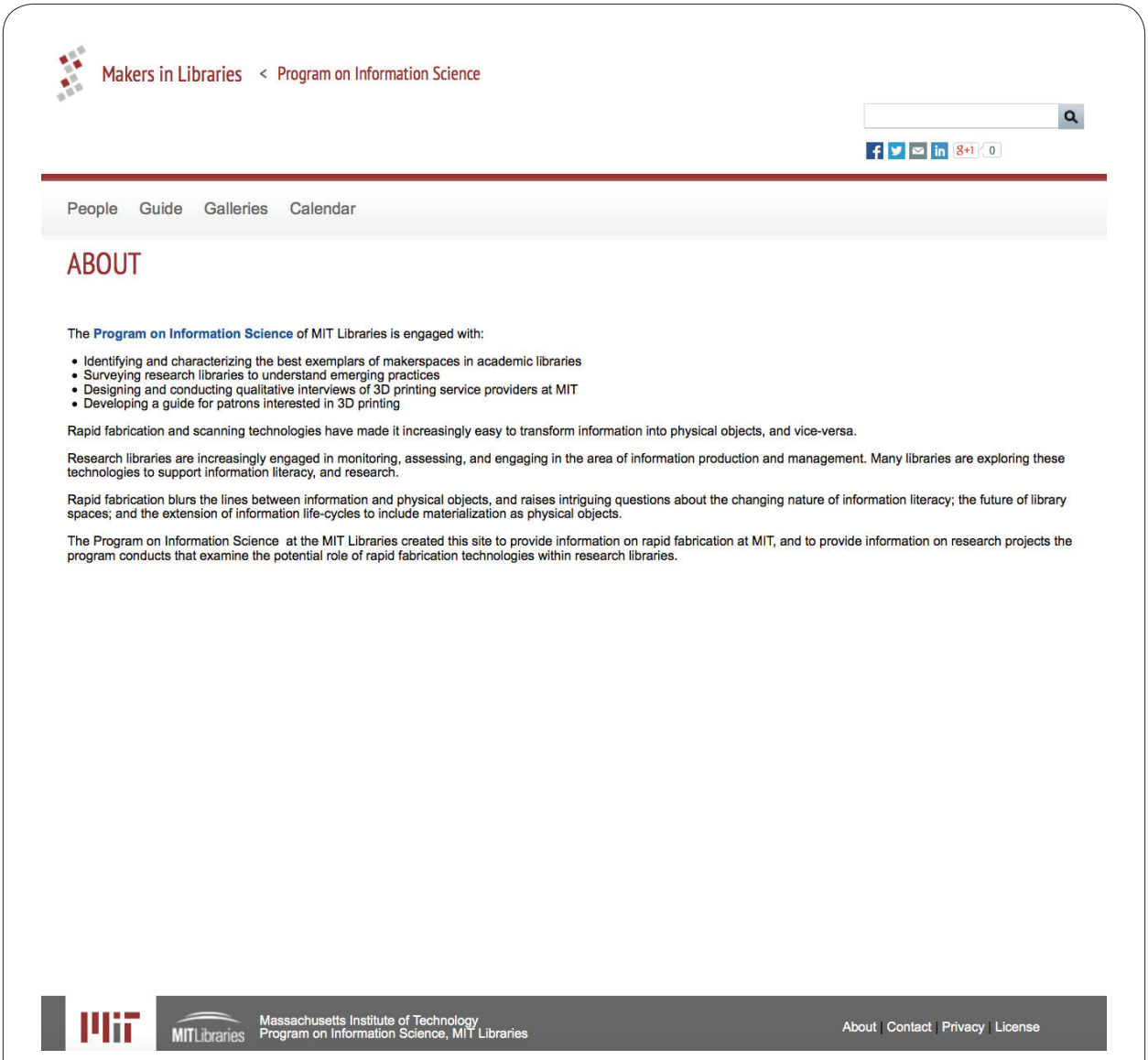
REPRESENTATIVE DOCUMENTS

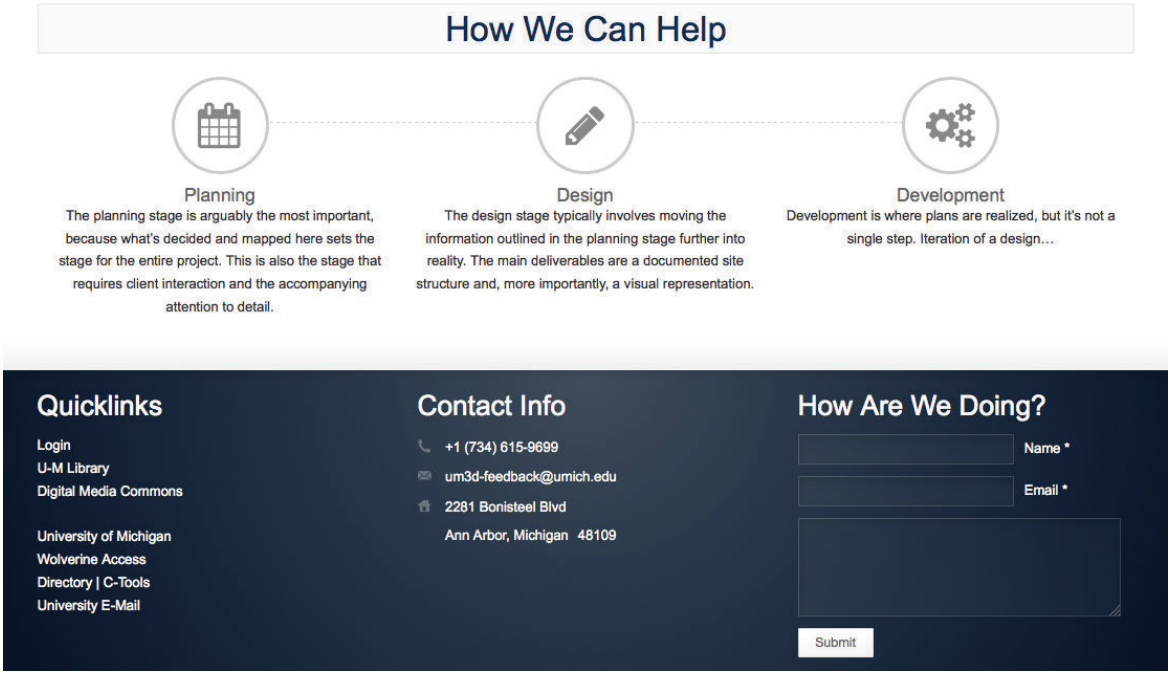
Makerspaces

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
Makers in Libraries | About
http://projects.informatics.mit.edu/maker/about

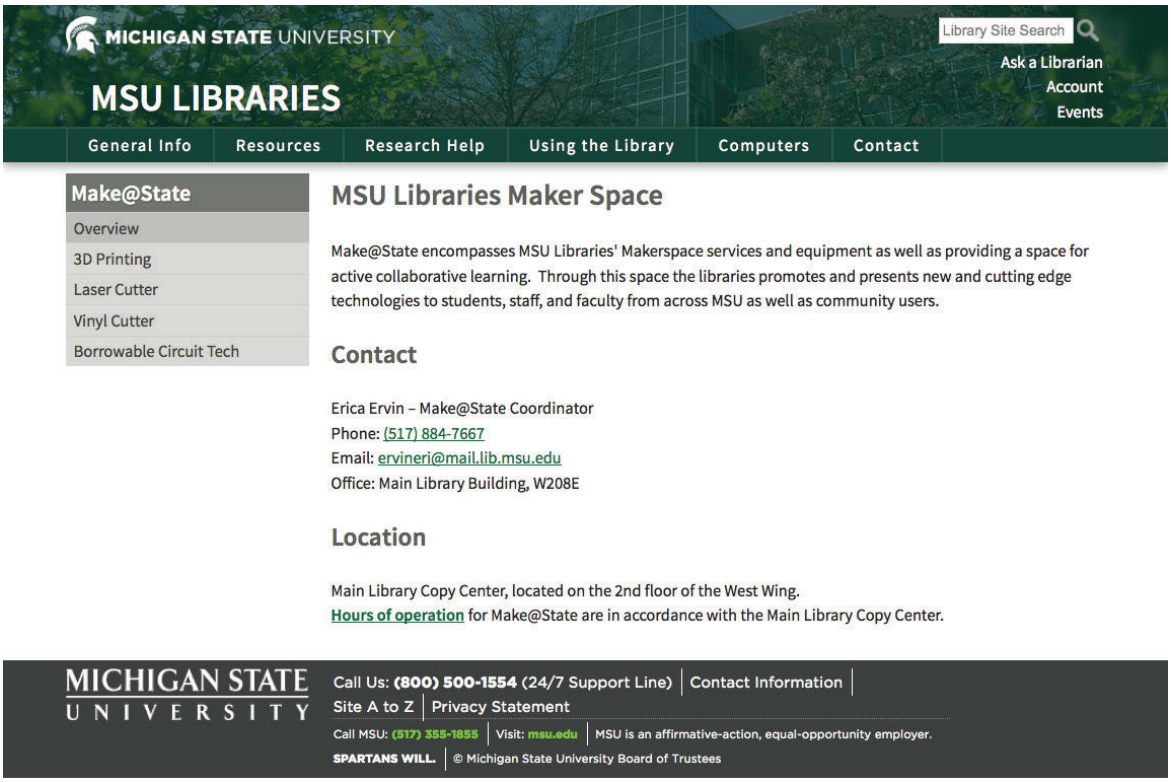


UNIVERSITY OF MICHIGAN
UM3D Lab
http://um3d.dc.umich.edu/

UNIVERSITY OF MICHIGAN
UM3D Lab
http://um3d.dc.umich.edu/



MICHIGAN STATE UNIVERSITY
Make@State
https://www.lib.msu.edu/makeatstate/



UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
Makerspace
http://library.unc.edu/makerspace/

NORTH CAROLINA STATE UNIVERSITY
Makerspace
http://www.lib.ncsu.edu/services/makerspace

UNIVERSITY OF VIRGINIA
Scholars' Lab | Makerspace
http://scholarslab.org/makerspace/

SCHOLARS' LAB

about research fellowships makerspace events blog people

Makerspace

The Scholars' Lab Makerspace is a place for tinkering and experimentation with technologies like desktop fabrication, physical computing, and augmented reality. Open to everyone, we specialize in applications and research questions in the humanities and arts.

Informed by a rich tradition of Library support for exploring materiality in Special Collections and the new Fine Arts Library Materials Collection, and for participating in the physical-made-digital in both the Scholars' Lab and the Digital Media Lab in Clemons, our Makerspace staff can help faculty and student researchers evaluate new approaches to their work, and consider both the hows and the whys of making.

Learning *how* to do something with humanities technology gives us a more informed perspective on *why* we do things in the humanities. **Both are vital.**

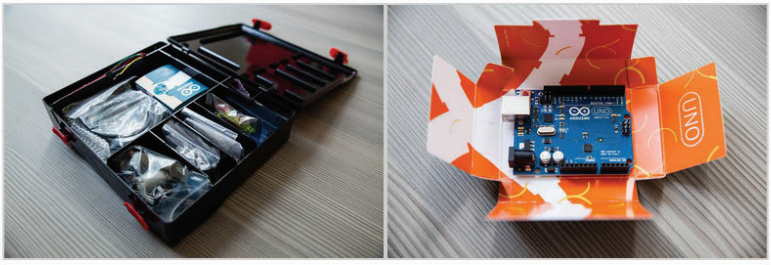
UNIVERSITY OF VIRGINIA
Scholars' Lab | Makerspace
http://scholarslab.org/makerspace/

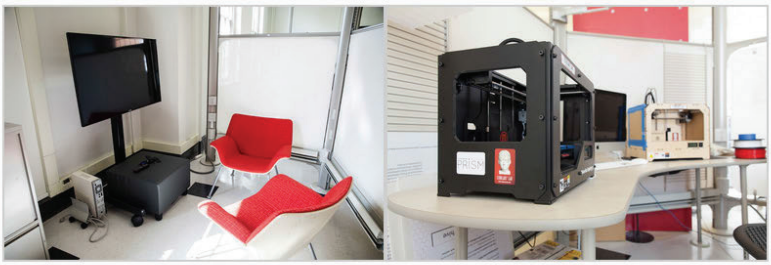
SCHOLARS' LAB

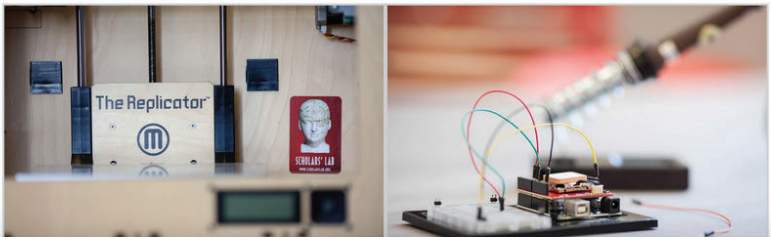
about research fellowships makerspace events blog people

Using the Makerspace

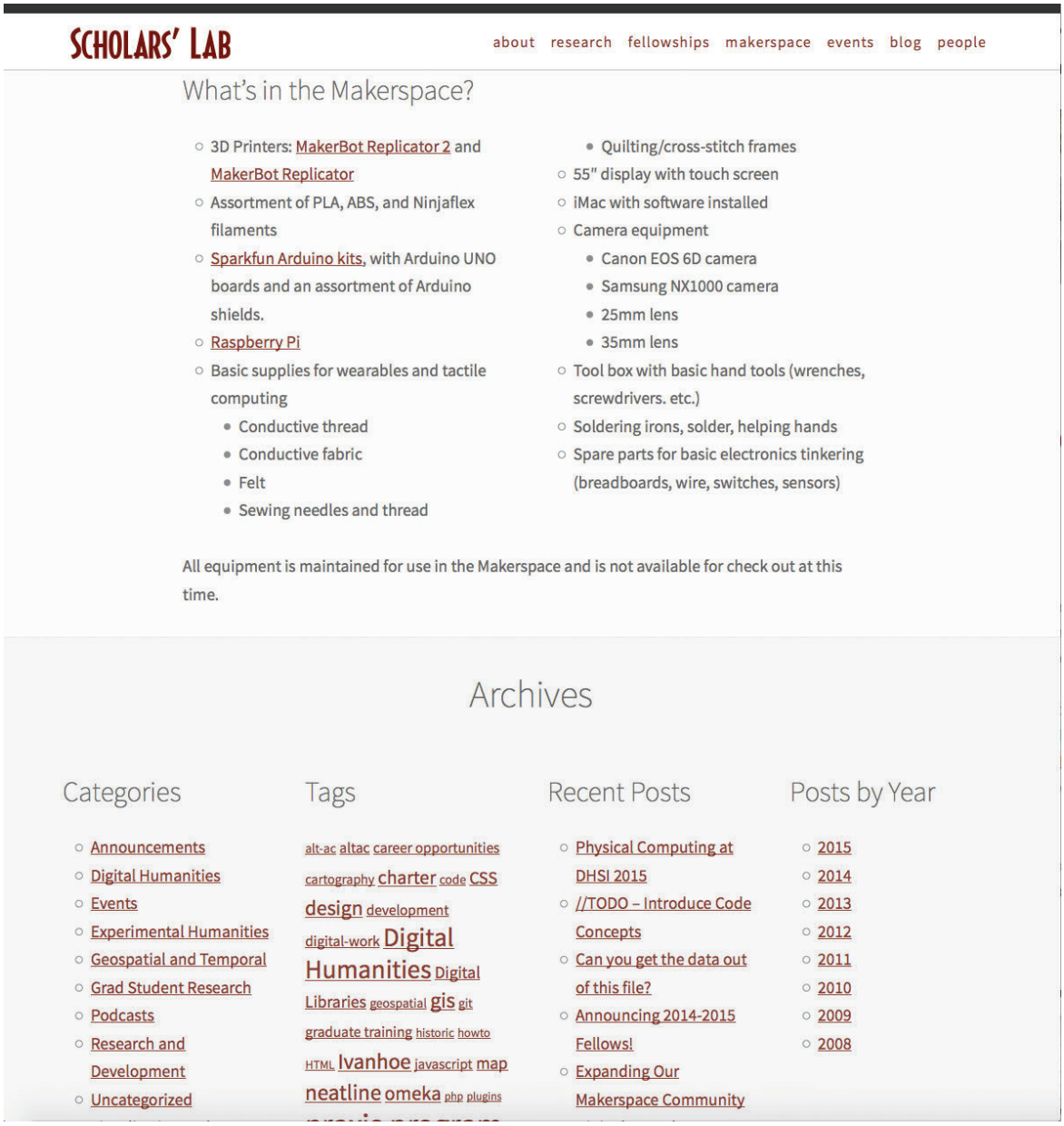
Interested in exploring the Makerspace? Have an idea to use microcontrollers or 3D modeling and printing technology to enhance your research or differently interrogate your assumptions? **The Makerspace is open from 1:00-5:00 p.m. Monday through Friday**. Stop by to talk to one of our student consultants, attend our maker workshops, or contact us at scholarslab@virginia.edu to schedule an appointment with Scholars' Lab faculty and staff to discuss your planned project.







UNIVERSITY OF VIRGINIA
Scholars' Lab | Makerspace
http://scholarslab.org/makerspace/



SCHOLARS' LAB

about research fellowships makerspace events blog people

What's in the Makerspace?

- 3D Printers: MakerBot Replicator 2 and MakerBot Replicator
- Assortment of PLA, ABS, and Ninjaflex filaments
- Sparkfun Arduino kits, with Arduino UNO boards and an assortment of Arduino shields.
- Raspberry Pi
- Basic supplies for wearables and tactile computing
  - Conductive thread
  - Conductive fabric
  - Felt
  - Sewing needles and thread
  - Quilting/cross-stitch frames
- 55" display with touch screen
- iMac with software installed
- Camera equipment
  - Canon EOS 6D camera
  - Samsung NX1000 camera
  - 25mm lens
  - 35mm lens
- Tool box with basic hand tools (wrenches, screwdrivers. etc.)
- Soldering irons, solder, helping hands
- Spare parts for basic electronics tinkering (breadboards, wire, switches, sensors)

All equipment is maintained for use in the Makerspace and is not available for check out at this time.

