

## **ADVANCED MACHINE SHOP**

**July 21-25, 2025**

**\$400 or 2 credit hours**

**(Core class for certificate)**

This class will provide further instruction and practice on machine tool operation. The students will be instructed in rifle barrel re-barrel techniques as well as some advanced machine shop operations. Projects will vary according to individual interests. **PREREQUISITE: Basic machine shop, Machine shop 1 from TSC, or consent of instructor.**

**Instructor: Logan Schmit**

### **Advanced 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)

- A finish reamer and headspace gauge set with pilots to match your bore size. A reamer with interchangeable pilots is preferred to ensure the best fit and results from your barrel. If you don't own the chamber reamer and headspace gauges that you plan on using, please contact me at (719) 846-5632 to ensure availability from the Tool Room. An alternative would be to rent a reamer and headspace gauge set from either 4D Reamer Rentals (406) 752-2520 or Elk Ridge Reamer Rentals (541) 471-9161.
- Barrel fitting requires that you provide one pre-contoured barrel, and an action that suits the class project. Please contact me if you have any questions.
- #2 or #3 Center drill
- 1/4", or 5/16" High speed steel tool bits (quality: 2)
- 600 grit EDM polishing stone (1/4" x 1/2" x 6")
- 6" Dial caliper
- Dial test indicator with 0.0001" resolution (Mitutoyo 513-403-10T)
- Magnetic base indicator holder (Noga Model: NF10433 preferred).
- 6" Steel rule
- 60° Thread center gauge (Starrett C391 preferred)
- Assorted files (with handles)
- Carbide tip scribe
- 115 piece Drill bit set
- 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"
- Gunsmithing pin punch set
- Gunsmithing screwdrivers
- 4oz Ballpeen hammer
- Tool box
- Metric Allen wrench set
- Depth micrometer 0-3"

- 2-3/4" Long, 2mm Ball, Carbide Contact Point (MSC Part # 35894229)

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.

Tools that are not required, but can be useful:

- Pliers

- 5/8" Shank insertable carbide threading tool (e.g., Iscar SER 0625 H 16)

based on the thread pitches required

- Two (2) inserts for the above mentioned threading tool based on the thread pitches required

(e.g. Iscar brand: "16ER A 60 IC908" for thread pitches between 48 and 16 TPI)

(e.g. Iscar brand: "16ER G 60 IC908" for thread pitches between 14 and 8 TPI)

(e.g. Iscar brand: "16ER AG 60 IC908" for thread pitches between 14 and 8 TPI)

- Assorted endmills

- Precision Machining Technology, Third Edition (ISBN: 978-1-3377-9530-2) is not required, but can be a beneficial reference.

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.