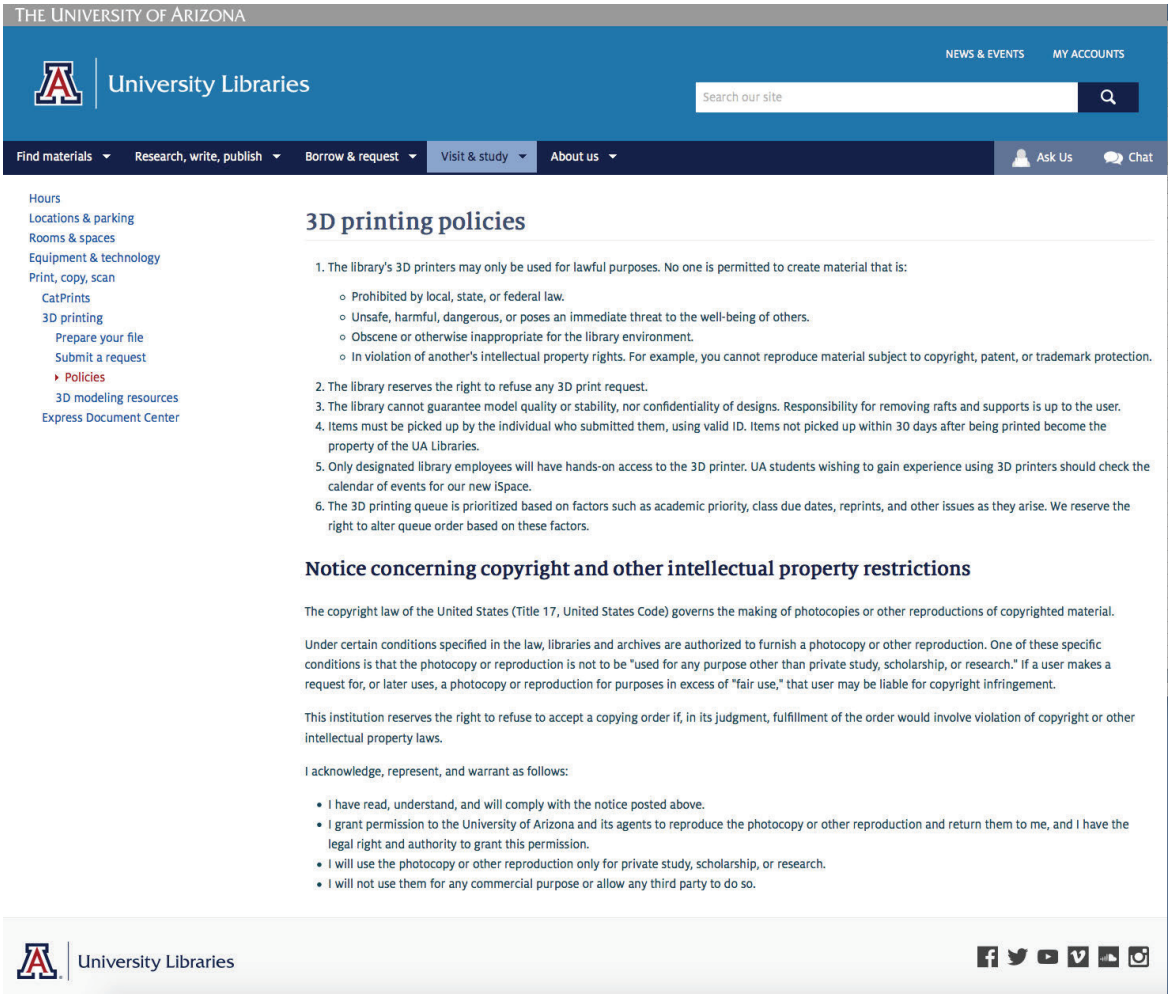
Policies and Procedures

UNIVERSITY OF ARIZONA
3D Printing Policies
http://new.library.arizona.edu/visit/print/3D/policies



UNIVERSITY OF ARIZONA
Prepare Your 3D File
http://www.library.arizona.edu/services/print/3D/file

THE UNIVERSITY OF ARIZONA

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  - CatPrints
  - 3D Printing
  - Prepare Your File
  - Submit a Request
  - Policies
  - 3D Modeling Resources
- Express Document Center

VISIT & STUDY

Prepare Your 3D File

Creating or Editing a Model

You can design your object in any 3D modeling software, such as AutoCAD (free for students and faculty through the UA Software Licensing program). There are also many free software programs available.

You can also use or modify a pre-existing file from a design library.

File Format

Export your model as a stereolithography file, with an STL extension (.stl).

Dimensions

Maximum size is 152 x 152 x 279 mm (6 x 6 x 11 in). Layers must be at least 0.1 mm thick (0.020 in).

Units

We recommend you build your model in millimeters. Or convert to millimeters before submitting the final file.

Resolution

The standard resolution is .2 mm per layer, with 10% infill. You can specify a different quality level by making a note under "Special Instructions" on the submission form.

Multiple Parts

If your model includes multiple parts, make each as a separate STL file. You can submit each model as part of the same print request.

Make a Solid Design

The surface of your 3D model must be watertight. This means all faces of the object must construct one or more closed volume entities. Gaps or holes in the model will cause it to print incorrectly.

See Rhino's How do I Make a Solid Model.

Delete 2D Elements

Your final model should not contain any 2D elements, as they can cause naked edge problems. Delete any 2D elements that were used to create sweeps, lofts, or other complex shapes.

Geometry Check

Check your design for holes, gaps, or other problems before submission. Numerous third party tools can help you fix geometry problems, including:

- NetFabb - provides a cloud base service and free downloadable software that can check you files
- MeshLab - open source software for checking files

Shapeways offers a tutorial for fixing and repairing 3D models using these services.