Archives

Categories

- Announcements
- Digital Humanities
- Events
- Experimental Humanities
- Geospatial and Temporal
- Grad Student Research
- Podcasts
- Research and Development
- Uncategorized

Tags

alt-ac altac career opportunities cartography charter code CSS design development digital-work Digital Humanities Digital Libraries geospatial gis git graduate training historic howto HTML Ivanhoe javascript map neatline omeka php plugins

Recent Posts

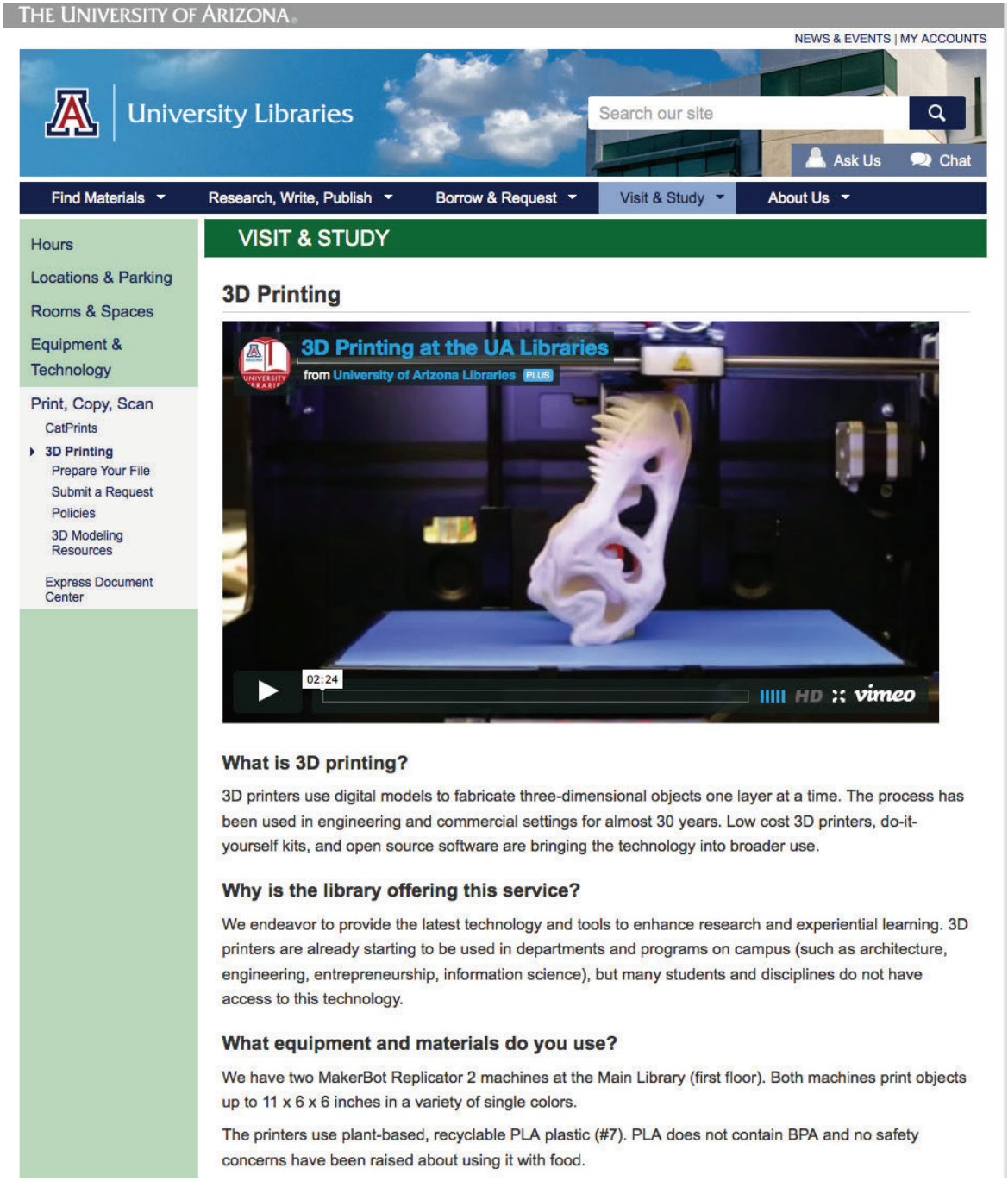
- Physical Computing at DHSI 2015
- //TODO – Introduce Code Concepts
- Can you get the data out of this file?
- Announcing 2014-2015 Fellows!
- Expanding Our Makerspace Community

Posts by Year

- 2015
- 2014
- 2013
- 2012
- 2011
- 2010
- 2009
- 2008

3D Printing Guides

UNIVERSITY OF ARIZONA
3D Printing
http://www.library.arizona.edu/services/print/3D



UNIVERSITY OF ARIZONA
3D Printing
http://www.library.arizona.edu/services/print/3D

Who can use this service?

Priority is for UA students, faculty, and staff. Non UA-affiliates may submit requests, but may be backlogged during peak use during the semester.

What does it cost?

Cost is $0.10 per gram of filament. Total cost is determined once your order is complete.

Charges are added to your library account and must be paid before pick up. Non UA-Affiliates pay at the Express Document Center.

What is the turnaround time?

Printing times vary based on size, complexity, and any backlog. Once you submit your request, we will contact you within two business days with an approximate turnaround time.

How do I submit a request?

1. Get your 3D model ready
2. Save the model as .stl file (maximum size 50 MB)
3. Submit your 3D printing request

Where can I get help?

Visit our 3D Modeling Resources for modeling software, design libraries, and tutorials.

Consultants from the Office of Student Computing Resources are available in the Multimedia Zone (Main Library, first floor) to answer software questions.

Contact Us

(520) 621-6442
3D@lib.arizona.edu

Last modified: April 9, 2015

University Libraries

1510 E. University Blvd.
Tucson, AZ 85721
(520) 621-6442
Contact us

Support the Libraries ♥

Main Library
Science-Engineering Library
Fine Arts Library
Arizona Health Sciences Library
Special Collections
The University of Arizona Press

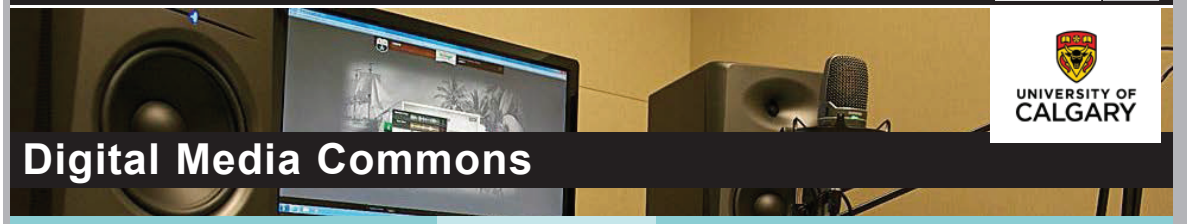
Information for:
Undergraduate students
Graduate students
Online & distance students
Faculty
Instructors

Policies Accessibility Jobs

Staff sign in

BRIGHAM YOUNG UNIVERSITY
3D Printing Guide: Home
http://guides.lib.byu.edu/3Dprinting

UNIVERSITY OF CALGARY
Digital Media Commons | 3D Printer
http://library.ucalgary.ca/dmc/3d-printer



UNIVERSITY OF CALGARY

Digital Media Commons

3D Printer

What is 3D printing?

A 3D printer works by depositing a substance layer by layer until an object is formed. The printer in the Taylor Family Digital Library (TFDL) is a consumer-level machine, meaning that it creates small-scale objects using a plastic-based material. The process is much cheaper and less messy compared to that of large, industrial 3D printers.

Why offer a 3D printing service?

Libraries and Cultural Resources (LCR) is committed to providing the latest technology and tools that enhance research and hands-on, experiential learning. LCR is providing a valuable service to students and researchers by making 3D printing more accessible. Many experts believe this technology will revolutionize the world of manufacturing.

The consumer-level printer in the TFDL is ideal for experimenting with design and prototyping. It allows students and researchers to test their concepts in a real-world scenario.

Where is the 3D printer located?

The printer is located in the Digital Media Commons on the third floor of the Taylor Family Digital Library.

How do 3D printers affect air quality?

Unlike larger, industrial printers that use resins, our consumer-level 3D printer does not emit fumes. The material used in the printer in the TFDL is a synthetic substance called polylactic acid (PLA). It is derived from plant material and is biodegradable.

How much detail can the printer create?

The 3D printer in the TFDL is capable of producing objects with a resolution of one-tenth of a millimetre, approximately the width of a strand of hair.

Request 3D print job

How much does it cost to print an object and how long does it take?

It costs $1.00 plus 15 cents per gram for a printed item, which could amount to a few dollars. It can take anywhere from a few minutes to a several hours. Cost and time depends upon the size and complexity of the object.

What kind of objects can I print?

You can print anything on a small scale, such as a prototype design, an action figure or a trinket for a necklace.

There are many open-source files available online that can be downloaded for printing, or you can create your own.

Please keep in mind that you can't print everything you find online. Copyright laws and intellectual property rules apply. Ensure that any files you acquire from the internet are open-source or that licensing requirements are met. There are many websites that have Printable 3D models available for free or for sale:

- Thingiverse
- 3D File Market
- Open Education Database
- Dalhousie University Library 3D Model Repository

The Digital Media Commons also has a variety of 3D modeling tools available so that you can create whatever object that you can imagine:

- Rhino 3D
- Autodesk 3DS Max

Autodesk AutoCAD
- SketchUp Pro
- Blender

There are also basic modelling applications available online that can help you get started with CAD and nonCAD 3D modelling:

- Tinkercad
- OpenScad
- SketchUp
- PhotoToMesh

Can I see my object being printed?

You can watch the 3D printer in action anytime during regular business hours. Due to the large number of projects, it is extremely difficult to pinpoint exactly when your project will be printed.

How do I request a print job?

Once you submit your request, it will be added to the queue and staff will notify you when your item is ready for pick-up.

3D Printing Directions

The file must be in .STL, or stereolithographic file format to print it. MeshLab is a freeware program that can be used to view and convert your file to STL format.

Once a request is submitted you can keep in touch with the 3D Printing department through the confirmation email that will be sent to youThe maximum build size is 284 x 154 x 152 millimeters, or 11.2 x 6.1 x 6 inches.

When notified by email that your model is ready you will be sent an invoice listing the print cost. Take this receipt to the TFDL Service Desk to make your payment and collect your model.

How can I learn more about the 3D printing service?

Sign up for an orientation session by visiting the workshop calendar.

UNIVERSITY OF CALIFORNIA, IRVINE
3D Printing Pilot Service
http://www.lib.uci.edu/services/3D-printing/

HOME | ABOUT US | SERVICES | RESEARCH TOOLS | COLLECTIONS | HOW DO I

ASK A LIBRARIAN!
Ask ANTswers (BETA) Interactive FAQ

SEARCH Go

Services

- Course Reserves
- Borrow
- Interlibrary Loan
- Computing
- Printing & Copying
- For Users with Disabilities
- Scholarly Communication and Management Program
- Digital Scholarship Service

Quick Links

- Hours
- Event Calendar
- Connect from off-campus
- Course Reserves
- Borrowing
- Interlibrary Loan
- My ANTPAC
- Study Space Locator

- Langson Library
- Ayala Science Library
- Grunigen Medical Library
- Libraries Gateway Study Center
- Law Library

- Supporters & Friends

3D Printing Pilot Service

Explore, Make, Fabricate

3D printing has changed the landscape of fabrication. From engineers to artists, entrepreneurs to hobbyists, 3D printing makes it easy to turn an idea into reality. The UCI Libraries have purchased a 3D printer to support such creativity. Located in the Multimedia Resources Center in the Ayala Science Library the 3D printer is available to UCI faculty, students, and staff. During this pilot period while we assess the demand and resources required to provide such a service, printing will be free.

Who can print?

The 3D printer is available for use by all UCI students, faculty, and staff on a first-come first-served basis.

What can I print?

The 3D printer must be used exclusively for lawful, non-commercial purposes and in compliance with all University of California policies. Users may not collect, upload, transmit, display, create or distribute content that violates or may violate any law or third-party right, including, without limitation, any copyright, trademark, patent, trade secret, moral right, privacy right, right of publicity, or any other intellectual property or proprietary right. The UCI Libraries reserve the right to decline any print request for any reason.

What 3D printer does UCI Libraries own?

UC Irvine Libraries has a Makerbot Replicator Desktop 3D printer. This 3D printer uses 1.75 mm polylactic acid (PLA) filament.

- Build Volume: 25.2 L x 19.9 W x 15.0 H cm [9.9 x 7.8 x 5.9 in] or 7,522 cubic centimeters [456 cubic inches]
- Include photos of objects with dimensions here

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

Where is the 3D printer?

The 3D printer is in the Multimedia Resources Center in the Ayala Science Library.

How much does it cost?

During this assessment period 3D printing is free.

How do I design my object?

Designing a 3D object to print is done using 3D modeling software. There are many 3D modeling programs available, including professional programs like SolidWorks and Autodesk Inventor (which are available in the MRC), and free software programs like Blender, Wings3D, FreeCAD, and Sketchup. You will need export your 3D model into .STL (STereoLithography) format in order to print it.

How do I print my object?

Users must bring their design to the MRC during business hours. The print object must be an .STL file on a USB flash drive formatted in any format (preferably ntfs, or fat32). All submissions are subject to approval based on scheduling and availability of the 3D printer.

What colors can I print in?

Your printed object will be printed in one solid color. Available colors vary. You will be given your choices when you submit your request.

What if I have more than one object?

Each file must be submitted separately by filling out a separate 3D Printing Request Form available at the MRC.

How long will my object take to be printed?

The time it takes to print an object can vary widely. See our time guidelines for estimates. Using the UCI Libaries' 3D printer may take up to a week depending on the queue. For more time efficient options, check out these alternate providers. If you have more than one object and there is high demand for the 3D printer, the Libraries may choose to schedule only one printed object per person/entity per day.

How will I know when my printed object is done?

You will receive an email from the UCI Libraries and can pick up your printed object from the MRC during normal business hours. Printed objects will be held for 3 business days.

Can I watch my object print?

coming soon

Why does my printed object look unfinished?

Users may see imperfections in their printed objects. Small bumps or holes and rough edges at the base of an object may occur with 3D printing. Imperfections can be cleaned up with fine sand paper, file and/or tools. The Makerbot Replicator is very accurate but there may be some instances where objects do not fit precisely together. Objects are built from the ground up and in certain instances prints will require support material and / or rafts to ensure proper printing. Support materials 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. Users may receive their print job with the tape still on. These types of are easily removable by the user. Staff will not be responsible for removing materials and / or rafts. All finishing must be done by the user outside of the Libraries' buildings. See our tips for finishing a printed object.

Is there somewhere else I can print my object?

Check out these alternate providers.

How can I find out more about the 3D Printing Service Pilot?

If you have more questions about 3D printing email libmrc@uci.edu or visit the MRC during business hours.

Back Top of Page

3D Printing @ Columbia

Upload a 3D Model | Categories | PrinterCam | Timelapse | Printed | Sort by | Featured

Introduction

Tips for Designers

3D models can be designed in any number of software programs, including:

- 123D Design – free
- 3DS Max @ DSC
- AutoCAD @ DSC
- blender – free
- FreeCAD – free
- Maya @ DSC
- MeshLab – free
- OpenSCAD – free
- Rhino3D
- SketchUp – free
- SolidWorks
- Thingiverse Customizer – free
- Tinkercad – free version
- ZBrush

Models submitted below must be submitted in .stl format. Most software programs can export 3D models in .stl format, but get in touch if you need help.

Tips on 3D printing

The Libraries recently purchased a MakerBot Replicator 2 as an experiment to engage users in a number of software programs already provided by the Libraries (AutoCAD, 3DS Max, Maya, etc.). If use of the Replicator 2 is high, we hope to expand our offerings in this 3D ecosystem in the future.Before an .stl file can be printed on the MakerBot Replicator 2, it must be converted from .stl into G-code using the free Makerware software.

To properly print, 3D models must be closed forms, meaning that there are no improper openings in the data file. You can check to see if your model is closed at willit3dprint.com.

Looking for other places to print?

GSAPP students can have models fabricated in the Digital Output Shop (3D printing info).
A number of laboratories in SEAS have 3D printing facilities.
Vendors such as Shapeways will print models for a fee.

Submit your design to be printed

Ready to have your model printed? Now you can upload an .stl file, pick a view that best represents the model, and fill out some brief information. Then we'll print the most up-voted models from time to time!

We will evaluate designs that are submitted to ensure they are printable, appropriate, and will not consume an unreasonable amount of our limited resources.

Frequently Asked Questions

1. How much does it cost to print on the Libraries' 3D printer?

Right now there is no cost to print something in 3D, but we also do not guarantee that everything that is submitted will be printed.

2. I need to have something printed by tomorrow – can you do it?

The Libraries' 3D printer is not intended to be like one found in a fabrication shop. We encourage you to get in touch early in the design process if you would like to have

something printed. Items submitted via the submission interface will likely not be printed immediately following approval for the site.

3. How will you choose what items to print?

Periodically the staff of the Science & Engineering Library will print some of the most up-voted models, so be sure to share your models with your friends so they can vote for them!

Printing will ultimately be at the discretion of the staff in the Science & Engineering Library; items that will be used for research, teaching, classwork, or other stated missions of the University and the Libraries will, however, be favored over items that are for personal use.

4. What are the specs of the MakerBot Replicator 2? How big can it print? What's the resolution?

All of the specifications for the MakerBot Replicator 2 are listed on the product feature list.

Questions? Comments?

Get in touch via email or online!

Leave a Reply

Your email address will not be published. Required fields are marked *

Name

Email

Website

Post Comment

Search

Recent Uploads

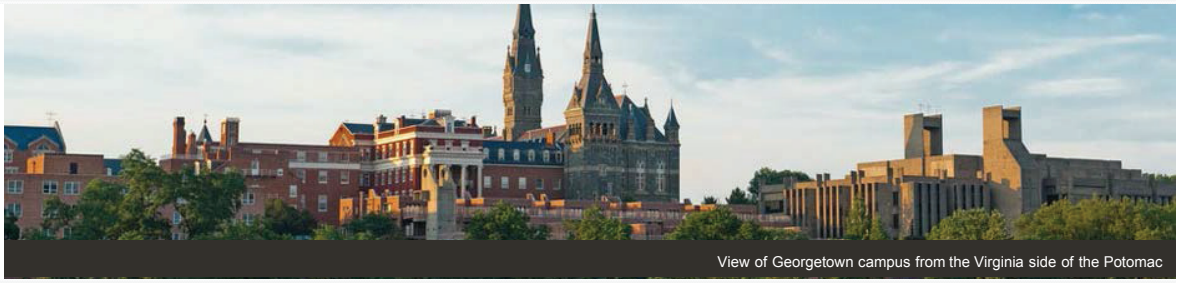
Sunglasses Frame
Tic Tac Toe
Orbital Reconstruction
Speaklace-Rear case
Speaklace-front case

Archives

June 2015 (6)
May 2015 (6)
April 2015 (12)
March 2015 (15)
February 2015 (5)
January 2015 (6)
December 2014 (1)
November 2014 (3)
October 2014 (8)
September 2014 (6)
August 2014 (19)
July 2014 (3)
June 2014 (1)
May 2014 (18)
April 2014 (11)
March 2014 (3)
February 2014 (1)
January 2014 (3)
December 2013 (8)
November 2013 (5)
October 2013 (33)
September 2013 (15)
August 2013 (4)
July 2013 (10)
June 2013 (4)

Categories

Archaeology (32)
Architecture (12)
Art (23)
Art History (33)
Astronomy (2)
Biology (24)
Cartoon (9)
Chemistry (13)
Computer Science (9)
Environment (4)
External (61)
Featured (30)
Food (14)
Geography (5)
Geology (7)
History (3)
Home (3)
Jewelry (7)
Mathematics (8)
Mechanical Engineering (5)
Music (2)
Physics (8)
Printed (133)
Protein (5)
Replacement Parts (9)



View of Georgetown campus from the Virginia side of the Potomac

3D Printing/Scanning at Georgetown University Libraries: PRE-PRODUCTION & PLANNING

3D Printing/Scanning at Georgetown University Libraries

WHAT IS 3D PRINTING?

3D printing or additive manufacturing is a process of making three dimensional solid objects from a digital file. The creation of a 3D printed object is achieved using additive processes. In an additive process an object is created by laying down successive layers of material until the entire object is created. Each of these layers can be seen as a thinly sliced horizontal cross-section of the eventual object.

