

METU

FACULTY OF ARCHITECTURE

3 AXIS CNC MILLING MANUAL

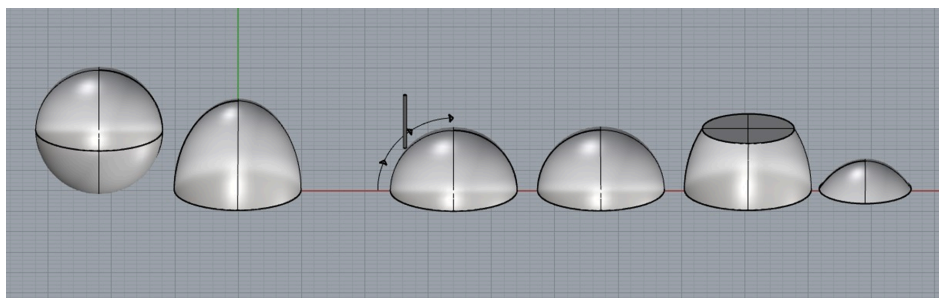
Our faculty provides a 3 axes CNC milling machine for the studies of the students and academic staff. Before preparing the files for 3 Axes CNC milling process, all users should read the guide carefully and make a reservation for the CNC milling machine at least two days in advance. During the peak times of the semester, the reservations should be made at least a week in advance.

Files setup

You can prepare your files for the CNC milling process by using any CAD software as long as the files are saved in STL format.

To prepare your drawings for the 3 axes CNC milling process, you will need to organize your drawings.

- The maximum size of a part that the 3 axes CNC milling machine produces is 1200mmx1800mm. The maximum thickness of the part depends on the tool length and the materials.
- All parts should be adjusted to the maximum part size of the machine and modeled as closed forms. Before saving your file please be aware that all the parts are positioned on **XY** plane.
- The parts should be scaled to the actual size of the model (1 unit=1 mm).
- In a 3-axis milling machine, the spindle moves on the X, Y, and Z axis. Therefore the digital models of the parts should be arranged according to the working principle of machines. If you would like to produce a spherical form, you should divide it into parts and locate the parts based on the moving direction of the spindle. If the height of your part exceeds the material thickness, you must slice your part and place each slice on the machining plane.



- The files should be correctly labeled in the following way.

Course code_Name_job number

Arch402_AyseKorkmaz_5

- Please submit your files by email to **foamorl@metu.edu.tr**.

Materials

The 3-axis CNC milling machine is not designed to process all types of materials. Please use only XPS or polyurethane-based block materials.

Safety

Do not leave the CNC milling machine unattended while it is in operation.

In case of any problem during the milling process;

- Please stop the process by using the PAUSE button on the interface of the CNC control software,
- Notify the lab staff.

In case of emergency;

- Turn of the CNC milling machine by using POWER button of the machine,
- Notify the lab staff.

Cleaning

All users are expected;

- To clean the working table of the CNC milling machine and its environment,
- To throw away their trash into the appropriate recycling bins.

If you have any questions please contact the model-making workshop staff.