Common Problems

Other things to be careful of when creating your model:

- degenerate faces - Mesh faces that have 0 area
- zero length edges - Edges with no length, created by degenerate faces
- non manifold edges - Faces that have more than one face connected to a single edge
- naked edges - A surface or polysurface edge that is not connected to another edge
- duplicate faces - Identical faces in a single mesh
- faces should be flipped - The faces in a mesh object should point in a consistent direction
- disjoint pieces - Mesh objects that do not connect but are considered a single mesh

Submitting Your Model

Once your model is ready to go, make a 3D printing request and upload your STL file. We'll contact you within two business days with an estimate for the cost and turnaround time and also let you know if there are any problems with the file.

Last modified: May 14, 2015

University Libraries

BRIGHAM YOUNG UNIVERSITY
3D Printing Guide: Printing Your Design
http://guides.lib.byu.edu/c.php?g=216600&p=1429615

BYU Harold B. Lee Library

Harold B. Lee Library / Subject Guides / 3D Printing Guide / Printing Your Design

3D Printing Guide: Printing Your Design

Enter Search Words | Search

How to utilize the Lee Library's 3D printer. Includes direction on obtaining or designing files for print and the procedures for preparing and sending for print.

Home | Finding Existing 3D Objects | Software and Training | Printing Your Design | Printing Policy | Showcase

Procedure

First, you will need to make sure that your design is in the correct format. We can only accept .stl, .obj, and .thing files. Most 3D design programs will export these file types. Then, bring your file to us at the Science/Maps Help Desk on the 2nd floor of the library. You can bring your file on a flash drive, or you can email it to us at the desk. We will only accept submissions in person. If you just email a file and do not come by and talk to us, your file will not by put in the queue. It is important that you come to the desk so we can go over it with you and make sure that your file will print properly.

Be prepared to specify the dimensions for your design (Remember the maximum dimensions are Length: 11.2 inches, Width: 6.0 inches, Height: 6.1 inches), any special instructions, and the resolution (layer thickness) that you want us to print in. We offer 0.1mm and 0.2mm (Copy paper is about 1.0mm thick).

We will put you on our queue and give you an estimated completion time. When it is finished, we will email you so you can come pick up your final project! Again, the cost is $0.20 for the .02mm. We only accept BYU Signature cards for payment at our desk. If you are not a BYU student or employee, guest printing cards can be obtained at the Circulation Desk.

Other Sources for 3D Printing

Printing for non-academic purposes will be done on a case-by-case basis.

Below are alternatives for printing in the library:

- BYU Rapid Prototyping Lab
- Shapeways
- StarPrototype
- ZoomRP
- MakeXYZ

Subject Guide

Science/Maps Department

Email Me

Contact:
HBLL Level 2
Provo, UT 84602
801-422-2987

Last Updated: Jul 13, 2015 6:08 PM | URL: http://guides.lib.byu.edu/3Dprinting | Print Page | Login to LibApps

Tags: 3-d printing, 3d printer, 3d printing, additive manufacturing, rapid prototyping

GEORGETOWN UNIVERSITY
3D Printing/Scanning | Policies & Submission Form
http://guides.library.georgetown.edu/c.php?g=159780&p=1125920

The Library reserves the right to refuse any 3D print request.

Cost: 3D printing at the Library is currently $.10 a gram of material with a $5.00 set up fee.
Items printed from Library 3D printers that are not picked up within 14 days will not be kept. Items must be picked up by the individual who printed them.
Only designated Gelardin staff will have hands-on access to the 3D printer.

PROCEDURES

The procedure for printing from the Library's 3D printers is as follows:

Design creation:

The 3D printer can be used with basic knowledge of Computer Assisted Drawing (CAD). Creating a new design requires some knowledge of 3D modeling software products.
Any 3D designing software may be used to create a design as long as the file can be saved in .stl, .obj, or .thing file format.
Digital designs also are available from various file-sharing databases such as Thingiverse.com.

Submitting a design for printing:

Georgetown faculty, students, and staff are required to attend a 3D workshop offered by the Gelardin New Media Center or have conducted a consultation with a Mulltimedia Specialist at the Gelardin New Media Center before submitting a 3D printing or scanning submission order.

Persons wanting to have something printed on the 3D printer can bring their file (in .stl, .obj, or .thing file format) (no larger than 25MB) to the Gelardin New Media Center during open hours or email the file to gelardin@georgetown.edu, or email the shared link location in a email to gelardin@georgetown.edu.

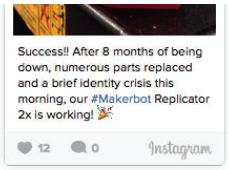
Gelardin staff will add the model to the printing queue.
If there is high demand, the Media Center will give priority to objects being printed for academic purposes.
The files will be readied for printing in MakerWare Desktop software. The Media Center will view all files in MakerWare Desktop.
Wait/pickup time: Items may be picked up at the Gelardin New Media Center. It is sometimes difficult to estimate exact print times.

Please note that procedures governing the use of the Library's 3D printers are subject to change.

DEFINITIONS

3D printing: the process of making a physical object from a digital model.
3D Printer: A 3D printer uses melted plastic to produce objects designed on a computer.
CAD: Computer Assisted Drawing

KENT STATE UNIVERSITY
3D Printing at the SMS | How to Print
http://libguides.library.kent.edu/3d/howto3dprint



- You are also welcome to simply stop in during our open hours for an unscheduled consult, but please be aware that you may be asked to wait several minutes until a consultant is available.