(From http://3dprinting.com/what-is-3d-printing/)

HOW DOES IT WORK?

It all starts with making a virtual design of the object you want to create. This virtual design is made in a CAD (Computer Aided Design) file using a 3D modeling program (for the creation of a totally new object) ór with the use of a 3D scanner (to copy an existing object). This scanner makes a 3D digital copy of an object and puts it into a 3D modeling program.

To prepare the digital file created in a 3D modeling program for printing, the software slices the final model into hundreds or thousands of horizontal layers. When this prepared file is uploaded in the 3D printer, the printer creates the object layer by layer. The 3D printer reads every slice (or 2D image) and proceeds to create the object blending each layer together with no sign of the layering visible, resulting in one three dimensional object.

(From http://3dprinting.com/what-is-3d-printing/#howitworks)

WHAT MATERIALS ARE AVAILABLE?

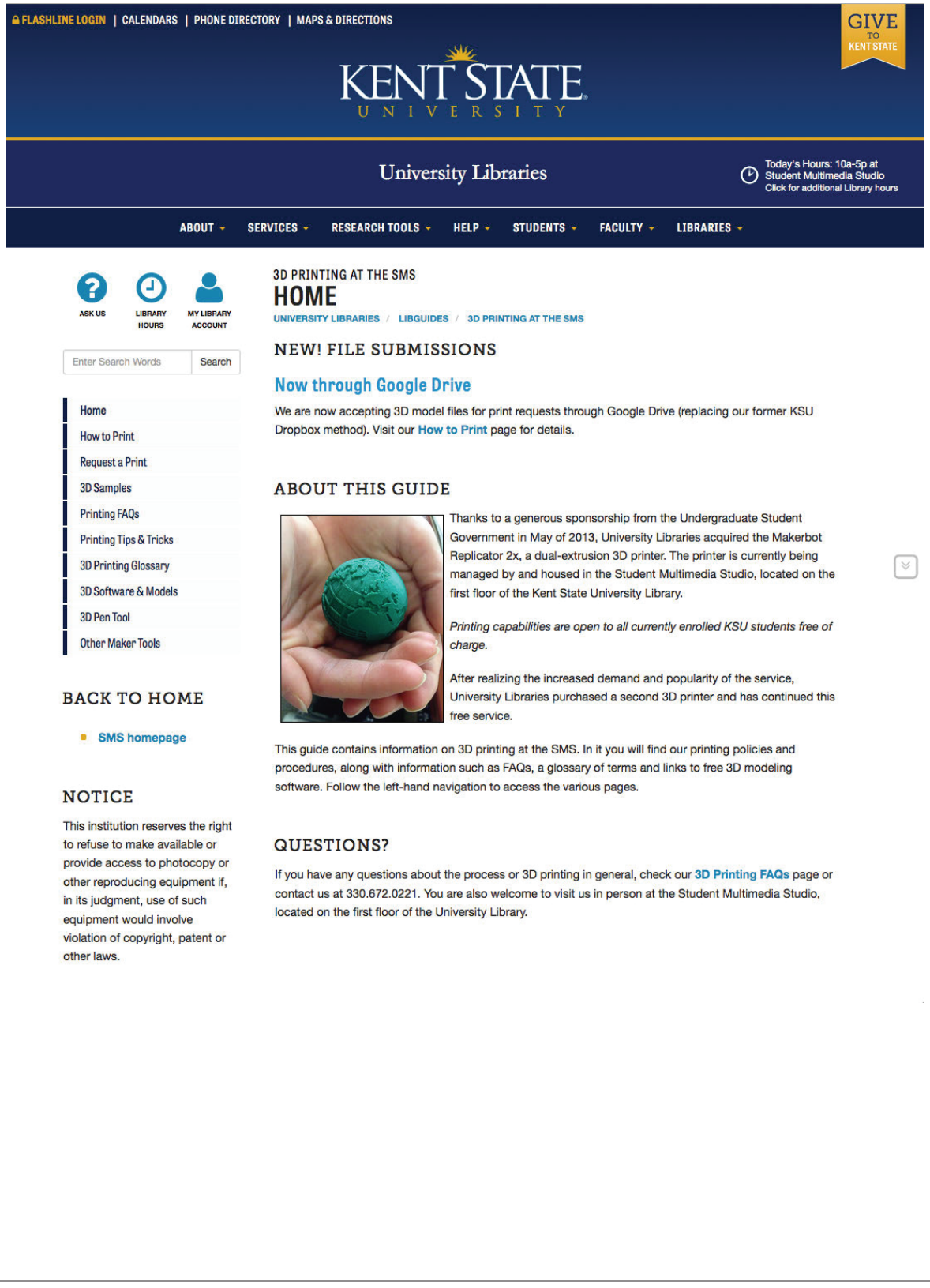
MakerBot PLA Filament is a nontoxic resin made of sugar derived from field corn and has a semisweet smell (like waffles) when heated. It is the best and most consistent PLA filament for your MakerBot Replicator 3D Printer and guaranteed to have no heavy metals, phthalates, or BPA.

(From https://store.makerbot.com/pla-filament)

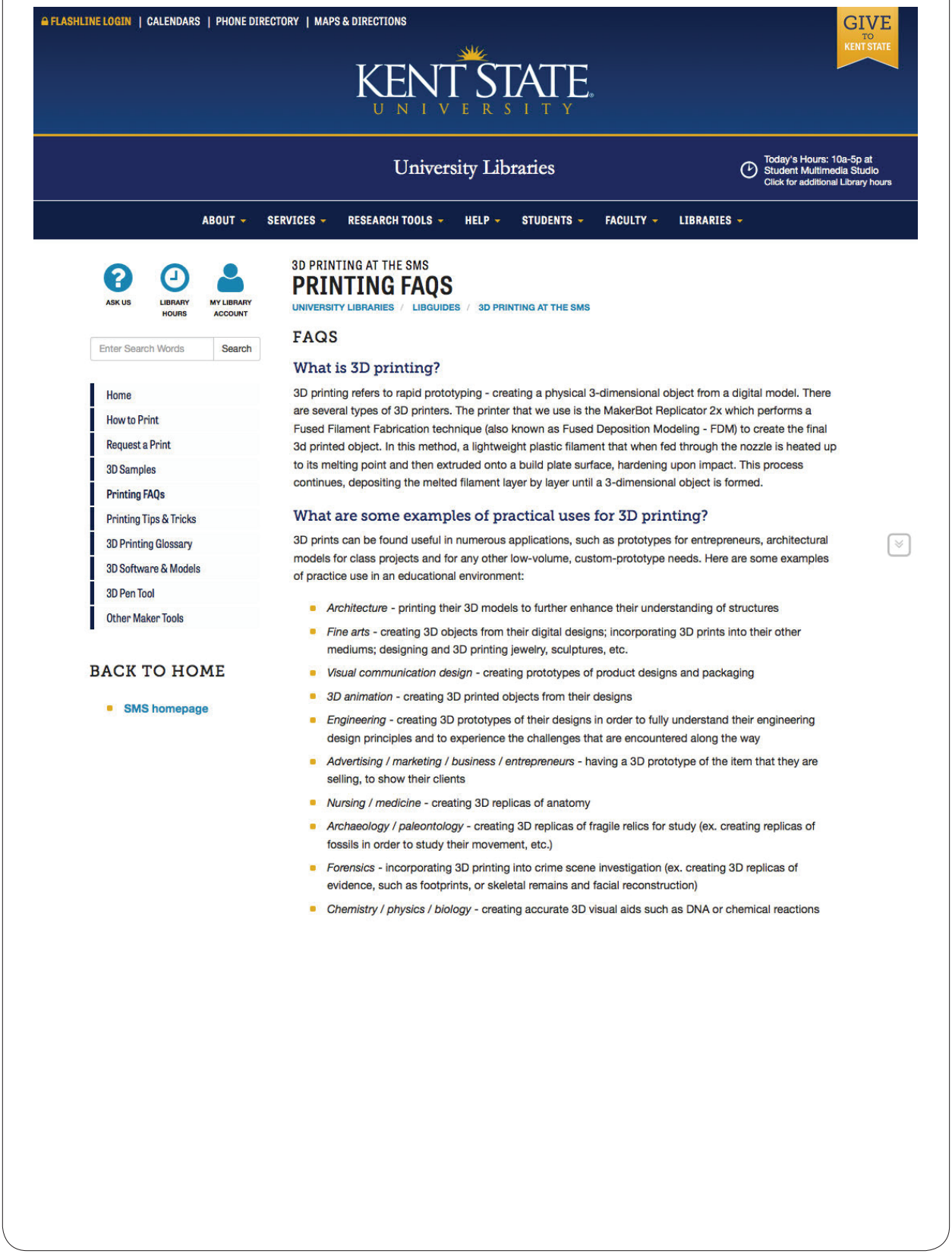
INFO

- MAKE
  DIY projects, how-tos, and inspiration from geeks, makers, and hackers
- www.3ders.org
  3D printer and 3D printing news
- 3D Printing
  Features the latest news on 3D printers, jobs and additive manufacturing companies.

KENT STATE UNIVERSITY
3D Printing at the SMS
http://libguides.library.kent.edu/3d



KENT STATE UNIVERSITY
3D Printing at the SMS | Printing FAQs
http://libguides.library.kent.edu/c.php?g=278293&p=1854417



Who can use the 3D printing service?

The 3D printing service is open to all currently enrolled Kent State students in all disciplines. The actual printing process is performed by our SMS consultants. Have a class of students who wish to 3D print? Contact us first to discuss the assignment so that we can review our policies with you and discuss any limitations that you may have in printing.

How large of an object can you print?

The maximum build volume that we prefer for the Makerbot Replicator 2x is 150 (X) x 150 (Y) x 140 (Z) mm. The max build volume for the Ultimaker 2 is 190 (X) x 195 (Y) x 174 (Z) mm. However, since the printers only run while we are open, the total printing time for a particular model must be under 12 hours, which for a cube-shaped model would equate to a 94 x 94 x 94mm design.

Please be aware that we may ask to print your model at a smaller scale than you would like. We do this with the goal of ensuring the best success of your print. With creative design, though, you can print larger simply by separating your model into smaller printable pieces. So keep that in mind as you prepare your file for printing.

Which 3D modeling software should I use to create a printable design?

We do not have any limitations in the modeling software that you use. We have two file formats that we accept (STL and OBJ) and as long as your software can save or export as one of those formats we should be able to print your model.

Which file formats do you accept?

We accept STL and OBJ files. Most 3D modeling programs can save/export as at least one of those two. Please note, if creating a model in Tinkercad please download your design as an STL file (not an OBJ). For some reason we have difficulty opening OBJ files that have been produced in Tinkercad.

For the full specifications on our 3D printers, visit their official websites:

- Makerbot Replicator 2x
- Ultimaker 2

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

Login to LibApps

University Libraries

ADDRESS:
1125 Risman Dr., Kent, OH 44242
PHONE:
330-672-3456
EMAIL:
library@kent.edu

HOW ARE WE DOING?
GIVE TO UL
STUDENT JOBS
ASK US

Makers in Libraries < Program on Information Science

People Guide Galleries Calendar

3D PRINTING GUIDE

HOW CAN I MAKE MODELS SUITABLE FOR PRINTING?

Models may need cleanup and adjustment before they can be printed. These tools and tutorials can help when you are processing your models:

Netfabb Tutorials

Repair Software, helps to fix and repair 3D Files.

A Step-by-step guide with exercise files can be downloaded. 2 video tutorials show how to repair files, check printability and do automatic packing.

Makerbot Customizer on Thingiverse

A Web App, allows to modify existing models. Click **here** to download the App.

Makerbot provides a simple and basic tutorial.

GrabCAD Workbench Tutorials

A cloud-based PDM (product data management) solution, helps to manage, view and share **CAD** files.

8 video tutorials give an overview of GrabCAD Workbencn.

ONLINE RESOURCES

Rapid Prototyping Applications

Finding Models and Scanning Objects

Creating New Models

Preparing Models for Printing

PRINTING SERVICES

Services Inside MIT

Services Outside MIT

INFORMATION

Learning More at MIT

WHAT IS THIS SITE?

This guide contains top information resources for Makers who are interested in making stuff with 3D printers. It is a starting place for your project.

NEED MORE HELP?

More information on how to make stuff from the libraries

Ask the Libraries if you have questions.

Research Consultations - appointments with subject experts for in-depth help.

Tell the Libraries how to serve you better. We want to hear from you.

MICHIGAN STATE UNIVERSITY
Make@State | 3D Printing
https://www.lib.msu.edu/3DPrinting/

MICHIGAN STATE UNIVERSITY
MSU LIBRARIES

Library Site Search
Ask a Librarian
Account
Events

General Info | Resources | Research Help | Using the Library | Computers | Contact

- Make@State
- Overview
- 3D Printing
  - 3D Print Submission Form
  - 3D Printer Policy
  - 3D Printing FAQ
- Laser Cutter
- Vinyl Cutter
- Borrowable Circuit Tech

3D Printing

Location and Hours

Location: Main Library Copy Center, located on the 2nd floor of the West Wing.
Hours of operation for 3D Printing are in accordance with the Copy Center.

Access

In order to have something printed on our 3D printer, please fill out the 3D Print Submission Form. Prints will be performed in the order they are received and may take a few days depending on order volume.

If you have questions, you can email Make@State Staff or call 517-884-0844.

Cost

Cost will be determined by the filament weight of the item printed. The current rate is $0.20 per gram (All prints under 5 grams will be rounded up to $1.00.) of the total weight of the final print.

General Size to *Price Comparisons:

*Price of object shown subject to change with each individual print.

Why 3D Printing?

3D Printing is a new technology that promotes creativity and innovation. This revolutionary machine provides an opportunity for our patrons to further their learning experience.

How does 3D Printing fit in an Academic Library? It advances the Libraries' Mission...

- By supporting the University's mission of preservation, creation, transmission and application of knowledge
- By providing access to resources to serve educational needs
- Through appropriate facilities and quality service by helpful and expert staff using current technologies, collaborative strategies, and expanding information networks
- By providing an essential facility where emerging and established scholars access information and gather in an atmosphere conducive to learning and other creative endeavors

Some of the departments on campus that are using 3D Printing:

- Apparel/Textile Design
- Arts and Letters
- Business
- Communication Arts and Sciences
- Education
- Engineering
- Interior Design
- Packaging
- Veterinary Medicine

Equipment

MakerBot Replicator 5th Generation

- Affordable, Consumer 3D Printing
- Filament: PLA Plant-based Plastic
- 9.9L x 7.8W x 5.9H inches Build Volume
- 100 Microns (.0039 in) Layer Resolution
- Fused Deposition Modeling (FDM) Technology
- Manufacturer's Details

Filament

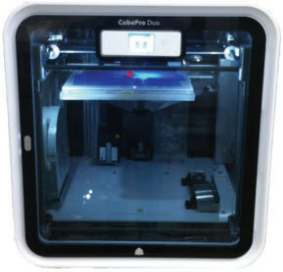
- MakerBot PLA Filament is a bioplastic derived from corn. It is guaranteed not to contain any heavy metals, phthalates or BPA.
- PLA filament comes in a variety of colors. 18 filament colors are available for use on the Copy Center 3D Printer.
- Multi-Colored printing will not be an available service.

Filament Colors Available in the Copy Center:

MakerBot Digitizer 3D Scanner

- $2.00 per scanned object
- 8" x 8" Scan Volume
- Consumer-level 3D scanner optimized for 3D printing
- Fast scan time
- Medium to low resolution scans
- Does not scan color data
- Manufacturer's details

Cube Pro Duo 3D Printer



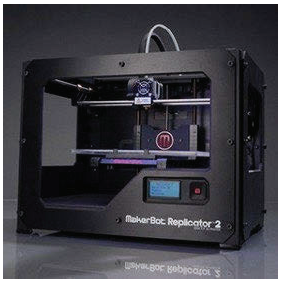
- Affordable, Consumer 3D Printing
- Filament: ABS
- Build volume: 11.2x9.06x10.6 inches
- Print Resolution: 70 microns in HD, 200 microns in SD, 300 microns in fast mode
- Can print two colors on one print
- Manufacturer's detail

UNC UNIVERSITY LIBRARIES | Libraries & Hours | Do Your Research | In the Library | Services | About Us | Contact Us

Background Off | About

Home › Makerspace › 3D Printing

3D Printing



Tools for 3D printing

Software

The following applications are available on computers in Kenan Science Library. They are also freely available to download to use on your own computer.

3D Design Software

Tinkercad
An easy-to-use web-based tool for creating objects that are ready to be 3D printed. If you haven't done 3D design before, this is a great place to start.

SketchUp
A 3D modeling program for applications such as architectural design, interior design, civil and mechanical engineering, film, and video game design. SketchUp models can be exported to an .OBJ file, which can then be converted to an .STL file using MeshLab (see under "3D Editing and Repair Software").

Blender
A free professional 3D computer graphics software product used for creating animated films, visual effects, art, 3D printed models, interactive 3D applications and video games.

Maya
Maya is a 3D animation, modeling, simulation, rendering, and compositing program. This is licensed software that is available in the Kenan Science Library.

OpenSCAD
A free software application for creating solid 3D CAD objects. It is not an interactive modeler, but rather a 3D-compiler. OpenSCAD reads from a script and renders a 3D model from it.

Getting started

Interested in getting started with 3D printing?

- Read our 3D Printing FAQs
- Read some library resources about 3D printing.
- Jump right in and start using some of the design tools below!

Then,

- Sumit a 3D printing request using this form.
- Set up a consultation to bring in your file and go over search options.

Browse 3D Models

- Thingiverse is a repository of 3D files from hundreds of users.
- The NIH 3D Print Exchange allows for searching, browsing, downloading, and sharing biomedical 3D print files, modeling tutorials, and educational material.
- NASA 3D Resources has a a growing collection of 3D models, textures, and images from inside NASA.
- Smithsonian x 3D is a project to share 3D models developed from scans of their diverse collections.

3D Editing and Repair Software

MeshLab
An open-source general-purpose system aimed at the processing of the typical not-so-small unstructured 3D models that arise in the 3D scanning pipeline. MeshLab is oriented to the management and processing of unstructured large meshes and provides a set of tools for editing, cleaning, healing, inspecting, rendering and converting these kinds of meshes.

MeshMixer
An experimental 3D modeling tool whose goal it is to make it easy to compose new 3D models from existing meshes.

NetFabb
An .STL viewer and repair tool.

Molecular Software Applications

Print your favorite protein using these easy steps

PyMOL
An open-source, user-sponsored, molecular visualization system that can produce high-quality 3D images of small molecules and biological macromolecules, such as proteins.

