructor Permits students to work on special projects of their own choosing and/or explore areas of special interest under the direction of a college instructor.

### MTT262 Machine Shop Practice IV 1-2 Credits

Corequisites: MTT260 Allows students additional time to concentrate on areas of interest leading to completion of an advanced project emphasizing skills introduced in MTT 260.

### MTT291 Cnc Practice 2-3 Credits

Develops computer aided manufacturing skills with hands on instruction on how to design and prepare manufacture parts using state of the art CAD/CAM software. Safety and clean up are stressed.

### MTT295 Work Experience 1-6 Credits

Prerequisites: consent of instructor Provides students with on the job, supervised and educationally directed work experience.

### MTT296 Computer Numerical Control Practice II 1-4 Credits

Prerequisites: MTT 232 This course allows for the further development of CNC skills with hands-on instruction related to the design and production of machined parts using CAD/CAM software, CNC milling machines, and CNC turning centers. Students will plan, program, set up, and produce a variety of precision-machined projects.