

**Basic Machine Shop**  
**\$400 or 2 credit hours**  
**(Core Class for Certificate)**

This class offers instruction and hands-on experience in machine tool operation. Students will gain experience with the metalworking lathe and milling machine in the manufacture of parts and tools.

**Instructor: Logan Schmit**

**Basic Machine Shop Tool List**

(Please keep in mind that the tools suggested for each class are the minimum tools you should bring. Please feel free to bring any additional tools you feel you may need)

- (Optional, but recommended) Precision Machining Technology, Third Edition (ISBN: 978-1-3377-9530-2)
- #2 Center drill
- #4 Center drill
- 1/2" Diameter, 4 flute, double ended, endmill (carbide preferred), (two single ended endmills are also acceptable)
- Edge finder
- 5/16", or 1/4" High speed steel lathe tool bit blanks (quantity: 2)
- A 600 grit EDM stone (1/4" x 1/2" x 6")
- 6" Dial caliper
- Mighty Mag, indicator holder
- 0-1" Dial indicator
- Magnetic base indicator holder (Noga Model: NF10433 preferred).
- 6" Steel rule
- Tap guide
- Large tap wrench (1/4" to 1/2" tap capacity), (it should have a center hole in the back of it for alignment purposes)
- 60° Center gauge
- Assorted files with handles
- Carbide tipped scribe
- 115 piece Drill bit set (we recommend purchasing the entire set, but we will only require a 3/16", 27'64", and 29'64" bits for the class project)
- 320, 400, 600 Grit wet/dry polishing paper (2 sheets each)
- Layout dye
- Safety glasses
- Thread pitch gauge
- 6" or 8" Adjustable wrench
- Allen wrench set up to 3/8"
- 4oz Ballpein hammer
- 18oz to 24oz Deadblow hammer

- Pliers
- Screwdrivers
- Metric Allen wrench set
- Toolbox

Optional:

- Gunsmith pin punch set
- 4oz ballpeen hammer
- Pliers
- Screwdrivers

Please note that this list is bare minimum. If you have other tools or supplies that may be useful, bring them. You can never have too many tools.

Please reach out to learn about student discounts available from certain vendors.

Please feel free to email me at [logan.schmit@trinidadstate.edu](mailto:logan.schmit@trinidadstate.edu) if you have questions about any of these items.