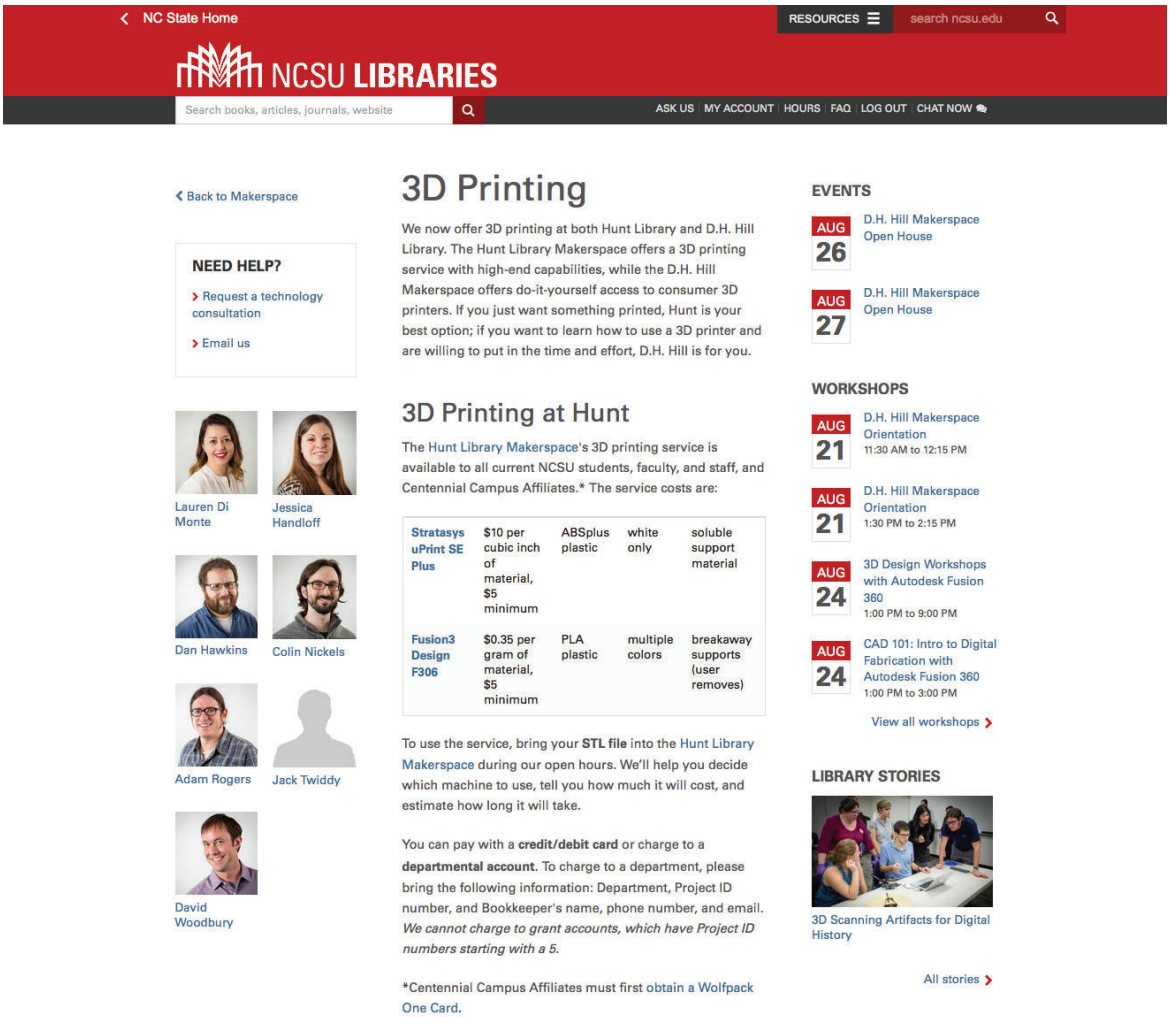
Kokopelli (Mac and Linux only)
Kokopelli is an open-source tool for computer-aided design and manufacturing (CAD/CAM). It uses Python as a hardware description language for solid models. A set of core libraries define common shapes and transforms, but users are free to extend their designs with their own definitions.

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 (including copyright law (Title 17, U.S. Code) and patent law (Title 35, U.S. Code)), UNC policies, and library policies, 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.

UCSF Chimera
An extensible program for interactive visualization and analysis of molecular structures and related data, including density maps, supramolecular assemblies, sequence alignments, docking results, trajectories, and conformational ensembles. High-quality images and movies can be created.

NORTH CAROLINA STATE UNIVERSITY
Makerspace | 3D Printing
http://www.lib.ncsu.edu/do/3d-printing



3D Printing at Hill

The D.H. Hill Makerspace's 3D printers are available for first-come, first-serve use by current students, faculty, and staff who have attended our D.H. Hill Makerspace Orientation. If you have never used a 3D printer before, our staff can help you get started, though you may want to attend a 3D Printing workshop first for a more thorough introduction.

To use a 3D printer at D.H. Hill, you will need to purchase a spool of filament. We currently sell **PLA filament in a variety of colors for $13.25 per 0.5kg spool** in the Makerspace. You may also bring your own filament in, but be aware that filament varies in quality and print settings across suppliers, even for the same type of plastic.

The 3D printer options at Hill are:

LulzBot Mini	3mm filament	Cura LulzBot Edition software
MakerBot Replicator 2	1.75mm PLA filament	MakerBot Desktop software

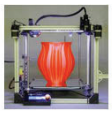
Software

- MeshMixer
- Tinkercad

Spaces

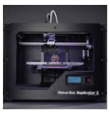
- D.H. Hill Makerspace
- Hunt Library Makerspace

Use in the library



Fusion3 F306 Gen I 3D Printer

Lulzbot Mini



MakerBot Replicator 2 3D Printer

Stratasys uPrint SE Plus 3D Printer

Wanhao Duplicator 4S

FAQ

What is 3D printing? How does it work?

3D printing is the process of making a physical object from a 3D digital model. It is also known as additive manufacturing because the physical model is built up one layer at a time. All of our current 3D printers use a process called Fused Deposition Modeling (FDM), in which a plastic filament is fed through a heated nozzle which melts the plastic. Computer-controlled motors move the nozzle around to create the shape of a layer, which hardens immediately. The object is built this way, one layer at a time, from the bottom up.

What are some practical uses of 3D printing?

There are a multitude of practical applications for 3D printing, from aerospace and automotive engineering to prosthetics and other medical uses. 3D printing enables rapid prototyping of design concepts and functional, working models, and is also used for low-volume, custom, or on-demand manufacturing.

What software can you use to make printable 3D models?

For beginners, we recommend starting with Tinkercad. It is web-based, optimized for 3D printing, and easy to get started with. For a free account, you can join the NCSU Libraries Tinkercad team using this link: http://go.ncsu.edu/tinkercad

However, almost all 3D modeling software will output the filetype (STL) our machines require. There are many options; a few popular ones are SolidWorks, AutoCAD, Inventor, 3DS Max, Creo, Blender, Rhino 3D, and Sketchup. In general, *solid* modelers will be easier to print from than *surface* modelers. Information on software available to students and staff can be found at software.ncsu.edu and www.eos.ncsu.edu/software

Is the library the first place at NCSU to have 3D printers?

No, we are not, but we are the first to offer 3D printing services to all NCSU students, faculty, and staff. The Center for Additive Manufacturing and Logistics on campus has long done research on 3D printing, including with cutting edge processing and advanced materials such as titanium. The College of Design has also long had a 3D printing service for its students.

What if I need to 3D print with higher resolution, faster turnaround time, or different materials?

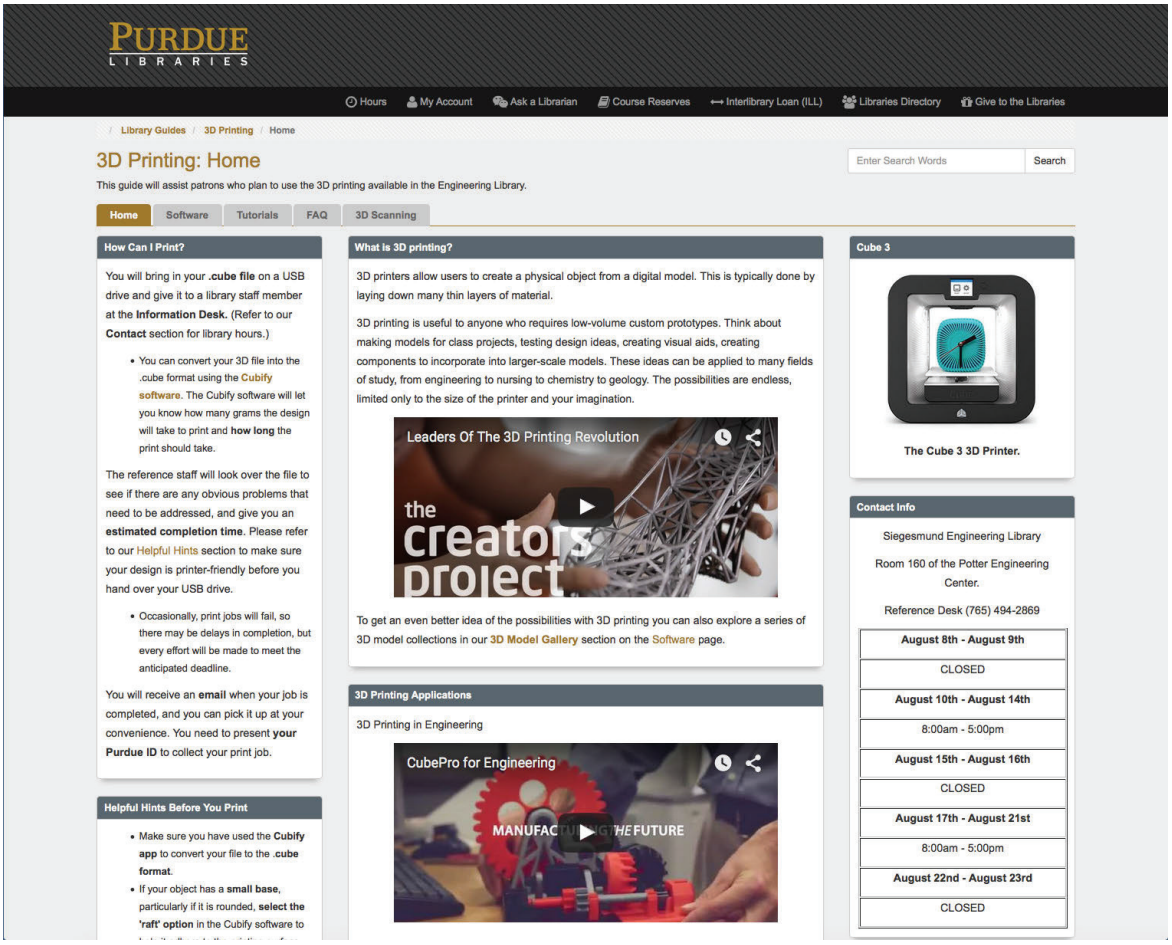
There are many professional 3D printing services available, including Fineline Prototyping (based in Raleigh) and Shapeways (online).

Contact

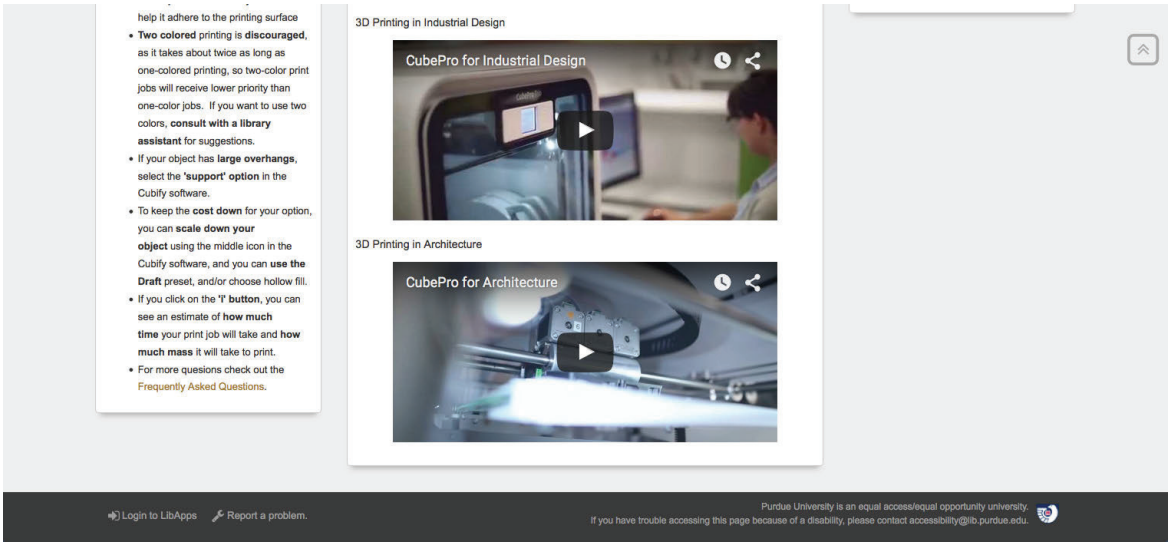
D. H. Hill Library
2 Broughton Drive
Campus Box 7111
Raleigh, NC 27695-7111
(919) 515-3364

James B. Hunt Jr. Library
1070 Partners Way
Campus Box 7132
Raleigh, NC 27606
(919) 515-7110

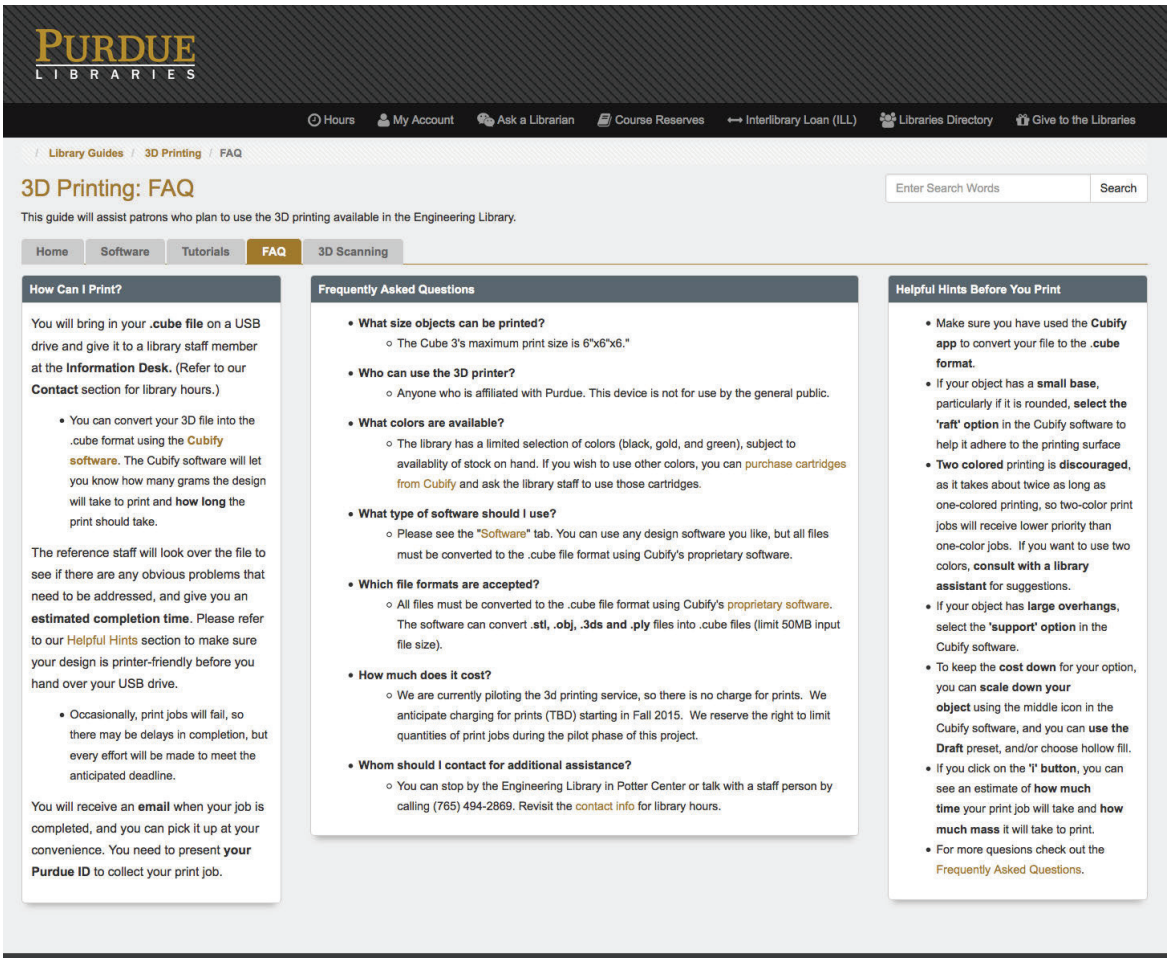
PURDUE UNIVERSITY
3D Printing: Home
http://guides.lib.purdue.edu/3dprinting



PURDUE UNIVERSITY
3D Printing: Home
http://guides.lib.purdue.edu/3dprinting



PURDUE UNIVERSITY
3D Printing: FAQ
http://guides.lib.purdue.edu/3dprinting/faq



RUTGERS UNIVERSITY
FabLab/Makerspace
http://libguides.rutgers.edu/FabLab

Libraries Home | My Library Account | Hours

Rutgers Home | Search Rutgers

Find | Services & Tools | Help | Places & Spaces | About | Site Search

RUTGERS
University Libraries

Library » Research Guides » Multimedia Creation Resources at the Fordham Commons » FabLab/ Makerspace

Multimedia Creation Resources at the Fordham Commons: FabLab/ Makerspace

Enter Search Words | Search

Available colors

Black

Blue

Orange

Red

Translucent

Translucent Blue

Translucent Purple

Translucent Red

Translucent Yellow

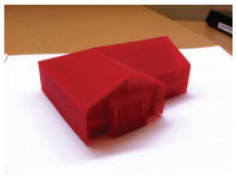
White

Yellow

Printed at the FabLab- Giraffe

Giraffe printed by Chris in Transparent Blue

Building



3D Printing

3D printing is available to members of the Rutgers community

Welcome to 3D printing at the Fordham FabLab on the ground level of the Douglass Library. Just follow signs to the Fordham Commons to find the 3D printers.

We have two MakerBot Replicator 2 printers.

Visit the MakerBot website for more information about MakerBot, Replicator 2, and Makerware

Please contact Stacey Carton at the Media Center or at 848 932 5042 for an appointment. Or email sacarton@rutgers.edu

http://www.makerbot.com/

Getting started

Create a file for 3D printing using our software or one of your own. (.stl file)

Be sure to visit the Makerbot Replicator 2 page to be aware of size and other limitations

Make an appointment with Stacey at the Media Center (848) 932 5042 or ask for details at the Fordham Commons help desk. We will provide you with the cost for printing your project and set up a printing appointment.

Printing costs are $.25/gram, rounded up to the nearest dollar. PLEASE BRING EXACT CHANGE- CASH ONLY. (RIAS available- ask for details)

We will also convert your project to a .x3g file which is compatible with our printers.

You will have a chance to preview your project before printing begins.

Please visit the websites below for more specific information:

http://www.makerbot.com/faq/

http://www.makerbot.com/support/guides/design/

The largest build volume the Replicator can print is

28.5 L x 15.3 W x 15.5 H cm
[11.2 x 6.0 x 6.1 in]

However, we are also limited by time and staff constraints. Please inquire if you have questions about a specific project

Multimedia Resources

Stacey Carton

Email Me

Contact:
Stacey Carton MLIS

sacarton@rci.rutgers.edu

Manager- Fordham Commons- A Multimedia Collaboration Space

Mabel Smith Douglass Library

8 Chapel Drive

New Brunswick, NJ 08901-8527

phone: 848 932-5042

Printed at the FabLab- Raven and Phoenix

Printed by Michael

Printed at the FabLab- Lowpoly Bunny

Examples- Stretchlet Bracelet $2

Examples- Chain Links $1

Examples- House Fly $1

Programs/ Websites

The following software has been installed on the Macs in the Fordham Commons:

Blender 2.70
Makerware 2.4.1.35
Makerware for Digitizer 2.4.1.35
Sculptris Alpha 6
SketchUp Pro 2014 v.14.0.4

We also recommend:

TinkerCad.com. This site requires users to create a login, but offers free "easy-to-use tool for creating digital designs that are ready to be 3D printed into physical objects."

