METU

FACULTY OF ARCHITECTURE

LASER CUTTER MANUAL

Our Faculty has a Universal PLS6.150D and a VLS 6.60 laser cutter. Before using the laser cutter, all users should read the guide carefully and make a reservation for the laser cutter at least two days in advance. During the peak times of the semester, the reservations should be made at least a week in advance.

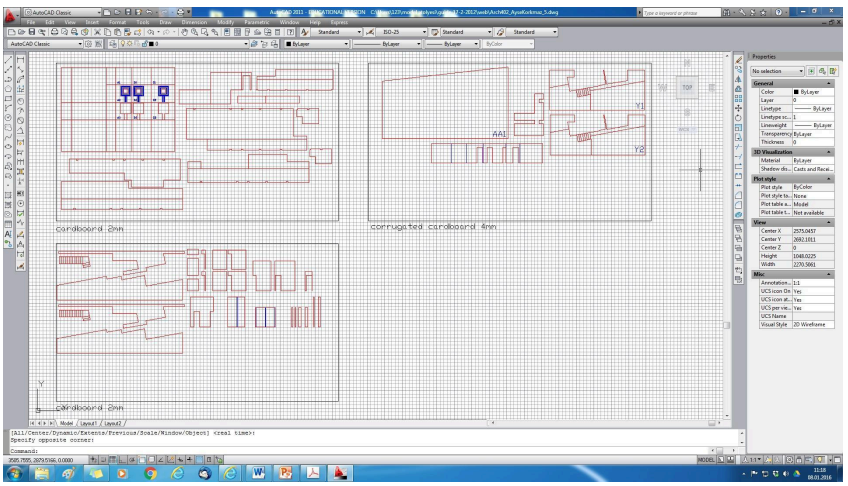
- If you cannot use your appointment, please remember to cancel it via email. If you do not cancel your appointment, you will not be able to make a new appointment for two weeks.
- If you are more than 15 minutes late, your appointment will be canceled.

1.**File setups**

The laser cutter machine cuts only vector data. You can use different programs such as AUTOCAD, RHINO, ETC. as long as your files are saved in DWG format.

To prepare your drawings for the laser cutter, you will need to organize your drawings.

The drawings should be adjusted to the size of the laser cutter bed (810x450 mm).
The simplest way to adjust your drawing is to draw a box as a template in the model area for each sheet and place the parts in these boxes (templates) to ensure your parts will not be truncated.



To minimize the wasted material, all the pieces should be arranged in the most efficient configuration. Additionally, by labeling each piece, you can make it easier to construct your model. Please use only **iso.txt** as text style for your part labels.

- **Please don't forget to remove duplicate lines. Commands for removing duplicate lines are overkill (Autocad) and Seldup (Rhino).**

1.1. The drawings should be scaled to the actual size of the model (1 unit=1 mm).

1.2. Create separate layers for cutting, drawing, and frames. Organize these layers' colors as follows.

- Cutting: Red (RGB: 255,0,0)
- Drawing: Blue (RGB: 0,0,255)
- Frame: Yellow (RGB: 255,255,0)

1.3. The laser cutter does not recognize pen weights,

In AUTOCAD and RHINO, The line weights should be the default.

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

Course code_Name_job number

Arch402_AyseKorkmaz_5

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

2.**Materials**

The laser cutter is not designed to cut all types of materials. Please use the materials which mentioned on the approved materials list.

Approved Materials	Disapproved Materials
Fabric and leather (max ≤ 3mm) ● Cotton ● Linen ● Felt (natural) ● Leather (natural) Paper and cardboard ● Paper ● Cardboard (max 2mm) ● Corrugated Cardboard (max 6mm) Plastic (max 6mm) ● Acrylic Wood ● Balsa(max 6mm) ● Plywood (max 2mm) Rubber ● Natural latex	● PVC ● Acetate ● Vinyl ● Polycarbonate ● Masonite ● MDF ● Foamcore ● Photo block ● Glass ● Hardboard ● Metals ● Anything toxic when burned ● Stones ● Ceramics ● Materials not mentioned on the approved materials list
If you want to try a new material: first, you must consult with the modelling lab staff	

3. **Safety**

Do not leave the laser cutter unattended while in use.
Do not forget to check the exhaust.

In case of fire;

- Open the lid to stop the laser cutter
- Turn off the exhaust
- Notify the lab staff

4. **Cleaning**

All users are expected;

- to clean the laser-cutter bed with wet towels,
- to throw away their trash into the appropriate recycling bins,
- to clean workstations

foamorl@ metu.edu.tr

Please do not forget to bring your double-sided tape, masking tape (paper), and cutters.

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