



Course Title: Intermediate Machine Technology

Course number: MFG 165

Credits: 3

Course description: Intermediate Machine Technology provides the student an in-depth exposure to the lathe and milling manual operations. . Students will perform lathe operations consisting of center alignment, facing, center-drilling, chuck turning, turning between centers, boring, reaming, tapping, grooving, tapers, knurling, and threading. Vertical and Horizontal Milling Operations will include an introduction to the Offset Boring Head, Side Milling Cutters, and Face Milling Cutters

Course Objectives: At the conclusion of this course students will be able to...

- **Demonstrate an understanding of the fundamentals of Lathe Operations.**
- **Demonstrate an understanding of the fundamentals of Vertical Milling.**
- **Demonstrate an understanding of the fundamentals of Horizontal Milling**

Course Content: Students will learn to...

Lathe operations

- **Plan sequences of operations; Set-up machine; Mount and True a work piece in jaw chucks; Align Centers; and Calculate & Set Speeds, Feeds, and Depth of Cut.**
- **Turn between centers.**
- **Drill, Bore, Ream & Tap.**
- **Cut external & internal threads.**
- **Cut Tapers**

Vertical and Horizontal Milling Operations

- **Prepare & setup work piece.**
- **Position Boring Head, Setup Bar, Establish correct Speeds & Feeds, Control Boring Diameter, and Machine radii & facing with the Boring Head.**
- **Properly position the Side Milling Cutter.**
- **Make proper Cuts & Mill Key Seats.**
- **Properly Mount & Use Face Milling Cutters on flat surfaces.**