- During the consultation we will:
  - review the file with you in our 3D printer software, checking for noticeable issues/errors, double-checking build size and determining whether your model will require rafts and supports.
  - estimate turnaround time. (1 week minimum from date the file is approved for printing)
  - either approve the file or give it back to you for further adjustment.
- The consultant may offer the option to notify you with a timeframe on when your model will be printed (in case you would like to see it print in person).
- You may not receive an email. This most likely means that your model is approved to print without issues and you will simply be contacted when it is finished.

Pick up model

- You will be notified by email that your model is ready for pickup.
- Return to the SMS in order to retrieve your model and before submitting a new request.

POLICIES

(Revised: August, 2015)

Submissions:

Only submit ONE print request at a time. Additional requests should not be submitted until the previous request is finished and picked up. For multi-part models (that are assembled to create one finished design) please organize the files together into a folder and compress into one zip file for uploading.

File approval:

This 3D printing service is limited to currently enrolled Kent State students. All submissions are subject to approval based on scheduling and availability. Files will be printed in the order that they are approved, not the order that they are submitted. An exception to this would be if we determine that a small print job would fit on the plate with another one in the queue to save time. We also give first priority to print requests for course assignments. Due to the number of requests that we receive each day we are not able to print more than one project per student at a time.

Please note: Our 3D printing service is intended primarily for prototyping 3D designs. We do not offer bulk printing or multiple quantities of individual files unless the pieces are required to assemble into one large model. Each request is subject to evaluation, with special consideration given to course assignments and designed modeled by the student his or herself.

This institution reserves the right to refuse to make available or provide access to photocopy or other reproducing equipment if, in its judgment, use of such equipment would involve violation of copyright, patent or other laws.

We reserve the right to decline any print request for any reason.

Quality:

Items printed may have small surface defects such as bumps or holes. Please also note that while the 3D printers are very accurate, we do not guarantee any precise tolerances on fitting of multi-part objects.

Support material:

Some objects require support material to be printed with them (such as models with large overhangs). Other designs may require a brim (or raft) support at the base of the model. These materials can be easily removed, but you are responsible for removing them. Our SMS consultants will not remove the support material for you.

Course assignments:

If you are an instructor at Kent State who is assigning a project that requires 3D printing we encourage your students to use our services! We recommend contacting SMS Manager **Hilary Kennedy** prior to presenting the assignment to your students so that she can discuss the project with you and offer any tips or factors that your students should keep in mind. That will also help make the process run more smoothly for your class and allow us to complete the printing in a more timely manner. As we progress through the semester, our turnaround time will increase due to the number of classes using our services. *Please allow your students a 2-week minimum on 3D printed assignments.*

FILE SUBMISSIONS

Now through Google Drive

We are now accepting 3D model files for print requests through our **SMS 3D Print Requests** Google Drive folder (replacing our former KSU Dropbox method). To access the folder for the first time, please do the following:

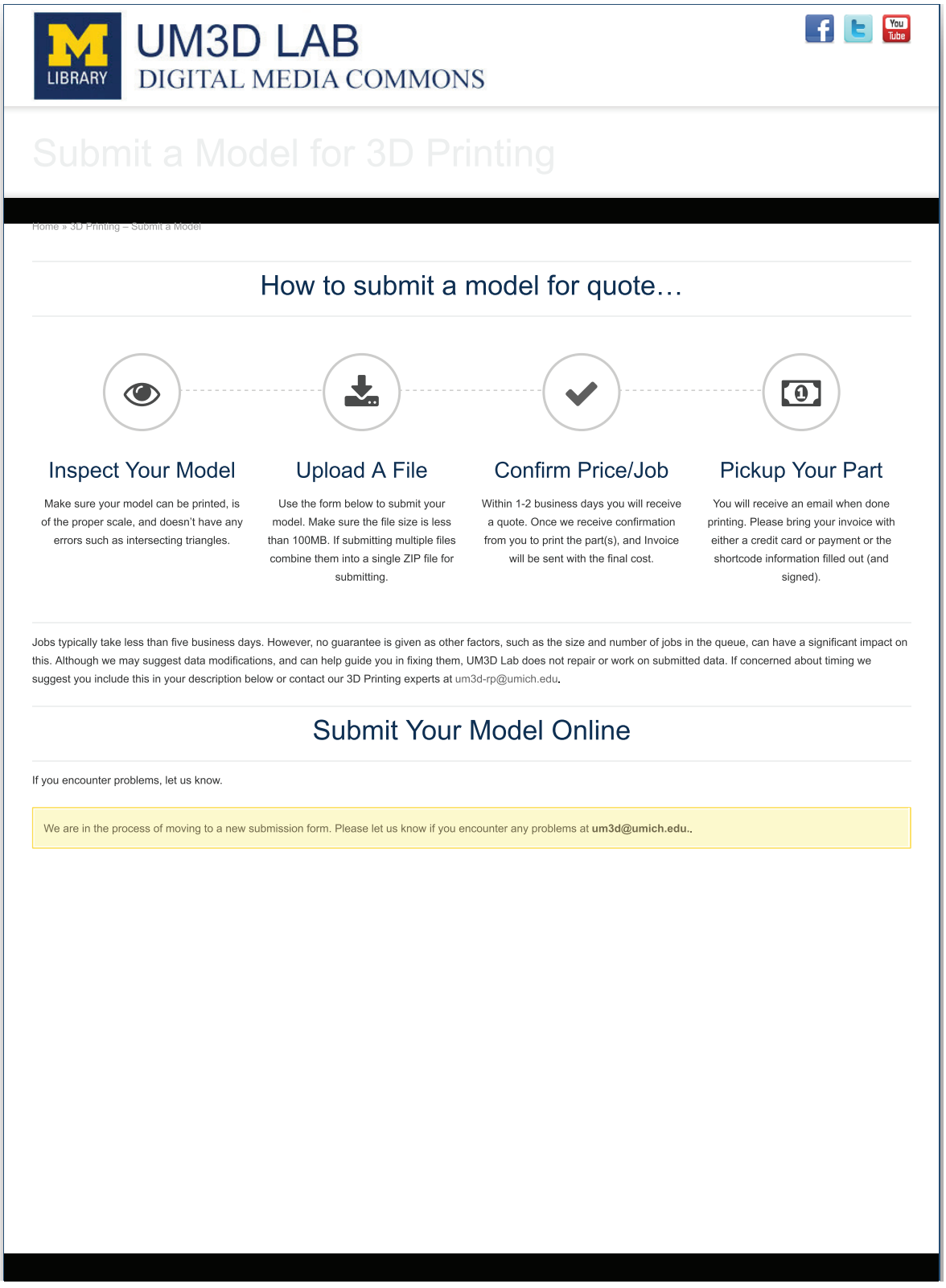
1. Follow the link to the SMS 3D Print Requests folder.
2. Look for a blue button in the top right corner that says, "Sign in" or "Open in Drive". Not signed in yet? Use your Flashline credentials or a personal Google account.
3. Click the "Open in Drive" button. This saves the folder to your Google Drive and immediately directs you to the folder on your drive.
4. Drag and drop the model file from your computer directly into the drive folder.
5. Once your file appears on the page, your task is complete! You will now have quick access to this folder in the future simply by connecting to it directly from your Google Drive account.