Also, many designs have been uploaded by users to **Thingiverse.com**. Many offer free downloads and many are customizable. Please be aware that there is NO GUARANTEE that these designs will print properly! We cannot be responsible for projects that print incorrectly due to design flaws

The **NIH** offers downloadable designs at http://3dprint.nih.gov/

From the NIH website: "The NIH 3D Print Exchange provides access to a community-contributed database of bioscientific 3D-printable files." The site also offers tools to create 3D printable models from medical images, molecular data, or image stacks. (Login required)

Prosthetic limbs at **E-nabling the Future**

http://enablingthefuture.org/upper-limb-prosthetics/

"A network of passionate volunteers using 3D printing to give the World a "Helping Hand.""

"The e-NABLE community has developed a collection of different 3D-printable assistive devices that are free for download and fabrication by anybody who would like to learn more about the designs or fabricate a device for somebody in need."

Tips and advice

10 tips, including rafts and shells http://talesofa3dprinter.blogspot.com/2013/12/top-10-tips-for-3d-printing-design-from.html

holes and overhangs http://www.instructables.com/id/3D-Design-For-3D-Printing/step2/Overhangs-Part-1-Holes/

extreme overhangs and supports http://www.protoparadigm.com/blog/2012/01/printing-with-support-extreme-overhangs/

45 degree rule and droop http://printa3d.blogspot.com/p/design-tips.html

Creating solid objects http://jcflowers1.iweb.bsu.edu/rlo/makerbot.htm

3D Digitizer

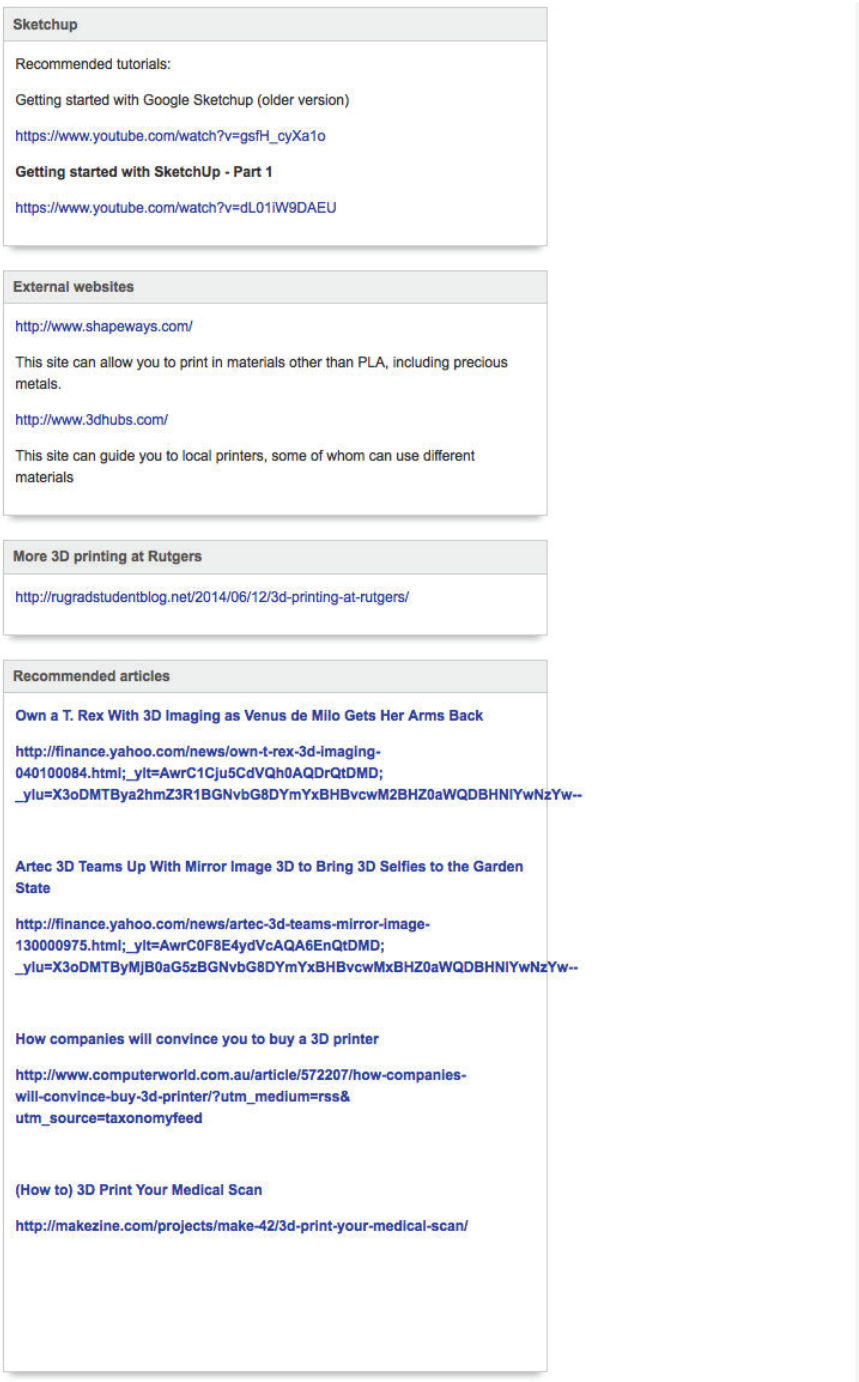
Now available!

Featuring Makerbot Digitizer

3D Scanner

http://store.makerbot.com/digitizer

Scanning is free, but please call ahead for an appointment



Sketchup

Recommended tutorials:

Getting started with Google Sketchup (older version)

https://www.youtube.com/watch?v=gsfH_cyXa1o

Getting started with SketchUp - Part 1

https://www.youtube.com/watch?v=dL01iW9DAEU

External websites

http://www.shapeways.com/

This site can allow you to print in materials other than PLA, including precious metals.

http://www.3dhubs.com/

This site can guide you to local printers, some of whom can use different materials

More 3D printing at Rutgers

http://rugradstudentblog.net/2014/06/12/3d-printing-at-rutgers/

Recommended articles

Own a T. Rex With 3D Imaging as Venus de Milo Gets Her Arms Back

http://finance.yahoo.com/news/own-t-rex-3d-imaging-040100084.html;_ylt=AwrC1Cju5CdVQh0AQDrQtDMD;_ylu=X3oDMTBya2hmZ3R1BGNvbG8DYmYxBHBvcwM2BHZ0aWQDBHNlYwNzYw--

Artec 3D Teams Up With Mirror Image 3D to Bring 3D Selfies to the Garden State

http://finance.yahoo.com/news/artec-3d-teams-mirror-image-130000975.html;_ylt=AwrC0F8E4ydVcAQA6EnQtDMD;_ylu=X3oDMTByMjB0aG5zBGNvbG8DYmYxBHBvcwMxBHZ0aWQDBHNlYwNzYw--

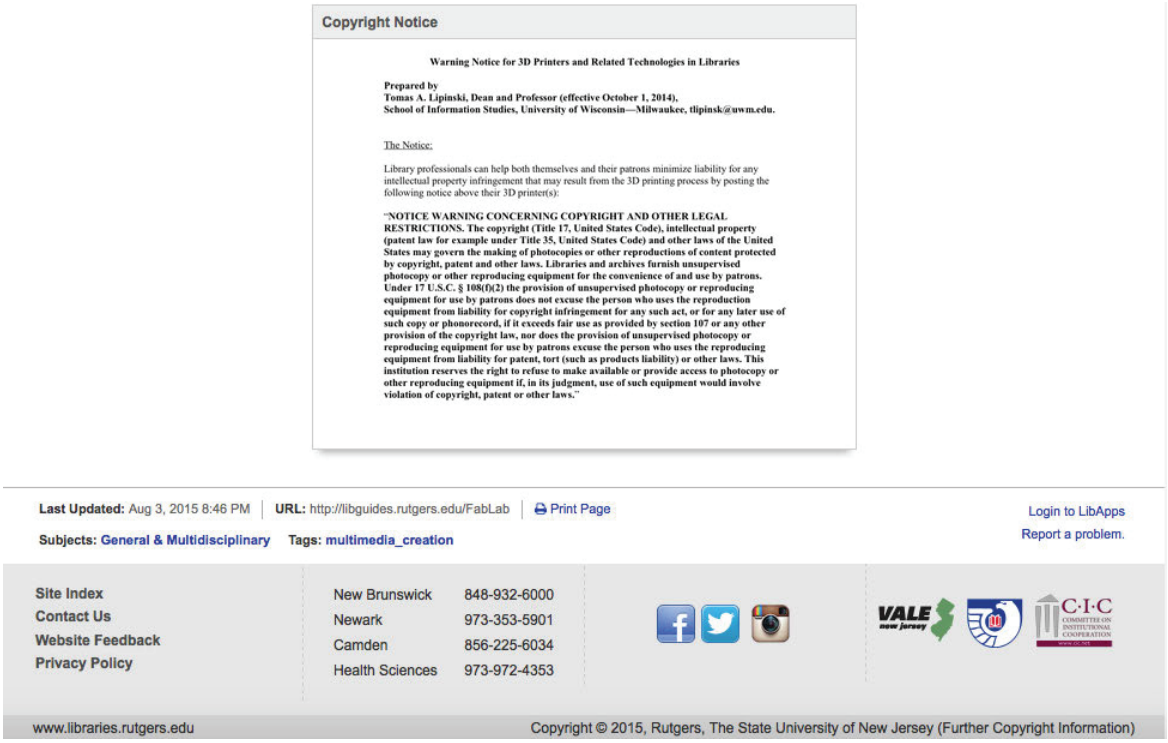
How companies will convince you to buy a 3D printer

http://www.computerworld.com.au/article/572207/how-companies-will-convince-buy-3d-printer/?utm_medium=rss&utm_source=taxonomyfeed

(How to) 3D Print Your Medical Scan

http://makezine.com/projects/make-42/3d-print-your-medical-scan/

RUTGERS UNIVERSITY
FabLab/Makerspace
http://libguides.rutgers.edu/FabLab



Copyright Notice

Warning Notice for 3D Printers and Related Technologies in Libraries

Prepared by
Tomas A. Lipinski, Dean and Professor (effective October 1, 2014),
School of Information Studies, University of Wisconsin—Milwaukee, tlipinsk@uwm.edu.

The Notice:

Library professionals can help both themselves and their patrons minimize liability for any intellectual property infringement that may result from the 3D printing process by posting the following notice above their 3D printer(s):

"NOTICE WARNING CONCERNING COPYRIGHT AND OTHER LEGAL RESTRICTIONS. The copyright (Title 17, United States Code), intellectual property (patent law for example under Title 35, United States Code) and other laws of the United States may govern the making of photocopies or other reproductions of content protected by copyright, patent and other laws. Libraries and archives furnish unsupervised photocopy or other reproducing equipment for the convenience of and use by patrons. 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 section 107 or any other provision of the copyright law, nor does the provision of unsupervised photocopy or reproducing equipment for use by patrons excuse the person who uses the reproducing equipment from liability for patent, tort (such as products liability) 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."

SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
3D Printing at Morris Library | Home
http://libguides.lib.siu.edu/3d

SIU Southern Illinois University
CARBONDALE

Webmail | SIU Online | SalukiNet | A-Z Index | People Finder | Morris Library

SEARCH...

MORRIS LIBRARY
SOUTHERN ILLINOIS UNIVERSITY CARBONDALE

Morris Library » Morris Library Research Guides » 3D Printing at Morris Library

Admin Sign In

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.

Last Updated: Aug 17, 2015 | URL: http://libguides.lib.siu.edu/3d | Print Guide | RSS Updates | Email Alerts

Home | 3D Modeling Software & Free Models | Request a Print | Examples printed at Morris | Policies & Procedures | Resources
3D Printing Terms | Previous Tips of the Week | Virtual Exhibits Information

Home | Print Page | Search: | This Guide | Search

IMPORTANT INFORMATION

Required File Format:

.STL or .OBJ

Maximum Object Size:

225 x 145 x 150 mm

8.85 x 5.7 x 5.9 in

PLA filament colors currently available:

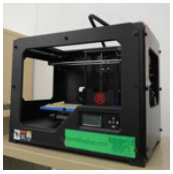
Silver
Black
Red
White
Orange
Green
Natural
Glow In the Dark
Blue
Yellow
Purple

Cost per object:

$0.25 per gram

$1.00 minimum

INTRODUCTION



3D Printing can turn your ideas into actual objects.

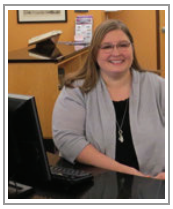
Through a generous loan by the non-profit organization New Blankets, Morris Library now has a 3D Printer. This printer allows the user to create physical objects from digital models. All members of the university community and the public are encouraged to make use of this exciting technology.

3D printing is sometimes referred to as additive manufacturing or rapid prototyping. It is the process of creating a three dimensional physical object from a digital model. The 3D printer builds the object vertically by putting down layer upon layer of a plastic filament called PLA.

3D PRINTING STEPS

1. Design a 3D model or find one on a site like Thingiverse.
2. Read the Morris Library Printing Policy. If your print is time sensitive, please allow adequate time. Most prints will be finished in a few days, but there may be times that the printer is malfunctioning, being repaired, experiencing heavy use, or is being used for an event or a course.
3. Make sure your file is in .STL or .OBJ format.
4. Fill out and submit a **3D Printing Request Form**. If you have any special instructions, please include them in the Additional Comments box on the form. After you have submitted the form, the next screen will include the location to submit your .STL or .OBJ file. To upload your .STL or .OBJ file, click Browse under the Attach files option. Find and select your file. Only .STL or .OBJ files will be accepted. Once you have added your .STL or .OBJ file, click the Upload file button. If you want to print more than one object, make sure to submit a file and form for each one.
5. Optional - If you wish, set up a consultation or appointment with a member of the library staff to print your model yourself or watch it print. If you choose this option, someone will contact you about scheduling a time.
6. Library staff will email you with a confirmation of your submission and any follow-up questions.
7. Once your model has been printed, you will receive another email letting you know the cost of the object and how long you have to pick it up.
8. Pick up your model at the Morris Library Circulation Desk on the first floor. You will also pay for your object at the Circulation Desk.
9. Enjoy your object and start designing something new!

SUBJECT GUIDE



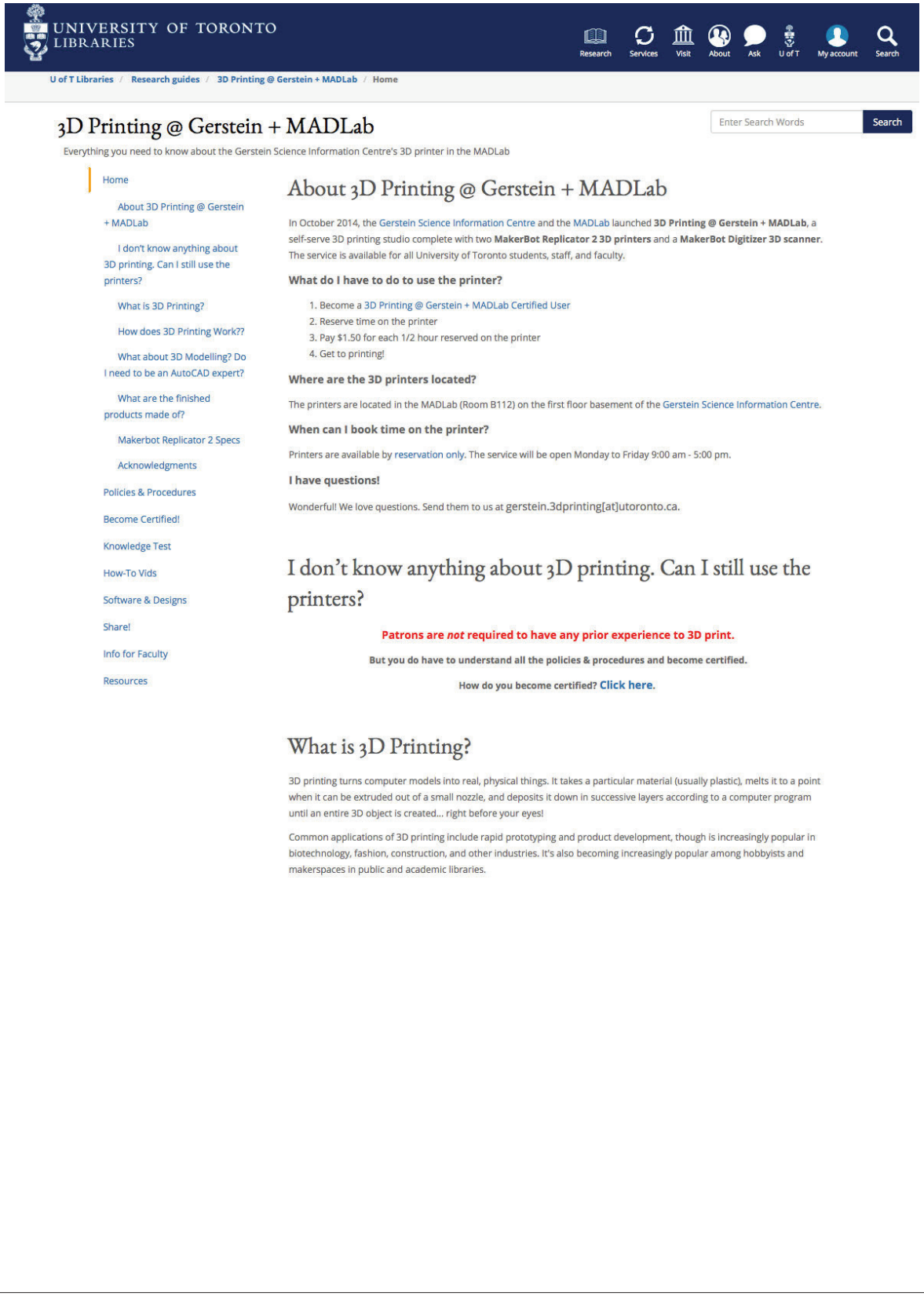
Jennifer Horton

Contact Info
Morris Library
Room 260D
Southern Illinois University
Carbondale, IL
(618) 453-2663
Send Email

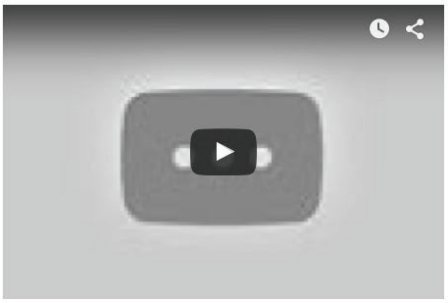
Links:
Profile & Guides

Subjects:
Chemistry and Biochemistry, Computer Science, Geology, Mathematics, Physics, Civil and Environmental Engineering, Industrial Technology, Electrical Engineering, Mechanical Engineering and Energy Processes, Mining and Mineral Resources Engineering

UNIVERSITY OF TORONTO
3D Printing @ Gerstein + MADLab
http://guides.library.utoronto.ca/3dprinting



How does 3D Printing Work??



