Basic Machine Shop
May 27-31, 2024
$350 or 2 credit hours
(Core Class for Certificate)

Incorporates instruction and hands-on experience in machine tool operation. Focuses on experience with the drill press, metalworking lathe, and milling machine in the manufacture of parts and tools. Enrollment is limited to 14 students.

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)

- (Required) Precision Machining Technology, Third Edition (ISBN: 978-1-3377-9530-2)
It is highly recommended you purchase this book with enough time to read the following before the class. It will improve your understanding and increase your retention of the material presented during the course.
- 3 Job Planning, Benchwork and Layout (units 5 and 6, pages 286 to 315)
- 4 Drill Press (all units, pages 316 to 357)
- 5 Turning (units 1, 2, 3, and 4, pages 358 to 451)
- 6 Milling (units 1, 2, and 3, pages 467 to 546)

- #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, or a magnetic backplate for your dial indicator
- 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 ballpein 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 if you have questions about any of these items.