Don't forget to fill out the **online form** for your request!

QUESTIONS?

If you have any questions about the process or 3D printing in general, check our **3D Printing FAQs** page or contact us at 330.672.0221. You are also encouraged to visit us in person at the Student Multimedia Studio, located on the first floor of the University Library.

Last Updated: Aug 19, 2015 1:06 PM **URL:** http://libguides.library.kent.edu/3d **Print Page** Login to LibApps
Tags: 3d modeling, 3d printing, student multimedia studio



UM3D LAB
DIGITAL MEDIA COMMONS

Submit a Model for 3D Printing

Home » 3D Printing – Submit a Model

How to submit a model for quote…

Inspect Your Model

Make sure your model can be printed, is of the proper scale, and doesn't have any errors such as intersecting triangles.

Upload A File

Use the form below to submit your model. Make sure the file size is less than 100MB. If submitting multiple files combine them into a single ZIP file for submitting.

Confirm Price/Job

Within 1-2 business days you will receive a quote. Once we receive confirmation from you to print the part(s), and Invoice will be sent with the final cost.

Pickup Your Part

You will receive an email when done printing. Please bring your invoice with either a credit card or payment or the shortcode information filled out (and signed).

Jobs typically take less than five business days. However, no guarantee is given as other factors, such as the size and number of jobs in the queue, can have a significant impact on this. Although we may suggest data modifications, and can help guide you in fixing them, UM3D Lab does not repair or work on submitted data. If concerned about timing we suggest you include this in your description below or contact our 3D Printing experts at um3d-rp@umich.edu.

Submit Your Model Online

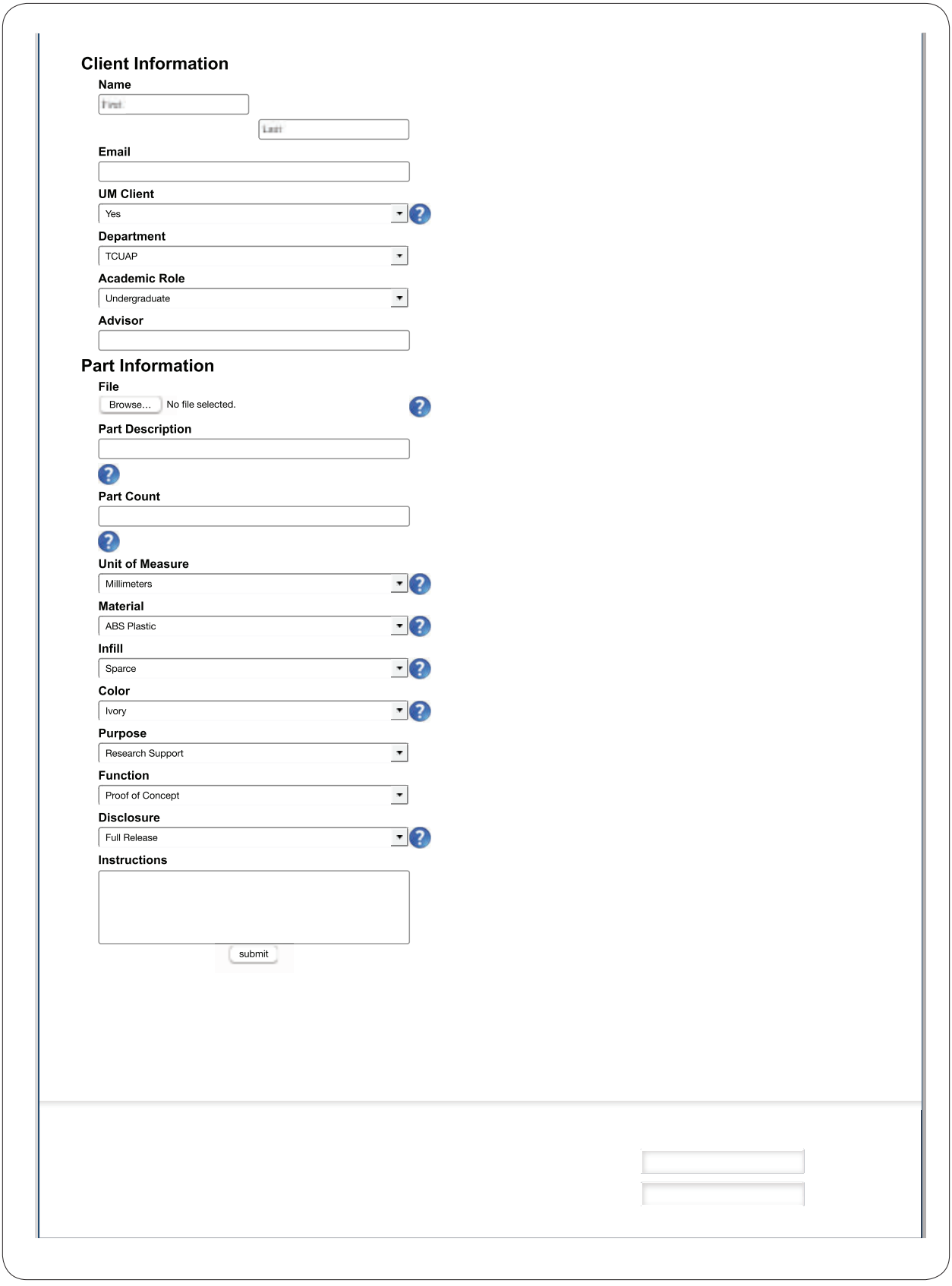
If you encounter problems, let us know.

