

Rapid Prototyping Services

The RP Lab at the UWM School of Architecture offers students and professionals access to a number of tools and resources aimed at computer-aided prototyping and model making. Laser cutting, plastic & resin 3D printing, vinyl cutting, plotting and vacuum forming are all services available in the Rapid Prototyping Lab.

Pricing and Payment:

Laser cutting

\$/min	SARUP Student	SARUP Faculty	UWM Dept.	Professional
Price	\$0.75	\$0.85	\$1.35	\$2.00

Vinyl cutting

\$/ft ²	SARUP Student	SARUP Faculty	UWM Campus	Professional
	\$2.00	\$2.50	\$3.00	\$6.00

3D Printing

\$/gram	SARUP Student	SARUP Faculty	UWM Campus	Professional
PLA	\$0.05	\$0.05	\$0.05	\$0.09
Resin	\$0.08	\$0.08	\$0.08	\$0.09

3D Printing - PLA & Resin (Setup Fee)

\$/gram	SARUP Student	SARUP Faculty	UWM Campus	Professional
Setup Fee	\$2.00	\$2.00	\$2.00	\$2.00

File Types and Software:

Laser Cutting

The RP Lab laser cutters only accept submissions that are on the AutoCAD template available of the SARUP website. Submissions not on the template will not cut successfully. There are two templates, one for each size laser cutter. Please only use the 24"x48" laser cutter if the large bed is needed. During the rush (midterms and finals) you will be able to cut faster if you use the smaller laser cutters. Requests with substantial amounts of etching will take a substantial amount of time, leading to an excessive cost. You may request a quote if seeking to cut substantial amounts of files or etching.

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File Types and Software:

Vinyl Cutter:

The Silver Bullet vinyl cutter accepts PDF and Illustrator files. The machine does not work with AutoCAD. Please format the file to the size of what you are cutting. The maximum width of the file is 23 inches and can be as long as the available vinyl is.

3D Printing:

The lab accepts STL files for 3D printing. Please export the file as an STL from whichever modeling software you are using. If the file has errors, staff will run a repair script using Autodesk Netfabb. Remember to confirm the requested printed size of the objects on the request form.

General Policies

- The laser cutter queue operates on a “first come, first serve” basis.
- Placement in the 3D Printing queue is determined by when the model is verified by staff, not based on the original time the email request is sent.
- Files not submitted in the correct format or layout will not be processed, and the student will be asked to resubmit.
- Students must ask Lab Staff for assistance if they run into an error or issue using our computers or equipment. Do not problem solve independently on our equipment unless trained to do so.
- All equipment in the RP Lab must only be operated while a Lab Staff member is present.
- If a piece of material was cut incorrectly due to a technical error, the material can be recut at no charge. Please perform test cuts with every new material and file.
- Plotting request are by order email was sent and the file is verified to print correctly. Students who arrive in person with USB will be able to plot but will not be prioritized during rush times.
- Plots will be ready for pickup when students receive a verification email.

Lab Procedures

Requests/Submissions:

3D Printing (PLA & Resin):

Download the 3D Printing Job request form found on the SARUP website.

Fill out the form and send an email with the Subject "First-name Last-name 3D Print, PLA (or Resin)", the attached form and STL file to uwmrplab@uwm.edu.

Look out for email replies from the RP Lab staff. To check your spot in the queue, you must come to the RP Lab in person. 3D printing operates on a first come, first serve basis so plan accordingly.

Laser Cutting:

Send an email with the Subject "First-name Last-name Laser cut" to uwmrplab@uwm.edu and attach your RP Lab AutoCAD template file.

Bring your material to the RP Lab (rm 179) and sign up for laser cutting or begin to cut if there is no line. Keep track of the time for each cut and the amount of material taken from the RP Lab store.

Once complete, bring the total time and material amounts/type to lab staff, who will check you out. Note: We only accept debit/credit card payments, and you must pay before leaving the lab.

Vinyl Cutting:

Download the Job Request form for vinyl cutting.

Fill out the form. Email and attach filled form and your PDF or Illustrator (.ai) file to uwmrplab@uwm.edu.

Please wait for an email for completion of cut for pick up. You may request that staff DO NOT remove excess vinyl or apply transfer tape. This will shorten the pickup time and may be useful for delicate work.

Vacuum Forming:

Send an email with the Subject "First-name Last-name Vacuum Forming" to uwmrplab@uwm.edu.

In the email, please provide the following information:

The dimensions and material of the object to be vacuum formed (note: plastic objects cannot be vacuum formed, and object must be able to withstand considerable amounts of pressure)

Any photos, images, or other information about the project. Once the information is reviewed, we will schedule an appointment for vacuum forming. Please expect 30 minutes minimum to complete the process.

Other Policies:

Refunds/Returns:

Returns can be processed only to items purchased in the store and remain unused and in their original condition. No returns can be issued for laser cutting time or 3D print charges.

PLA Printing Missed Deadlines:

You must pay for any printing completed in the lab, regardless of their completion time. If the print fails, please communicate with RP Lab staff about re-printing (no additional charge) and let your professor know.

Failed Prints:

If the 3D print or plot fails to successfully print due to a design flaw, we reserve the right to suspend the printing until the file is corrected by the student.