What about 3D Modelling? Do I need to be an AutoCAD expert?

no AutoCAD required! no 3D modelling *at all* required!

There are a ton of fun, innovative, and simple designs that you can download for free from online libraries of 3D designs. We recommend that if you are new to 3D printing, try printing something small and quick. We've put together a list of objects you can print to get experienced.

We love Thingiverse. Browse or search the HUGE collection of free pre-designed models that you download free of charge! Still a little unsure? Choose designs that have a picture of the finished object.

want to design your own 3D object?

There are also loads of free, easy-to-use 3D modelling software programs out there. Stay tuned for information about free workshops we'll be offering on how to use these software programs or check out these handy online resources.

you're an AutoCAD expert who wants to print your own designs?

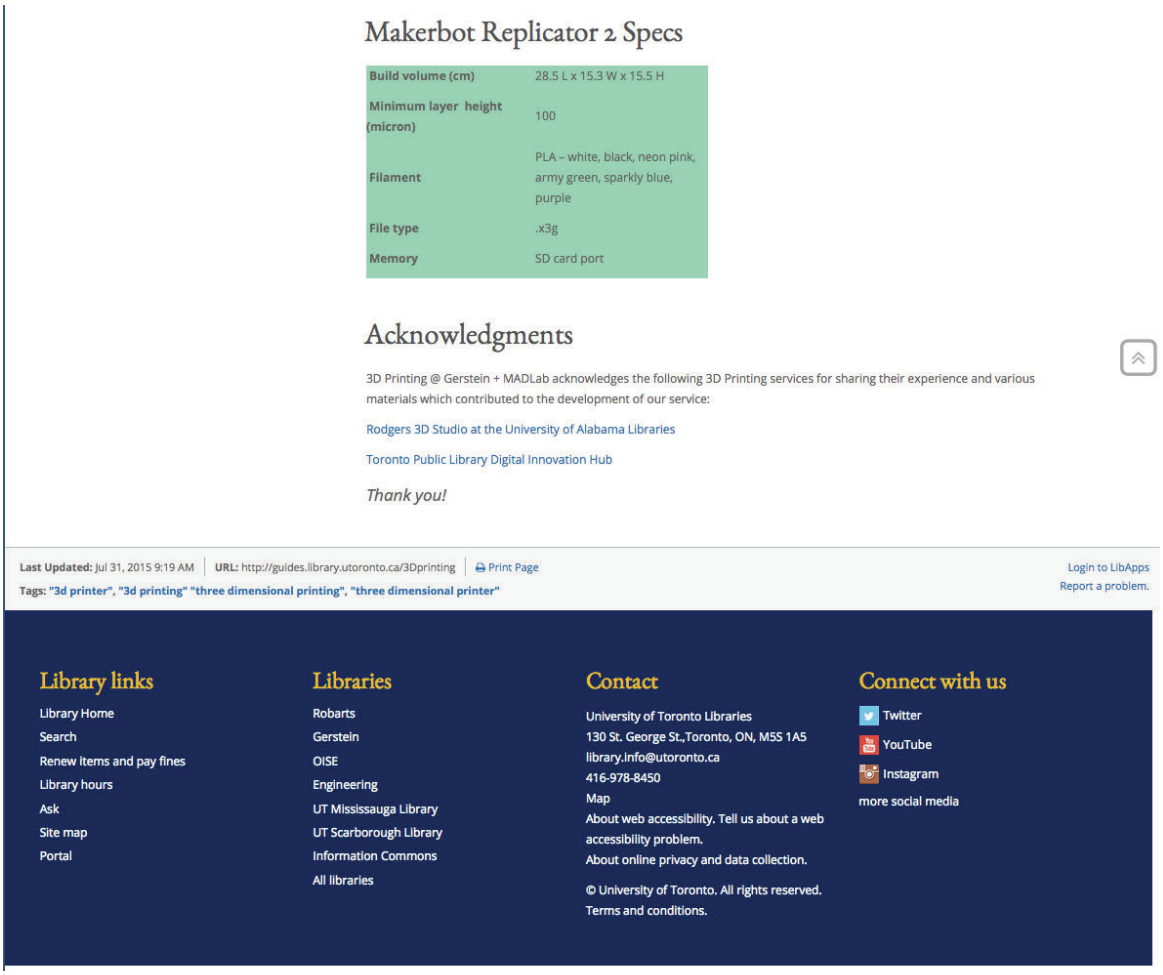
Great! As long as you run your design through the MakerWare software to check for problematic design elements and adhere to the policies and procedures of our service, you **can** print your objects of your own design. We're excited to see what you can do!

What are the finished products made of?

The 3D printers at Gerstein + MADLab use PLA (polyactic acid), a biodegradeable thermoplastic aliphatic polyester dervied from corn starch. It's safe to use in our space. You can view the PLA Material Data Safety Sheet.

We currently have filament in 6 colours: white, **black**, neon pink, army green, sparkly blue and purple. Unless otherwise requested, you'll print your job in whatever colour is loaded into the printer when you begin your reservation. If you would like to print in a specific colour that we offer, please email us ahead of time and we can help you switch out the filament.

Also note that white PLA can easily be painted.



Makerbot Replicator 2 Specs

Build volume (cm)	28.5 L x 15.3 W x 15.5 H
Minimum layer height (micron)	100
Filament	PLA – white, black, neon pink, army green, sparkly blue, purple
File type	.x3g
Memory	SD card port

Acknowledgments

3D Printing @ Gerstein + MADLab acknowledges the following 3D Printing services for sharing their experience and various materials which contributed to the development of our service:

Rodgers 3D Studio at the University of Alabama Libraries

Toronto Public Library Digital Innovation Hub

Thank you!

Last Updated: Jul 31, 2015 9:19 AM | **URL:** http://guides.library.utoronto.ca/3Dprinting | Print Page

Tags: "3d printer", "3d printing" "three dimensional printing", "three dimensional printer"

Login to LibApps
Report a problem.

Library links
Library Home
Search
Renew items and pay fines
Library hours
Ask
Site map
Portal

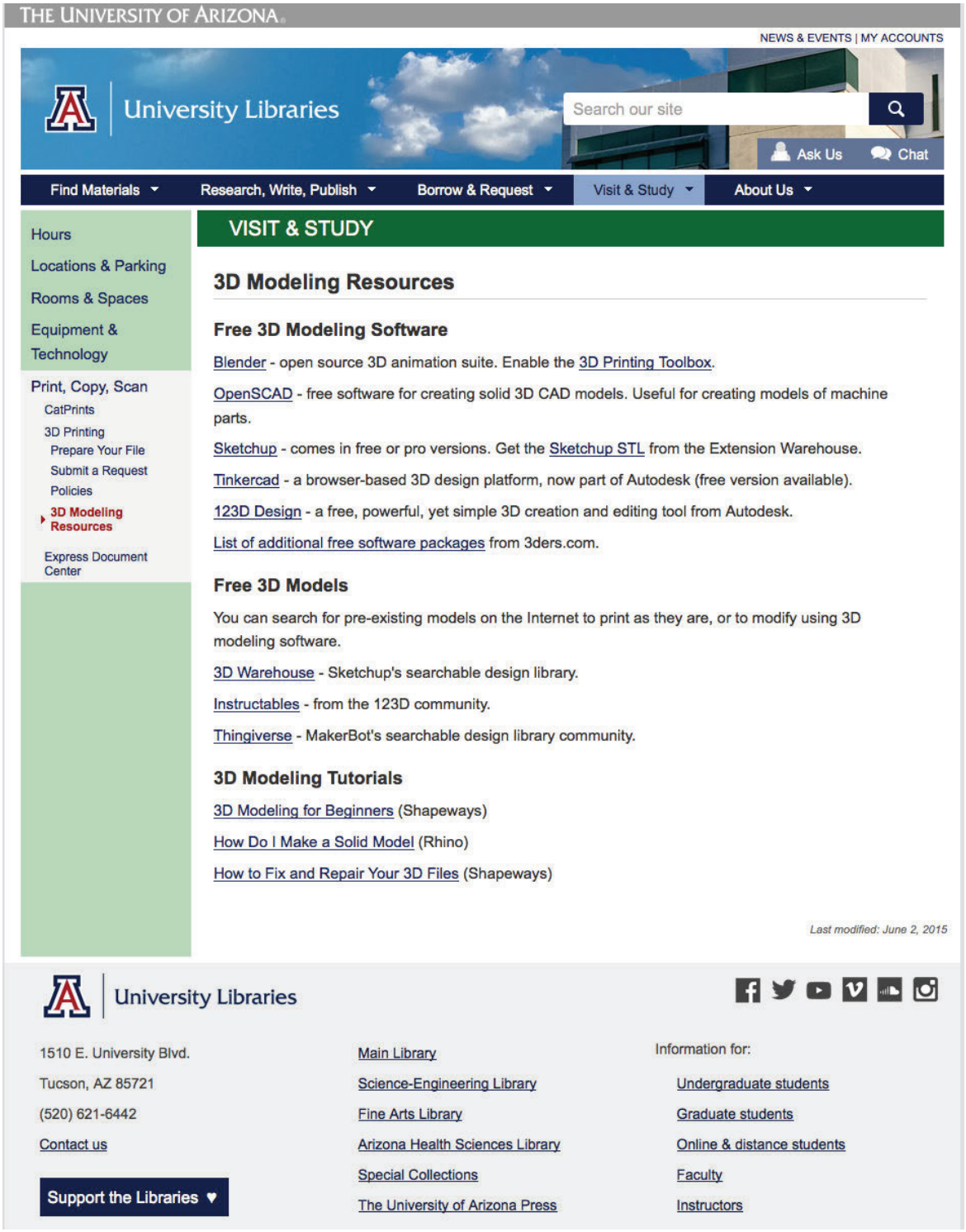
Libraries
Robarts
Gerstein
OISE
Engineering
UT Mississauga Library
UT Scarborough Library
Information Commons
All libraries

Contact
University of Toronto Libraries
130 St. George St.,Toronto, ON, M5S 1A5
library.info@utoronto.ca
416-978-8450
Map
About web accessibility. Tell us about a web accessibility problem.
About online privacy and data collection.

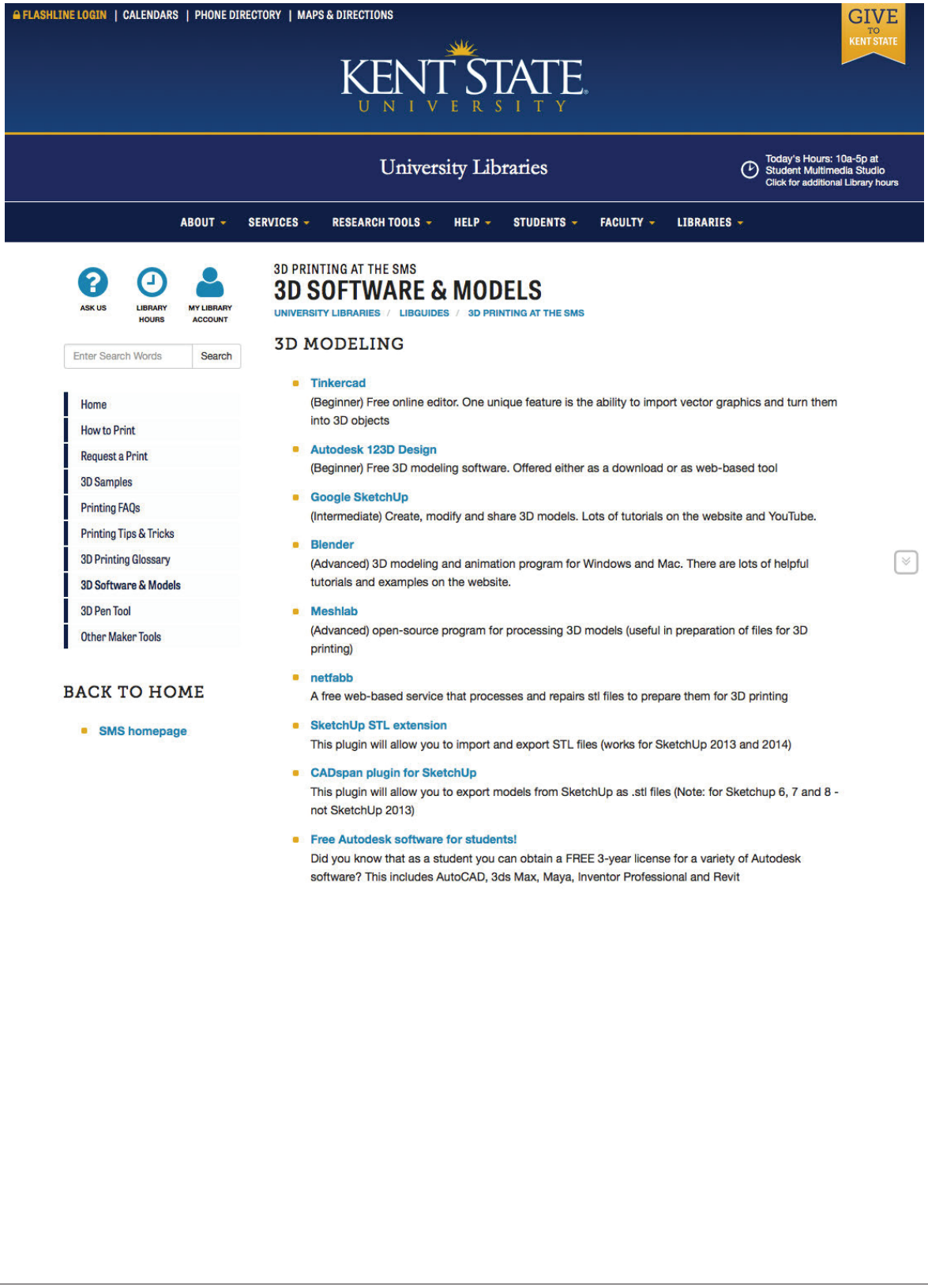
Connect with us
Twitter
YouTube
Instagram
more social media

Equipment, Software, and Models

UNIVERSITY OF ARIZONA
3D Modeling Resources
http://www.library.arizona.edu/services/print/3D/about



KENT STATE UNIVERSITY
3D Printing at the SMS | 3D Software & Models
http://libguides.library.kent.edu/c.php?g=278293&p=1854414



KENT STATE UNIVERSITY
3D Printing at the SMS | 3D Software & Models
http://libguides.library.kent.edu/c.php?g=278293&p=1854414

MOBILE 3D MODELING APPS

- **123D Catch**
  Turn your object into a 3D model with photos! Works on iPad/iPhone or also as a web-based app
- **123D Sculpt**
  Sculpt in 3D using this free iPad app.
- **MakerBot PrintShop**
  The Shape Maker feature in this free iPad app allows you to convert basic 2D sketches or images into printable 3D models

ONLINE 3D MODELING COMMUNITIES

- **Thingiverse**
  from Makerbot - a place to share and download free printable 3D model designs
- **Smithsonian X 3D**
  The Smithsonian is in process of digitizing its collection in 3D and offers free, downloadable model files
- **Sketchfab**
  Online community for publishing and browsing 3D models - some offer the option to download
- **YouMagine.com**
  a file-sharing 3D printing community with a built-in web-based 3d modeling tool
- **My Mini Factory**
  Downloadable 3D models (some free); sign up for a free account to earn free credits toward downloads; upload your own designs to earn more credits (and can even charge for your models)
- **Shapeways**
  Make, buy and sell 3D printed products
- **Ponoko**
  Make, share, buy or sell 3D product designs

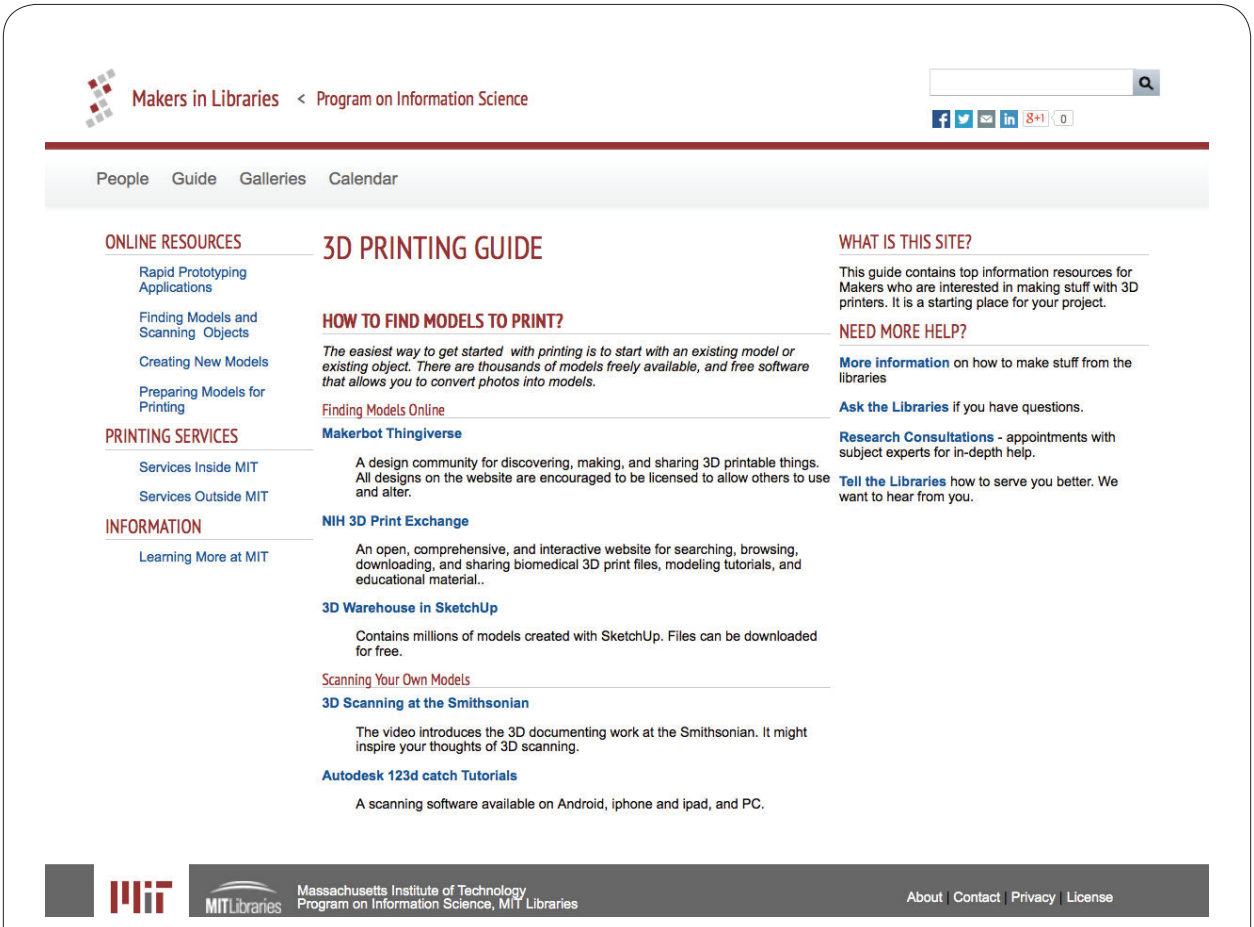
3D PRINTING SOFTWARE

Most 3D printers use specific software to prepare model files for print. Sometimes it is helpful to preview your model in the 3D printing software in order to have a better understanding of how your model will be produced (sizing, supports needed, etc.) while also helping you spot potential printing issues. Here are the free software programs for our 3D printers, available for download:

- **Makerbot Desktop**
  (free) 3D printer software for the Makerbot Replicator 2x
- **Cura**
  (free) 3D printer software for the Ultimaker 2

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

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
3D Printing Guide | How to Find Models to Print?
http://projects.informatics.mit.edu/maker/3d-printing-libguide/3



UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
Makerspace | Equipment & Software
http://library.unc.edu/makerspace/equipment-software/

UNC UNIVERSITY LIBRARIES | Libraries & Hours | Do Your Research | In the Library | Services | About Us | Contact Us

Background Off | About

Home › Makerspace › Equipment & Software

Equipment & Software

Equipment

Fusion3 F306

Build Volume
12 x 12 x 12 in.