We are in the process of moving to a new submission form. Please let us know if you encounter any problems at **um3d@umich.edu.**.

UNIVERSITY OF MICHIGAN

UM3D Lab | Submit a Model for 3D Printing

http://um3d.dc.umich.edu/3d-printing-submit-a-model/



Client Information

Name

First

Last

Email

UM Client

Yes

Department

TCUAP

Academic Role

Undergraduate

Advisor

Part Information

File

Browse... No file selected.

Part Description

Part Count

Unit of Measure

Millimeters

Material

ABS Plastic

Infill

Sparce

Color

Ivory

Purpose

Research Support

Function

Proof of Concept

Disclosure

Full Release

Instructions

submit

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Background Off | About

Home › Makerspace › FAQ & Policies

FAQ & Policies

Who can use the makerspace?

Our facilities and equipment are open to all current UNC affiliates: Students, Faculty, and Staff.

What equipment & software is in the makerspace?

See our list of what's in the makerspace.

Who can I contact for more information about the makerspace?

Please email us at kenanmakerspace@listserv.unc.edu and one of the librarians who work with the makerspace will respond.

3D Scanning FAQs

Can I use the scanners myself?
Yes, the NextEngine scanner is self-service and the Sense scanner may be checked out. Staff are available to help you learn the process.

What size objects can be scanned?
The NextEngine scanner can handle both very small and fairly large objects. You make a complete object model by combining shots of each facet, each captured from different points of view of your object. Each shot captures an area of your object equal to the field of view. The Macro field is 5.1" x 3.8", and the Wide field is 13.5" x 10.1". HD PRO extends the field to 22.5" x 16.75" at a distance of 30". The Sense scanner has an operatign range of 0.35m to 3m.

How long does it take to scan?
With the NextEngine, each captured view takes about two minutes. A typical object can be fully captured in as little as 12 views. The Sense scanner is very quick and can create an image within a few minutes.

How accurate is the scanner?
In Macro mode, 0.005 inch accuracy, with a maximum of 400 samples (points) per inch. Wide mode provides 0.015 inch accuracy and 150 samples per inch. The Sense has a depth resolution of 1mm at 0.5m.

3D Printing Service Terms of Use

Those utilizing the library's 3D printer must do so for lawful purposes. Users must abide by all applicable laws and policies as stated below, while respecting the health and safety of the University community. Kenan Library staff reserve the right to decline any print request for any reason. The Library cannot guarantee model quality or stability, confidentiality of designs, or specific delivery times.

NOTICE WARNING CONCERNING COPYRIGHT AND OTHER LEGAL RESTRICTIONS.

Copyright law under Title 17 of the United States Code, patent law under Title 35 of the United States Code, and other intellectual

3D Printing FAQs

Is there a cost to use the 3D printer?
For the 2014–2015 academic year 3D printing is funded by the Library Innovation Grant and a grant from the Student Library Advisory Board and there will be no charge for the printing of student projects as long as supplies last. Students are encouraged to contact library staff prior to submission of large print jobs.

How does a 3D printer work?
Our 3D printers render a physical object from a digital model by the process of fused filament fabrication. Plastic filament is fed through a heated nozzle that the computer moves, building layer upon layer from the base of the item upward.

How many 3D printers are available?
Currently Kenan Makerspace houses four MakerBots: the Replicator 2; the Replicator 2X; and two Replicator Minis.

What are the maximum dimensions in which the 3D printers can print?
MakerBot Replicator 2 has a build volume of 11.2 x 6 x 6.1 in.
MakerBot Replicator 2X has a build volume of 9.7 x 6 x 6.1 in.
MakerBot Replicator Mini has a build volume of 3.9 x 3.9 x 4.9 in.

How detailed can the 3D printer get?
The MakerBot can produce layers down to 100 microns (0.0039 in.), but can lose accuracy on larger models.

How long does it take to print an item?
Build times vary depending upon several factors: size, intricacy, amount of support material required, and the number of print requests in the queue. Projects for research and learning purposes will be prioritized. Once your request begins printing, build times typically range from 2 hours to 48 hours each. Print jobs using the soluble supports must be soaked for roughly 24 hours to remove support material. Once the model has been completed, you will be notified via email that it is available for pick up.

Who can submit 3D print requests?
3D printing is availabe to current UNC-CH affiliates. Academic use will be given priority over other projects. Non-academic print requests have no guaranteed turnaround time and are subject to staff approval. Due to the volume of requests, please limit your submissions to one non-academic item per month.

