# Lesson: Course Challenge – Peer Review

**Challenge:** CNC turned parts can range from needing basic operations to extremely complicated programs requiring live tooling and movement in several axes. The approach to each is the same. Create a setup, locate the coordinate system, plan stock and tools and approach the part by roughing and finishing geometry. The supplied file "C3-Course Challenge.f3d" is a turned part that needs to be machined from both sides and includes C-axis drilling operations.

The challenge is to create a CAM setup for turning, create or use from the sample library for all needed tools, produce and output code for a part.

The following information is provided:

- Part is Aluminum 6061.
- Part is 4in Diameter x 3.5in.
- External thread is 2in x 4.5UNC.

The final toolpaths should include:
- External and internal grooving.
- External threading.
- Turning profile.
- C-axis drilling with a toolpath pattern.
- Part transfer or secondary stock setup.
- Internal boring.

Final program must include fully machined features on both sides of the part. Post Configuration is unspecified, and you must select an appropriate turning post.

**Sharing your design for review:** To share your design as a text or PDF file ensure to include one of the following:

1. Share link with the download option for the final part that contains the CAM program. Include the output NC file as well.
2. Share link for the design file without the download option and ensure the toolpaths are inside that file and version. Also include screen shots of the simulation showing all material removed and the output NC file.

**Review:** Students reviewing another design must validate a few key things.

- Program completely removes all material.
- NC file included and was created without failure.

**Grading Rubric:**

1. **Yes/No:** Was the program completed?
2. **Yes/No:** Was the NC file exported?
3. **Yes/No:** Did the program remove all material?

**Options:** Modeling, does the design show any custom tool creation? No(0 points), Some(1 point), Yes(2 points).

**Ungraded text box**, Reviewer leave feedback on the design.