

CNC Router Policy

FabLAB CNC Router is only available during:

Staffed Hours;

or, under direct access and supervision by qualified faculty or FabLAB staff;

or, through special appointments made in advance with qualified and available FabLAB staff.

The FabLAB CNC Router requires a .TAP file produced with a WinCNC Post Processor. The FabLAB requires the use of RhinoCAM to produce this file. Programming software is available to use in the FabLAB Instrumentation Workstation (room 010D), and the third-floor computer lab (room 330).

The FabLAB requires all users to have .3dm files reviewed by FabLAB Staff before scheduling the use of the machine. The FabLAB offers CAM programming training for faculty and students, by appointment only. The FabLAB requires users to program their files. Deficiencies in programming, determined at the time of file review, will require correction and resubmission of the correct file by the user.

Faculty assigning students to use the FabLAB CNC router by a deadline must handle all programming and training through the related course. The FabLAB encourages the use of standardized templates and stock material sizes for course assignments.

FabLAB CNC Router use is by first-come, first-serve. Due to limitations in the software estimation for completion of submitted files for CNC Router use the CNC will only be open for scheduling after files have been approved by FabLAB staff and materials are present for the operation.

The use of FabLAB CNC end mills incurs a runtime cost when used on all materials besides foam. Users can purchase and use their own cutting tools and end mills for use, provided they have been approved by FabLAB staff.

Material is the responsibility of the user, and all materials must be approved before use on the CNC Router. Some materials are sold through the FabLAB, but may not always be readily available for purchase. The procurement of materials is the responsibility of the user to organize in advance of milling operations.

CNC Milling Procedures

- 1 Watch and complete the guided steps and lessons in a 54 min video as an introduction to Rhino CAM and CNC programming.

<https://www.linkedin.com/learning/learning-rhinocam/post-processing?u=76082546>

- 2 Operators who have never milled in the CAED are required to schedule a 2-hour training session with the FabLAB staff.

The training session will demonstrate Rhino CAM, file setup, tool selection, program selection, simulation, CNC Mill procedures, and clean up.

- 3 Once a file is programmed and simulated for errors, the file will need to be submitted for review. The FabLAB will only accept files in .3dm format. All file submissions for CNC Milling must be closed poly-surfaces or meshes and no larger than 50MB.

- 4 Place all files to be reviewed in the FabLAB google drive. (LINK BELOW) All files need to be uploaded with the following naming convention: First name_Last name EXAMPLE(John_Smith)

<https://drive.google.com/open?id=1O7zJObNRmMsrTwzpsM4lqKkom9ohmG9E>

- 5 Email (CAED-Fablab@kent.edu) when you have completed step 4.

- 6 Scheduling for the CNC mill will only be available after the file is submitted, reviewed, accepted, and all tools and materials needed have been secured. (NOTICE: The CNC mill operates on a first-come, first-serve basis. All project deadlines should consider this when submitting files for the CNC.)

- 7 A project representative is required to be present during the setup and operation of the CNC router.