Can I operate a printer myself?
The printers will only be operated directly by staff right now. If you are interested in seeing a 3d printer in action, please contact a staff member for a demonstration.

property laws of the United States may govern the making of photocopies or other reproductions of content. Under 17 U.S.C. § 108(f)(2) the provision of unsupervised photocopy or reproducing equipment for use by patrons does not excuse the person who uses the reproduction equipment from liability for copyright infringement for any such act, or for any later use of such copy or phonorecord, if it exceeds fair use as provided by 17 U.S.C. § 107. Nor does it excuse the person who uses the reproducing equipment from liability for patent, tort or other laws.

This institution reserves the right to refuse to make available or provide access to photocopy or other reproducing equipment if, in its judgment, use of such equipment would involve violation of copyright, patent or other laws.

WEAPON MAKING IS BANNED
Under North Carolina law (N.C. Gen. Stat. § 14-269.2) and University policy, no weapons or life-like replicas are allowed on campus, nor may anyone produce them in the makerspace. This includes parts of weapons, ammunition, and defensive as well as offensive weapons. If you aren't sure what constitutes a weapon, please consult a staff member.

Sewing FAQs

Who can use the sewing machine?
All current UNC Chapel Hill affiliates can use the sewing machine.

What sewing machine is available?
Our machine is a Singer model 9410.

What training is required?
Before using the sewing machine for the first time, you need to read the Standard Operating Procedures (part 1 | part 2). You also need to watch a training video.

When you come to the Makerspace, you'll need to sign a liability waiver.

What material is used by the 3D printer to make the objects?
All three MakerBots use PLA (polylactic acid) bioplastic, which is suitable for moving parts and and functional prototypes. The MakerBot Replicator 2X can also use ABS filament.

What happens if I forget to pick up my model?
Models that are left or not picked up after 1 week may be discarded unless prior arrangements have been made with staff.

Can the printers be used for commercial purposes?
The printers are for non-commercial use only. The printers should not be used to print items that are intended for sale.

Soldering FAQs

Who can use the soldering station?

All current UNC Chapel Hill affiliates can use the station.

What soldering equipment is available?
We have a Hakko-FX888D soldering iron with an exhaust fan.

What training is required?
Before using the soldering station for the first time, you need to read the Standard Operating Procedures. You also need to watch some training videos.

When you come to the Makerspace, you'll need to sign a liability waiver.

SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
3D Printing at Morris Library | Policies & Procedures
http://libguides.lib.siu.edu/content.php?pid=551069&sid=4554902

MORRIS LIBRARY
SOUTHERN ILLINOIS UNIVERSITY CARBONDALE

3D PRINTING AT MORRIS LIBRARY

TAGS: 3D, 3D PRINT, 3D PRINTER, 3D PRINTING, 3D SCANNER, 3D SCANNING, MAKERBOT

A guide to 3D Printing at Morris Library.

3D PRINTING AT MORRIS LIBRARY - PRINTER POLICY

This policy governs 3D printing at Morris Library

What is 3D Printing?

3D printing, or additive manufacturing, is the process of building physical objects from digital models. Successive layers of material (filament) are laid down in thin layers to create a physical object. 3D printing has applications in numerous fields. A listing of some of these applications can be found on the Morris Library 3D printing web page.

What is available at Morris Library?

Currently, Morris Library has a Makerbot Replicator 2 3D Printer. This 3D printer uses 1.75 mm polylactic acid (PLA) filament. PLA is a bioplastic made from renewable resources such as corn starch. Current colors available are listed on Morris Library's 3D printing web page.

The Makerbot Replicator 2 has the following build volume:
28.5 L x 15.3 W x 15.5 H cm (11.2 L x 6.0 W x 6.1 H in)

Additional specifications and information about the Makerbot Replicator 2 can be found at: http://store.makerbot.com/replicator2.

Who can print?

The 3D printer is available for use by all Southern Illinois University students, faculty, and staff. Community members will also be eligible to use the library's 3D printer. Printing is done on a first-come first-served basis taking into account the following priority order: students printing objects for course work, students printing other works, faculty, staff, and then the community.

Terms of Use and Copyright

Those wishing to utilize the library's 3D printer must do so for lawful purposes. Users must abide by all applicable laws, University policies, and library policies while respecting the health and safety of the University community. Morris Library staff reserve the right to decline any print request for any reason.

Southern Illinois University abides by the copyright laws of the United States (Title 17, U.S. Code). These laws govern photocopying or creating other reproductions of copyrighted materials. All users of the 3D printer must abide by copyright laws. For more information, Morris Library has a research guide discussing copyright considerations: http://libguides.lib.siu.edu/copyright.

Cost of 3D printing

Fees for 3D printing at Morris Library are based on a cost-recovery system. Costs are determined by the amount of filament and other materials used during the printing process. After the object is created, it will be weighed. Users will be charged $0.25 per gram rounded up to the nearest gram. There is a minimum cost of $1.00 for any print request. For example, a 1 gram object will cost $1.00 to print (the minimum fee), not $0.25. Upon request, users may wish to print with a more expensive type of filament such as flexible filament. This type of filament is more expensive than regular PLA filament. The cost for this type of filament will be $1.00 per gram. The cost of other types of filament will be determined by library staff.

Users must pay for prints before they will be turned over. Prints will be kept for two weeks. After two weeks, prints will become the property of Morris Library and may be disposed of at that time. Printing may be paid for by cash, check, or credit card. Payment and pick up of prints will be done at the library's Circulation Desk on the first floor of Morris Library.

Refunds will only be given if the printer malfunctions or library staff accidentally break the model. The user is responsible for all errors that occur during printing involving the stereolithographic (.STL) file and design of the model. If the object does not print correctly due to design errors, it is the responsibility of the user to pay for the object. It is recommended that before you submit your .STL file for printing, you utilize a software that checks for errors and helps repair them. One such software is Netfabb. It will help you repair errors

such as bad edges, holes, and reversed normals.

