Pop Up Class – Basic Lathe

1. Class Overview
   o Description
     This Class will provide the student with a basic understanding of the components, accessories, and capabilities of the lathe.
   
   o Prerequisites
     Shop Safety

   o Anticipated Class Size – 10 max

   o Class Duration – 1 ½ hours

   o Material Needed
     None

2. Safety
   Shop Dress code and safety Glasses

3. Educational Objectives
   o Students will be able to describe the basic capabilities, components and accessories of the lathe

4. Class Format
   a. Pre-Class activity
     i. None

   b. In-Class activity
     i. Capabilities
        a) Turn
        b) Bore
        c) Thread
        d) Drill
        e) Groove

     II. Components
        a) Headstock
b) Feed levers  
c) Quick change gear box  
d) Carriage  
e) Tool post  
f) Compound rest  
g) Carriage hand wheel  
h) Tail stock  
i) Lead screw  
j) Feed rod  
k) Bed  
l) Base  
m) Split nut lever  
n) Variable speed lever  

III. Lathe accessories  
   a) Work holding  
      1) Lathe centers  
      2) Chucks  
      3) Face plates  
      4) Mandrels  
      5) Steady and following rest  
      6) Lathe dogs  
      7) Drive plates  
   
   b) Cutting tool and holding devices  
      1) Straight tool holders  
      2) Offset tool holders  
      3) Threading tool holders  
      4) Boring bars  
      5) Turret-type tool post  
   
c) Activity / project/discussion  
   o Load and unload part from lathe  
   o Indicate part  
   o Face part  
   o Turn part  
   o Safety while operating the lathe
i. Assessment
   o Identify the major components of the lathe
   o Proper procedure to load part in machine
   o Indicate part in machine
   o Face and turn part
   o Safety while operating the lathe

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