Print Material
PLA (polylactic acid) bioplastic

File Type
.STL

Operating Systems
Windows (7+), Mac OS X (10.6+), LINUX (UBUNTU 12.04+)

Connectivity
USB, SD Card

MakerBot Replicator 2

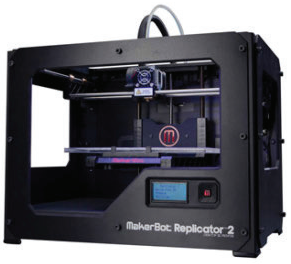
Build Volume
11.2 x 6 x 6.1 in.

Print Material
PLA (polylactic acid) bioplastic

File Type
.STL

Operating Systems
Windows (7+), Mac OS X (10.6+), LINUX (UBUNTU 12.04+)

Connectivity
USB, SD Card



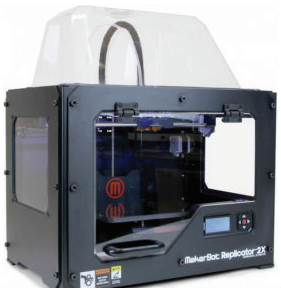
MakerBot Replicator 2X

Build Volume
9.7 x 6 x 6.1 in.

Print Material
ABS filament or MakerBot dissolvable filament; capable of printing in two interlaceable colors

File Type
.STL

Operating Systems
Windows (7+), Mac OS X (10.6+), LINUX (UBUNTU 12.04+)



Connectivity
USB, SD Card

MakerBot Replicator Mini

BUILD VOLUME
3.9 x 3.9 x 4.9 in.

Print Material
PLA (polylactic acid) bioplastic

File Type
.STL

Operating Systems
Windows (7+), Mac OS X (10.7+), LINUX (UBUNTU, Fedora)

Connectivity
Wi-Fi, USB

Sense 3D Scanner

This is a portable, easy-to-use 3D scanner. The Sense 3D Scanner can be checked out of the library for a 24 hour period of time.

Software
Sense scanning software

NextEngine 3D Scanner

This Full color, high resolution, professional 3D scanner can produce 3D-printable files.

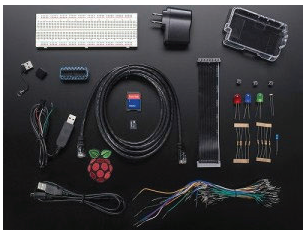
Software
ScanStudioHD

Raspberry Pi Starter Pack

Raspberry Pi kits can be used in the library for 4 hours at a time or checked out of the library overnight.

Contains:

- Raspberry Pi Model B 512MB RAM
- Adafruit Pi Case
- 3′ long USB Micro-B Cable
- 5V 1A power adapter
- USB TTL console cable
- 4GB SD Card
- Assembled Adafruit Pi Cobbler kit with GPIO cable
- USB microSD card reader



- Large full-size breadboard
- Breadboarding wires
- 10' long Ethernet cable
- 5 x 10K resistors for pullups on the buttons
- 5 x 560 ohm resistors for the LEDs
- 1 red 10mm diffused LED
- 1 green 10mm diffused LED
- 1 blue 10mm diffused LED
- 3 tactile pushbuttons
- Light-sensitive resistor photocell
- 1uF capacitor

Hakko-FX888D Soldering Iron

Procedures and policies.

Singer 9410 Sewing Machine

Procedures and policies.

Software

3D Design and Editing

Blender
kokopelli (Mac only)
MakerBot Desktop
Maya
MeshLab
meshmixer
netfabb
OpenSCAD
PyMOL
SketchUp
UCSF Chimera

Electronics

Arduino IDE
Processing

PURDUE UNIVERSITY
3D Printing: Software
http://guides.lib.purdue.edu/3dprinting/software

PURDUE LIBRARIES

Hours | My Account | Ask a Librarian | Course Reserves | Interlibrary Loan (ILL) | Libraries Directory | Give to the Libraries

Library Guides / 3D Printing / Software

3D Printing: Software

Enter Search Words | Search

This guide will assist patrons who plan to use the 3D printing available in the Engineering Library.

Home | Software | Tutorials | FAQ | 3D Scanning

Getting Started

There are two kinds of software you will need to use prior to printing.

- Design Software - to create your design
- Printing Sofware - to print your design

Looking for inspiraion? Be sure to check out the 3D Model Gallery to explore different collections.

Design Software

To create your own designs you have quite a few different options in design software. **All of the following programs are free** for you to use to create 3D models. Looking for inspiraion? Be sure to check out the **3D Model Gallery** below to explore premade designs.

- AutoCAD
  - Currently available on ITAP computers.
- TinkerCAD
  - A web-based program fo the beginner.
- Blender
  - Blender is a powerful, free, open source tool for creating 3D animation and models for 3D printing.
- SketchUp Make
  - Make Marketed for 'hobbyists, kids and backyard spaceship builders,' Sketchup is user-friendly and forgiving. Ideal for novices. Also comes in a paid Pro version.
- OpenSCAD
  - Ideal for creating solid 3D CAD models. Great for models of machine parts.

Printing Software

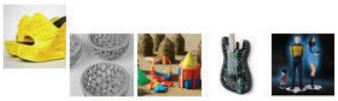
The Cube will only print **.cube** 3D files. Dowload the Cubify software to convert your file by clicking the link below.

- Cubify Printing Software

3D Model Gallery

If you're just looking for inspiration or want to explore the possibilities of 3D printing check out the following collections with downloadable 3D model designs.

- Cubify - Cubify has many .cube files available both for free download and for purchase.



  - Cubify Fashion - Fashion designs for both men and women including shoes, jewerly, watches, phone cases and more.
  - Cubify Decor - Designs for the home. Think frames, desktop accessories, barware and more.
  - Cubify Kids - This collection includes all kinds of fun toys and accessories.
  - Cubify Entertainment - This collections includes games, music, food, and even licensed products. You can even print a personalized super hero action figure!
  - Cubify Mancave - Not just for men, this collection includes all kinds of gadgets and devices.
- Thingiverse - Thingiverse is a community dedicated to sharing 3D designs.

  - Thingiverse has hundreds of user-submitted designs organized in categories and collections including Art, Gadgets, Learning, Tools and Fashion that are free to download.

If you do choose to use a downloaded file, be sure to read through the Helpful Hints section above to make sure your design is printer-friendly prior to printing.

Helpful Hints Before You Print

- Make sure you have used the **Cubify app** to convert your file to the **.cube format**.
- If your object has a **small base**, particularly if it is rounded, **select the 'raft' option** in the Cubify software to help it adhere to the printing surface
- **Two colored** printing is **discouraged**, as it takes about twice as long as one-colored printing, so two-color print jobs will receive lower priority than one-color jobs. If you want to use two colors, **consult with a library assistant** for suggestions.
- If your object has **large overhangs**, select the **'support' option** in the Cubify software.
- To keep the **cost down** for your option, you can **scale down your object** using the middle icon in the Cubify software, and you can **use the Draft** preset, and/or choose hollow fill.
- If you click on the **'i' button**, you can see an estimate of **how much time** your print job will take and **how much mass** it will take to print.
- For more quesions check out the Frequently Asked Questions.

Purdue University is an equal access/equal opportunity university.

SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
3D Printing at Morris Library | 3D Modeling Software & Free Models
http://libguides.lib.siu.edu/content.php?pid=551069&sid=4540922

SIU Southern Illinois University
CARBONDALE

Webmail | SIU Online | SalukiNet | A-Z Index | People Finder | Morris Library

SEARCH...

MORRIS LIBRARY
SOUTHERN ILLINOIS UNIVERSITY CARBONDALE

Morris Library » Morris Library Research Guides » 3D Printing at Morris Library

Admin Sign In

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.

Last Updated: Aug 17, 2015 | URL: http://libguides.lib.siu.edu/3d | Print Guide | RSS Updates | Email Alerts

Home | 3D Modeling Software & Free Models | Request a Print | Examples printed at Morris | Policies & Procedures | Resources
3D Printing Terms | Previous Tips of the Week | Virtual Exhibits Information

3D Modeling Software & Free Models Print Page Search: This Guide Search

FREE 3D SOFTWARE

- **Tinkercad**
  Tinkercad has a free version of its software that creates 3D digital models. This is a great program for beginners and is used in the web browser.
- **Autodesk 123D Design**
  Free design software that can be used as a web app, downloaded to PC or Mac, or as an iPhone/ipad app. This is a great program for beginners.
- **SketchUp**
  SketchUp Make is a free 3D drawing tool.
- **Blender**
  Blender is a free open source computer graphics software that can be used for 3D modeling.
- **Sculptris**
  Sculptris is a virtual sculpting program.
- **OpenSCAD**
  OpenSCAD is a free software to create solid 3D CAD objects.
- **Meshlab**
  Meshlab is an free open source program for processing and editing unstructured 3D triangular meshes.
- **Meshmixer**
  Meshmixer is a free prototype design tool.
- **Netfabb**
  Netfabb is a free software that processes and repairs stl files to prepare them for 3D printing.

OBJECT REPOSITORIES / COMMUNITIES

- **Thingiverse**
  Thingiverse is a community to discover, make, and share 3D models. Users can download files of objects that others have made. Several of the objects can be customized and modified.
- **Yeggi**
  Yeggi is a search engine to find 3D printable objects.
- **Repables**
  Open repository of digital files suitable for 3D printing.
- **Sketchup 3D Warehouse**
  Sketchup's design library of 3D models.
- **Smithsonian X3D**
  Collection of 3D models of various artifacts from the Smithsonian Museums.
- **NIH 3D Print Exchange**
  Search, browse, download, and share 3D biomedical printable models including custom labware.
- **NASA 3D Resources (Beta)**
  NASA's 3D resources site that includes several printable models in .STL format.
- **British Geological Survey**
  Site contains many 3D models of fossils. You can download an OBJ file to use in 3D printing.
- **AfricanFossils.org**
  Africanfossils.org has several 3D models of significant fossils and artifacts in categories such as hominids, animals, and tools. It is a partnership with Autodesk, National Geographic, the Turkana Basin Institute, the National Museum of Kenya, and Stony Brook University.
- **The Collection - Art & Archaeology Museum**
  3D Scan project by artist Oliver Laric at The Usher Gallery at The Collection in Lincolnshire, UK.
- **The Virtual Hamspon Museum**
  3D scans of Native American artifacts from the Hampson Archeological Museum State Park in Wilson, Arkansas. OBJ files are included.

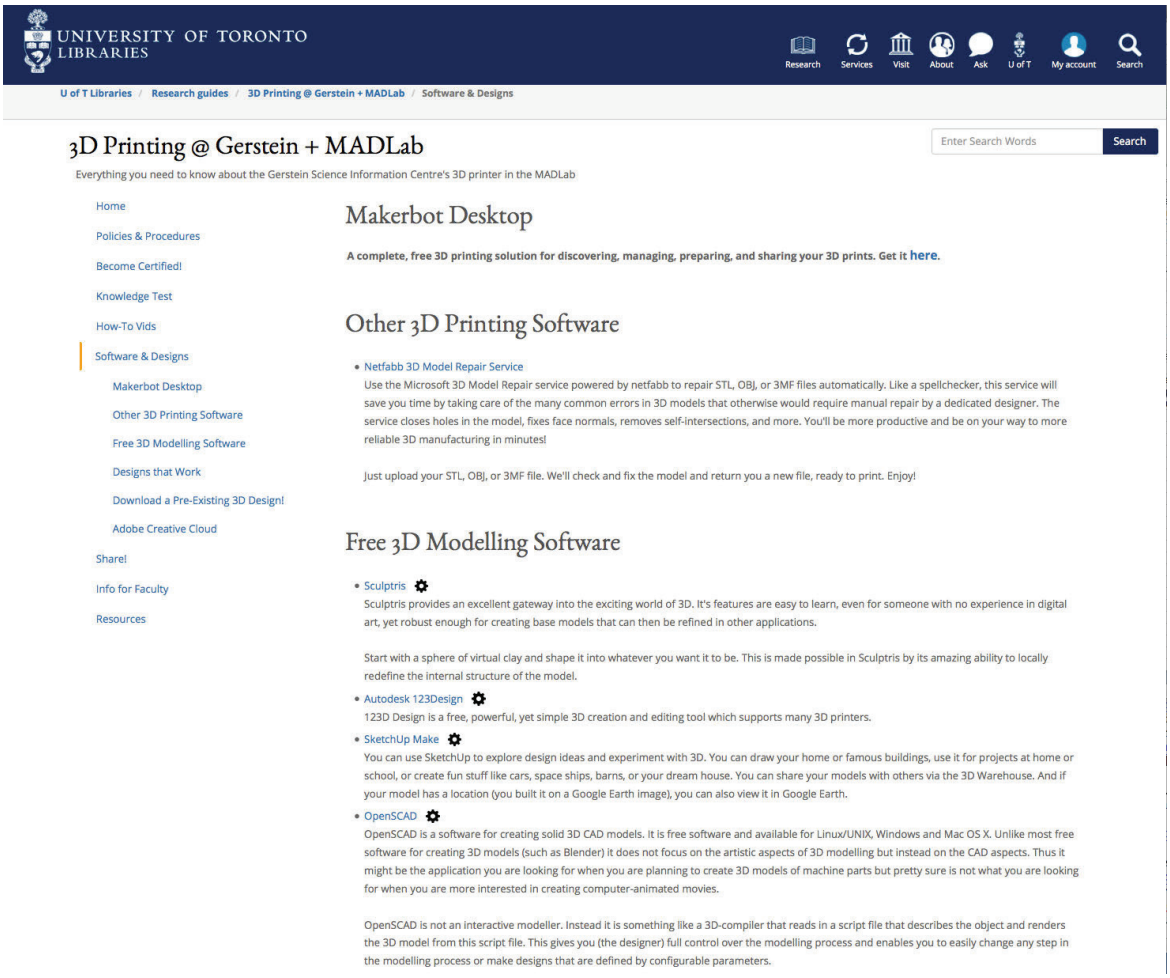
CONTACT MORRIS
Morris Library
Southern Illinois University
Carbondale, IL 62901
Information Desk: (618) 453-2818
Administrative Office: (618) 453-2522
Circulation Desk: (618) 453-1455
Web Administrator

CONNECT WITH MORRIS
Find us on Facebook
askalibrarian@lib.siu.edu

CAREERS
EOE
PRIVACY POLICY
EMERGENCY PROCEDURES

COPYRIGHT

UNIVERSITY OF TORONTO
Software & Designs
http://guides.library.utoronto.ca/c.php?g=251855&p=1678121



- Blender
  Blender is a free and open source 3D animation suite. It supports the entirety of the 3D pipeline—modeling, rigging, animation, simulation, rendering, compositing and motion tracking, even video editing and game creation. Advanced users employ Blender's API for Python scripting to customize the application and write specialized tools; often these are included in Blender's future releases. Blender is well suited to individuals and small studios who benefit from its unified pipeline and responsive development process.

Designs that Work

The Makerbot Replicator 2 ships with various easy-to-print, successful designs pre-loaded on an SD card. If you are brand new to 3D printing and just want to print something quick and easy, these designs might be what you want to start with. From chain links, to a stretchy bracelet, to a nut-and-bolt and mr. jaws, these designs do a great job of demonstrating the potential of 3D printing, while taking less than an hour (most are under 30 minutes) to complete!

Check out 3D Printing @ Gerstein + MADLab's smart collection of easy first-time prints on Thingiverse for more inspiration!

Download a Pre-Existing 3D Design!

It's like a thing. 3D designers and printers like to share their work. Check out the links below and search for or browse for a design that suits your fancy. If you're a beginner, we recommend going with designs that have a picture of the finished product. That way, you might be able to tell if it'll work!

- Thingiverse
  Browse the world's largest 3D design community for discovering, printing, and sharing 3D models. Join over 130,000 community members in downloading, sharing, and remixing 3D designs.
- NIH 3D Print Exchange
  Few scientific 3D-printable models are available online, and the expertise required to generate and validate such models remains a barrier. The NIH 3D Print Exchange eliminates this gap with an open, comprehensive, and interactive website for searching, browsing, downloading, and sharing biomedical 3D print files, modeling tutorials, and educational material.

  The NIH 3D Print Exchange is a collaborative effort led by the National Institute of Allergy and Infectious Diseases in collaboration with the Eunice Kennedy Shriver National Institute for Child Health and Human Development and the National Library of Medicine.
- Smithsonian X 3D
  Smithsonian X 3D launches a set of use cases which apply various 3D capture methods to iconic collection objects, as well as scientific missions. All of these uses cases are accessible through the Beta Smithsonian X 3D Explorer, as well as videos documenting the project. For many of the 3D models, raw data can be downloaded to support further inquiry and 3D printing.
- NASA 3D Resources
  Here you'll find a growing collection of 3D models, textures, and images from inside NASA. All of these resources are free to download and use. Please read the Usage Guidelines.

Adobe Creative Cloud

The MADLab has two workstations with Adobe Creative Cloud!