Designing your model for printing

The first step in printing your idea is to design the 3D object using a computer-aided design (CAD) software program. There are numerous open source and free software options to render your digital model including Blender, OpenSCAD, and Sketchup. A more complete listing of these options can be found on the Morris Library 3D printing web page. Users will need to submit their file in .STL file format in order for library staff to convert the file to one that the Makerbot Replicator 2 will read.

If you do not wish to design your own 3D object, there are sources to find models already designed that you may print or alter and then print. Two of these resources are Thingiverse and Yeggi.

File approval

Users must submit their files in .STL format. Users will need to fill out and submit the 3D Printing Request Form along with their .STL file. Library staff will review the file and send a confirmation email to the address provided that the submission has been received. The email will state whether the file has been approved and any important information for the user. Library staff may need additional information about the print job or may need to schedule a consultation with the user. Once the file has been printed, staff will send another email informing the user of the cost of the print and the due date to pick up the model.

If you have several files to print, please submit each of these separately by filling out a separate 3D Printing Request Form for each print.
All submissions are subject to approval based on scheduling and availability. There may be times that the printer is malfunctioning, being repaired, or is being used for an event or a course. During such times, the 3D printer may be unavailable for use and there will be a delay in approving submissions and printing objects. Any significant lapses in printing time will be noted on the 3D printing web page.

After the submission has been printed and the print has been picked up or the two week time limit to pick up the object is over, the submitted file will be deleted by library staff.

If a user wishes to print their object themselves, they will need to schedule an appointment with library staff to receive training on the 3D printer. Users will be supervised by a library staff member during the printing process. The submission form will include this option and a library staff member will contact the user to schedule a training session.

Quality

Users may see slight imperfections in their prints. Small bumps or holes and rough edges at the base of an object may occur with 3D printing. You can clean up some of the imperfections with fine sand paper or other tools. The Makerbot Replicator 2 is very accurate, but there may be some instances where objects do not fit precisely together.

The Makerbot Replicator 2 builds objects from the ground up. There are instances where certain prints will require support material and / or rafts to ensure proper printing. Support material is often needed if the design has large overhangs or parts suspended in mid-air. Rafts are often used as support at the base of the model. These types of additions are easily removable by the user. Staff will not be responsible for removing any supporting material and / or rafts for the user.

Contact

If you would like to meet with a library staff member for additional information about 3D printing or if you have questions, please email Jennifer Horton at jhorton@lib.siu.edu.

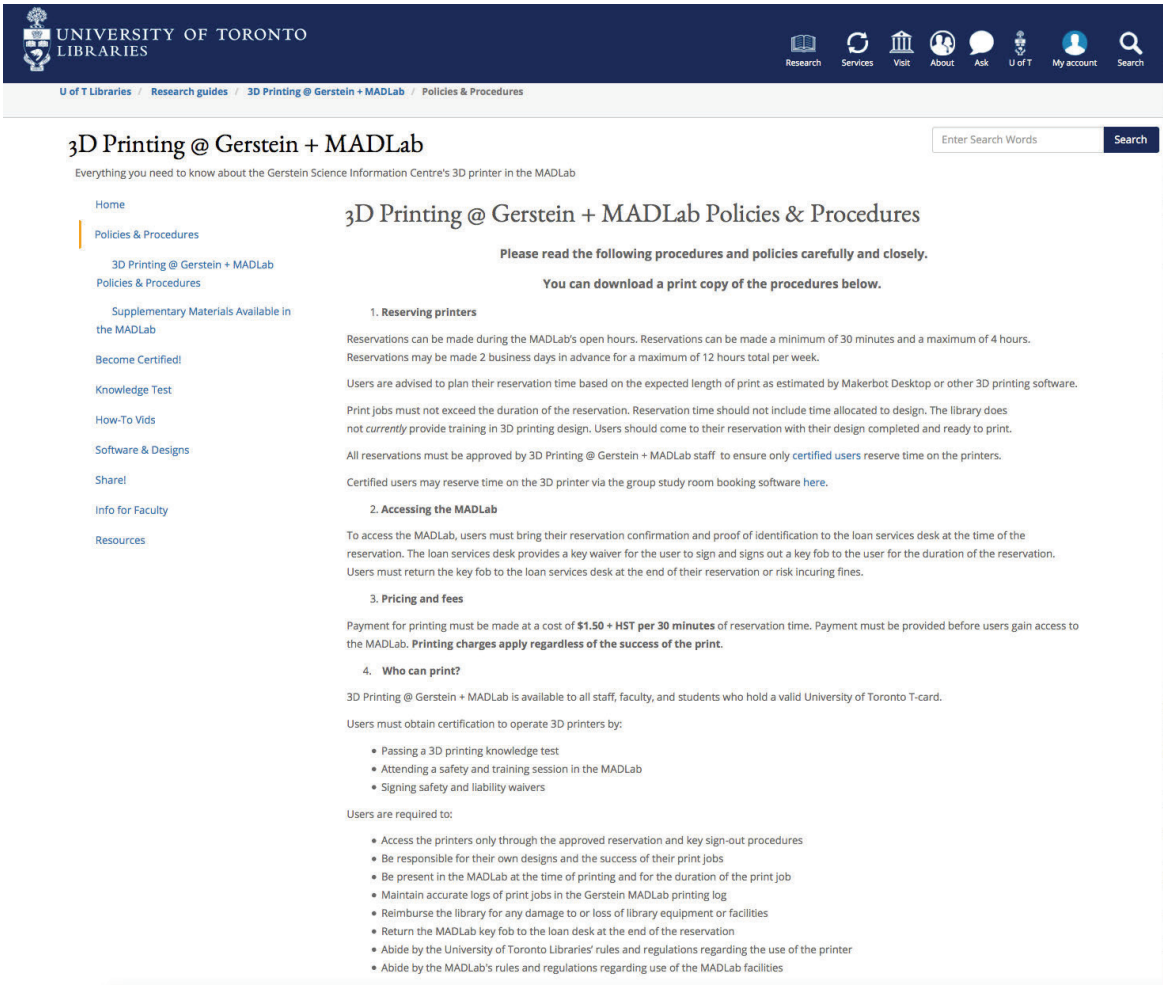
Approved by: Steering Committee, January 16, 2014

