Pop Up Class – Advanced Mill

1. Class Overview
   - Description
     This class will enable the student to describe and perform the more common vertical milling machine operations
   - Prerequisites
     Shop Safety, Basic Mill, Intermediate Mill
   - Anticipated Class Size – 10 max
   - Class Duration – 1 ½ hours
   - Material Needed
     None

2. Safety
   Machine Shop dress code and safety glasses

3. Educational Objectives
   - Students will be able to:
     - Edge find Part
     - Use the digital read out
     - Mill a part to size
     - Cut a key way
     - Drill and tap a bolt pattern

4. Class Format
   - Pre-Class activity
     i. None
   - In-Class activity
     i. Edge finding
        1. Types of edge finders
        2. Procedure for Edge finding
     ii. Digital Read Out
        1. Functions
2. How to set up and program
   iii. Mill part to size
       1. Mounting the work piece
       2. Select the proper cutting tool
       3. Set the proper spindle speed
       4. Mill part per drawing
   iv. Cutting a key way
       1. Mounting the work piece
       2. Procedures for cutting a key way
   v. Drill and tap bolt pattern
       1. Setting up Digital read out
       2. Selecting tools
       3. Drill
       4. Tap
   vi. Activity
       o Edge find the X and y axis of part
       o Set zero and set bolt pattern on digital read out
       o Mill part to drawing
       o Mill key way
       o Drill and tap bolt pattern
   vii. Assessment
       o Edge find part
       o Demonstrate capabilities of the digital read out
       o Machine a part to drawing specifications
       o Mill a key way
       o Drill and tap bolt pattern

5. Evaluation
   o Students fill out an evaluation on the content, learning objectives, and instructor.