Revised by: Steering Committee, August 6, 2015

3D PRINTING AT MORRIS LIBRARY - PRINTER POLICY

Morris Library 3D Printing Policy

UNIVERSITY OF TORONTO
Policies & Procedures
http://guides.library.utoronto.ca/c.php?g=251855&p=1678118



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U of T Libraries / Research guides / 3D Printing @ Gerstein + MADLab / Policies & Procedures

3D Printing @ Gerstein + MADLab

Enter Search Words Search

Everything you need to know about the Gerstein Science Information Centre's 3D printer in the MADLab

Home
Policies & Procedures
3D Printing @ Gerstein + MADLab Policies & Procedures
Supplementary Materials Available in the MADLab
Become Certified!
Knowledge Test
How-To Vids
Software & Designs
Share!
Info for Faculty
Resources

3D Printing @ Gerstein + MADLab Policies & Procedures

Please read the following procedures and policies carefully and closely.

You can download a print copy of the procedures below.

1. **Reserving printers**

Reservations can be made during the MADLab's open hours. Reservations can be made a minimum of 30 minutes and a maximum of 4 hours. Reservations may be made 2 business days in advance for a maximum of 12 hours total per week.

Users are advised to plan their reservation time based on the expected length of print as estimated by Makerbot Desktop or other 3D printing software.

Print jobs must not exceed the duration of the reservation. Reservation time should not include time allocated to design. The library does not *currently* provide training in 3D printing design. Users should come to their reservation with their design completed and ready to print.

All reservations must be approved by 3D Printing @ Gerstein + MADLab staff to ensure only certified users reserve time on the printers.

Certified users may reserve time on the 3D printer via the group study room booking software here.

2. **Accessing the MADLab**

To access the MADLab, users must bring their reservation confirmation and proof of identification to the loan services desk at the time of the reservation. The loan services desk provides a key waiver for the user to sign and signs out a key fob to the user for the duration of the reservation. Users must return the key fob to the loan services desk at the end of their reservation or risk incuring fines.

3. **Pricing and fees**

Payment for printing must be made at a cost of **$1.50 + HST per 30 minutes** of reservation time. Payment must be provided before users gain access to the MADLab. **Printing charges apply regardless of the success of the print**.

4. **Who can print?**

3D Printing @ Gerstein + MADLab is available to all staff, faculty, and students who hold a valid University of Toronto T-card.

Users must obtain certification to operate 3D printers by:

- Passing a 3D printing knowledge test
- Attending a safety and training session in the MADLab
- Signing safety and liability waivers

Users are required to:

- Access the printers only through the approved reservation and key sign-out procedures
- Be responsible for their own designs and the success of their print jobs
- Be present in the MADLab at the time of printing and for the duration of the print job
- Maintain accurate logs of print jobs in the Gerstein MADLab printing log
- Reimburse the library for any damage to or loss of library equipment or facilities
- Return the MADLab key fob to the loan desk at the end of the reservation
- Abide by the University of Toronto Libraries' rules and regulations regarding the use of the printer
- Abide by the MADLab's rules and regulations regarding use of the MADLab facilities

Full replacement or repair cost will be charged for lost or damaged equipment.

A $15.00 charge will apply for a lost or non-returned key fob.

5. **Printing policy**

Users must sign a waiver agreeing to follow the University of Toronto Libraries' rules and regulations regarding the use of the printer, and abide to the following:

- There must be no printing of weapons, obscene materials, and other materials that violate the Library's Conduct Regulations (http://onesearch.library.utoronto.ca/conduct-regulations)
- There must be no infringement of any person's intellectual property rights, such as copyright, when using the printer to create a work
- Print jobs must not exceed the duration of the reservation
- Users are responsible for their own designs, and printing charges will apply regardless of the success of the print

6. **Safety regulations**

Users must attend a safety and training session in the MADLab and sign safety and liability waivers upon completion of training. The waivers confirm users' awareness that using the printer may result in risk of personal injury or harm.

Users further agree to abide by the following safety training instructions, and all other safety instructions received from Gerstein Library or MADLab personnel:

- The extrusion print heads are hot during operation (~230 °C) and while cooling down after operation. Never touch the extrusion print heads and always assume the print heads are hot.
- There are multiple moving parts. Always assume the instrument is under operation before attempting to install or remove any printer component or 3D printed objects. Do not attempt to install or remove components/objects from the instrument until you have verified it is not in use.
- Tie back any long hair or baggy clothing.
- Do not attempt to make any mechanical adjustments while the printer is in operation. Additionally, if the instrument locks up or gets "jammed" during the operation, do not attempt to manually move any parts of the instrument.
- When removing an object from the print board with the scraper tool, always scrape away from the body. Keep hands clear of the scraper for safety.

There is a First Aid Kit available on hand for minor cuts and injuries.

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Supplementary Materials Available in the MADLab

- four (4) 2G SD cards
- three (3) scrapers
- lubricant
- 3M painter's tape
- sandpaper
- scissors
- small reference collection of print books related to 3D printing
- first aid kit

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