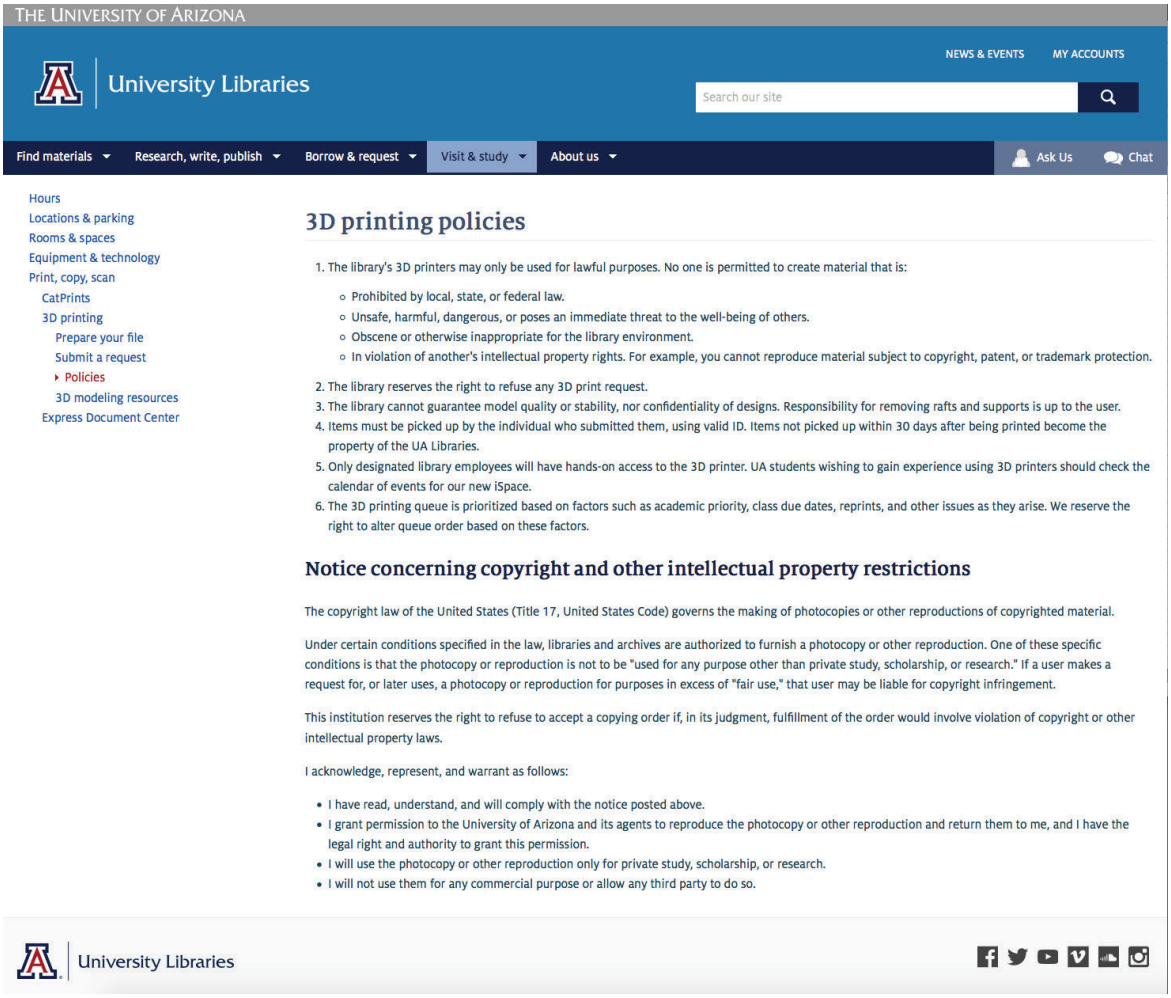
Adobe CC includes Photoshop 3D (including 3D printing functionality), Illustrator and more.

Contact mad.lab@utoronto.ca to book time on the Adobe workstations (no charge).

Find out more about Photoshop and 3D printing here.

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

NEWS & EVENTS | MY ACCOUNTS

University Libraries

Search our site

Ask Us Chat

Find Materials | Research, Write, Publish | Borrow & Request | Visit & Study | About Us

- Hours
- Locations & Parking
- Rooms & Spaces
- Equipment & Technology
- Print, Copy, Scan
  - 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.

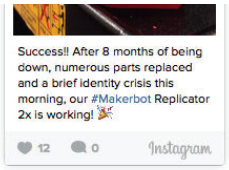
Gelardin staff will add the model to the printing queue.
If there is high demand, the Media Center will give priority to objects being printed for academic purposes.
The files will be readied for printing in MakerWare Desktop software. The Media Center will view all files in MakerWare Desktop.
Wait/pickup 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:

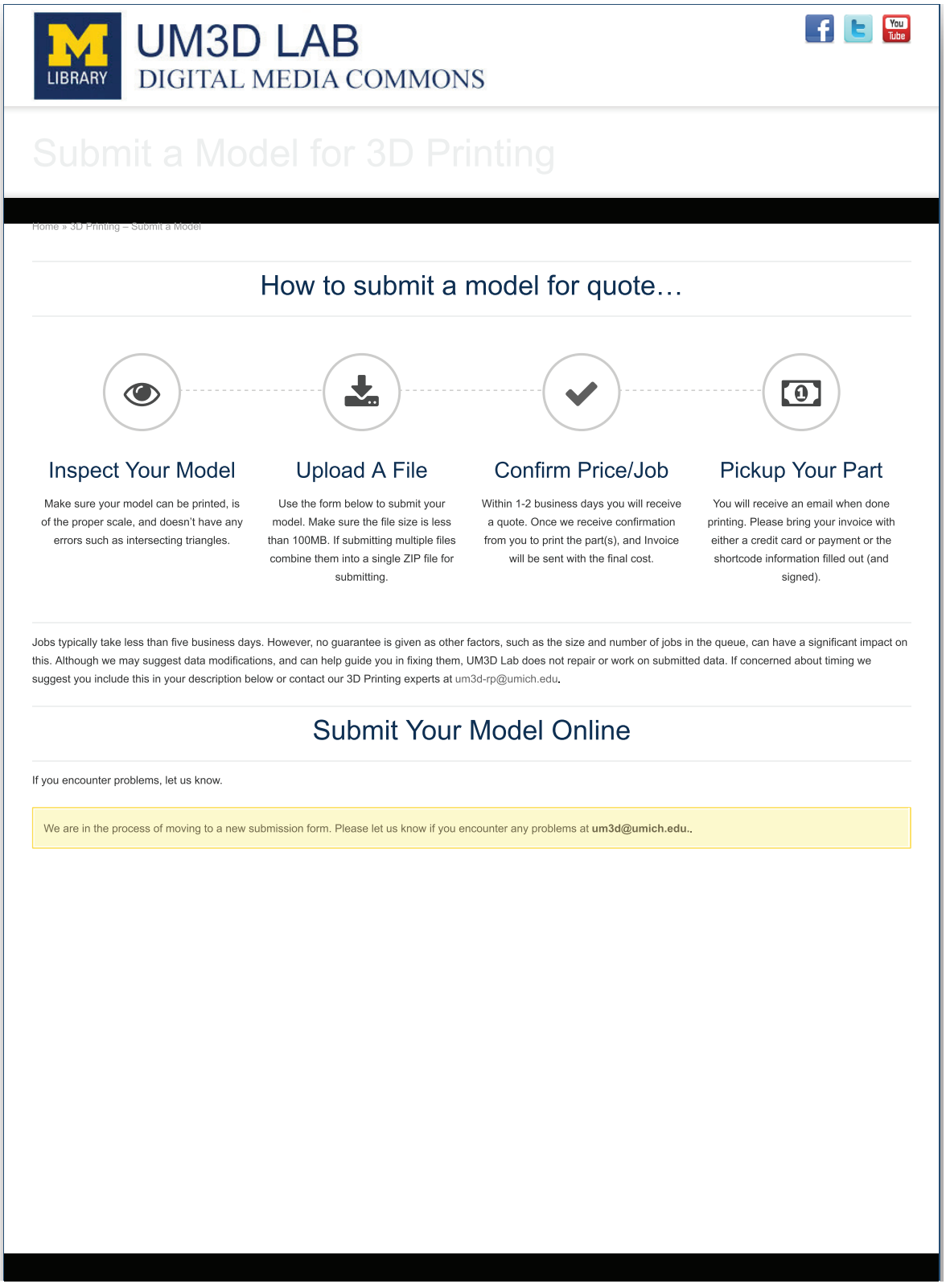
1. Follow the link to the SMS 3D Print Requests folder.
2. Look for a blue button in the top right corner that says, "Sign in" or "Open in Drive". Not signed in yet? Use your Flashline credentials or a personal Google account.
3. Click the "Open in Drive" button. This saves the folder to your Google 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

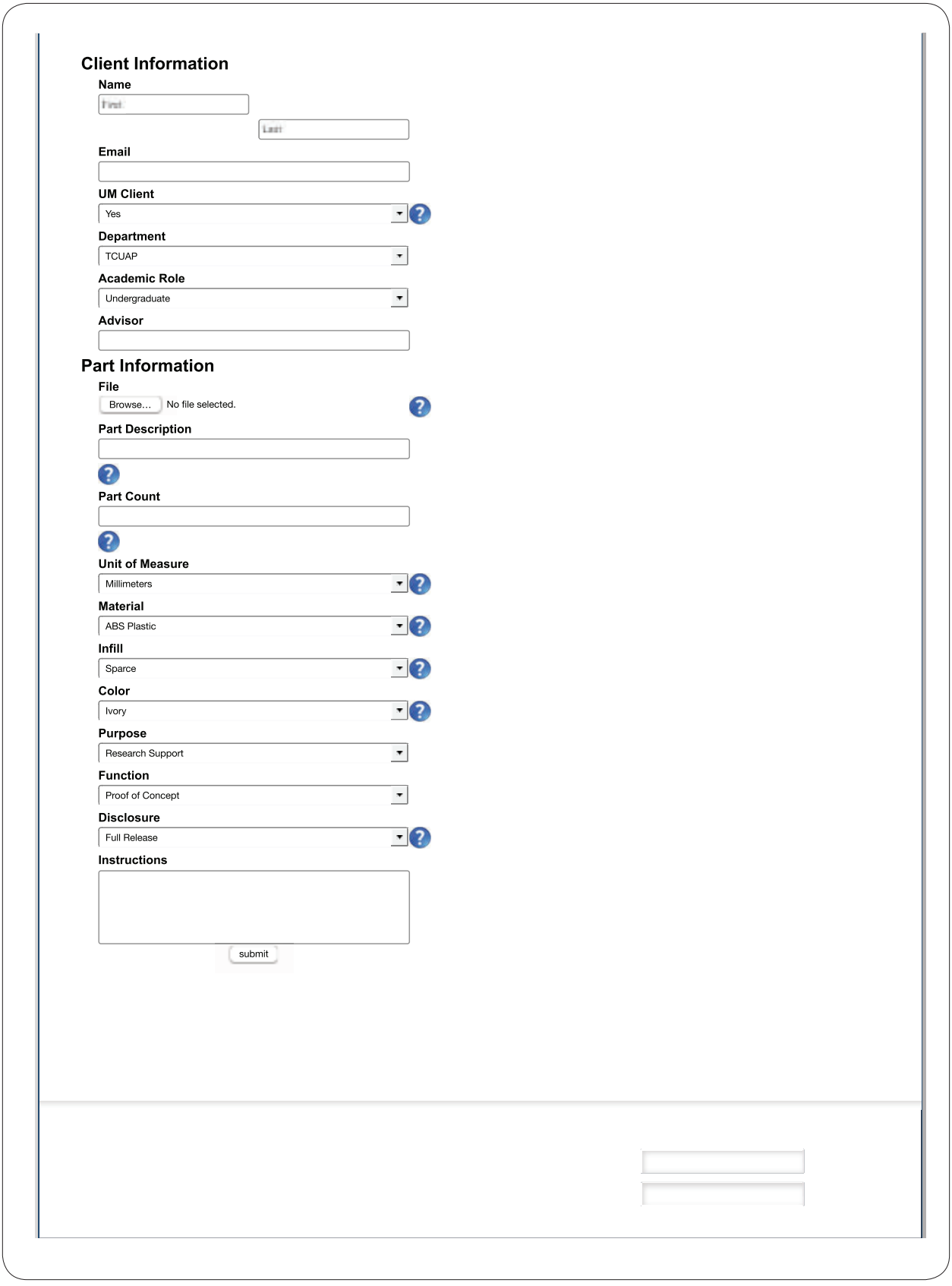
If you encounter problems, let us know.

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

UNC UNIVERSITY LIBRARIES | Libraries & Hours | Do Your Research | In the Library | Services | About Us | Contact Us

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.

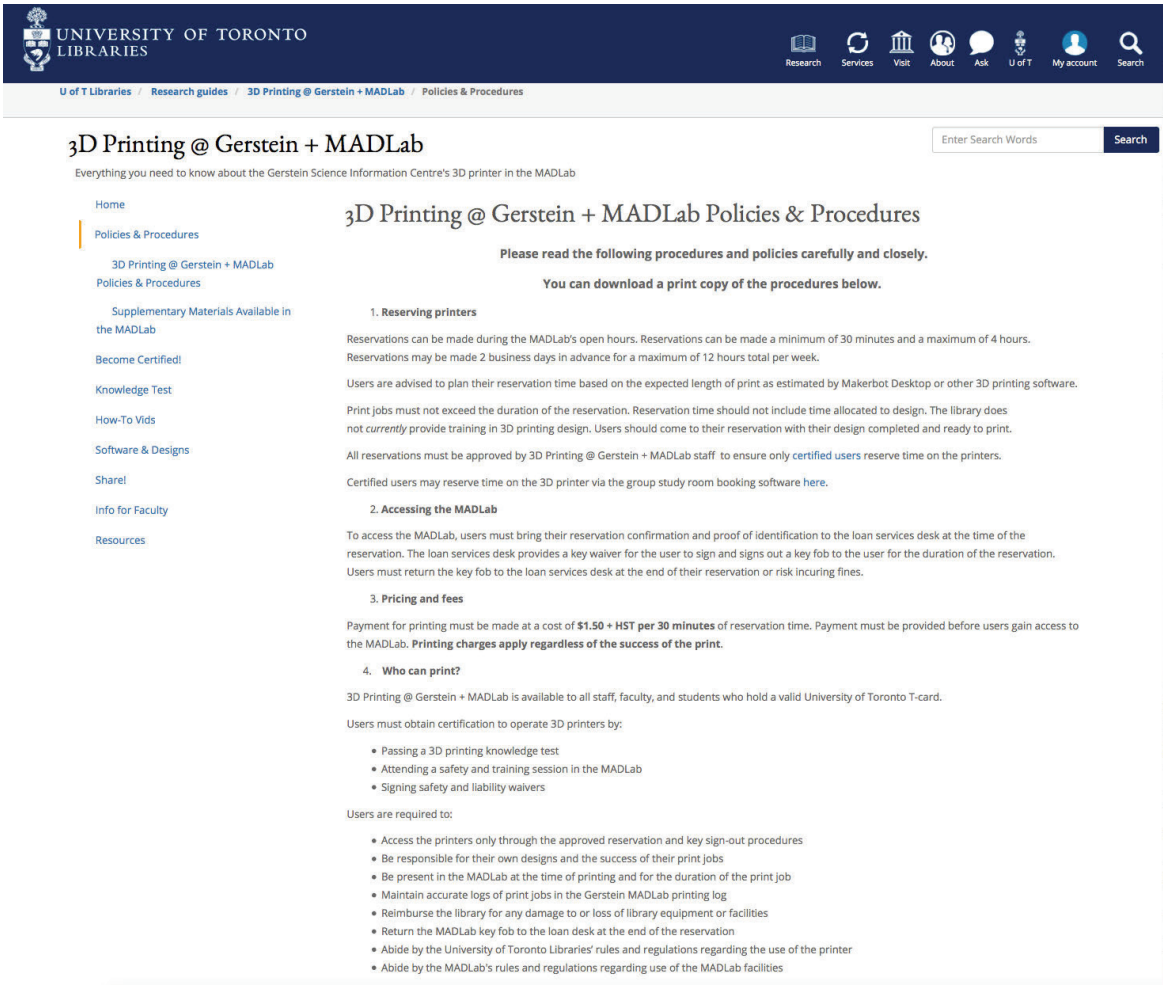
Approved by: Steering Committee, January 16, 2014

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



UNIVERSITY OF TORONTO LIBRARIES

Research Services Visit About Ask U of T My account Search

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.

- 3D Printing @ Gerstein + MADLab Policies & Procedures

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

Last Updated: Aug 18, 2015 10:01 AM | **URL:** http://guides.library.utoronto.ca/3Dprinting | Print Page | Login to LibApps

User Training

BRIGHAM YOUNG UNIVERSITY
3D Printing Guide: Software and Training
http://guides.lib.byu.edu/c.php?g=216600&p=1429613

BYU Harold B. Lee Library

Harold B. Lee Library / Subject Guides / 3D Printing Guide / Software and Training

3D Printing Guide: Software and Training

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

Designing 3D Models

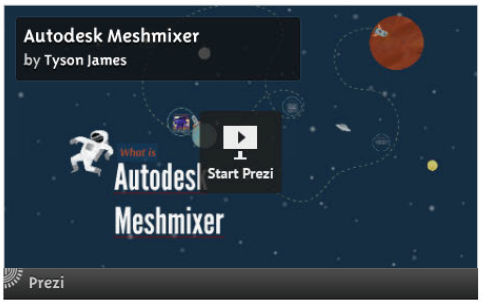
Say you have an idea for a great new bottle opener, or you just sketched a new character for your diorama of the Civil War, or a part broke on your model train and you can't find a replacement. By using some 3D design software, you can render your idea into a 3D model on the computer. If you want to design chess pieces with your family on them, or if you want to custom-build a case for your cell phone, you can do that too!

There are a number of different programs out there and they each offer unique features that may be helpful for you. Some programs are geared towards beginners, while others are more difficult to use, but offer more advanced features. Programs can also differ on their purpose. Some are CAD software that focus on creating precise mechanical drawings, while others are more for creative 3D drawing such as designing action figures or unicorns.

We currently offer Classes in:

1) Printing Preparation:

- Learn how to properly prepare your file to print exactly how you want it. We will go over the entire printing process (design, checks, gcodes, etc) and the limitations of 3d printing. We will be using the software, Meshmixer.



Subject Guide

Science/Maps Department

Email Me

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

Free Classes

- Sign Up Now!

Online Tutorials

- 3D Printing Ninja
- 3D Printing Ninja Youtube Channel
- Blender Cookie
- Lynda.com (Through Multimedia Lab)
- 123D Design YouTube Channel

Class Powerpoints

- 3D Printing Prep

- Learn basic CAD (Computer Aided Design) skills to create a 3D drawing. In this class, we will create a bicycle, die, fan, and bracelet. We will go over basic tools such as sketches, dimensioning, extrudes, revolutions, lofts, sweeps, fillets, patterns, and assembly.

3) Blender:

- Learn design skills such as modeling, editing, scupting, rendering, textures, and animation. In these class we will create a mug, iphone case, and sculpt a human head.

4) Adobe:

- Learn to incorporate Illustrator and Photoshop into 3D printing.

- Adobe
- Autodesk Meshmixer
- Autodesk 123D Design: Part 1
- Autodesk 123D Design: Part 2
- Blender : Object and Edit Modes
- Blender: Sculpting
- Blender: Animation & Physics

Class Files

- G-code file
- Blender Background Image
- Inspector Bunny
- Slice
- Non-manifolds
- 3D Printing Curriculum
- Blender Hotkeys

3D Modeling for Printing Class Survey

- Blender Survey
- Autodesk 123D Design

*If you have an FHE group that would like to take a class, please send us an email and we will arrange a private class for your FHE group.

Freeware 3D Design Programs

Here is a list of some FREE common software used in 3D design:

- Autodesk 123D
- Autodesk Inventor
- Blender
- Meshmixer
- Autodesk 123D Catch

Software for Purchase

Here is a list of common software used in 3D design available for purchase:

- Solidworks
- CATIA
- NX
- Zbrush

Print Preparation Programs

To ensure a quality print, it is a good idea to check your model for any errors. These programs will help you find and fix them before you bring it to us.

- Autodesk Meshmixer
- gCode Viewer
- netfabb
- Autodesk Print Utility

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

learn more & RSVP at library.georgetown.edu/events

3D PRINTING DEMONSTRATIONS FOR FACULTY

Math & Science: February 24, 351 Regents Hall

Humanities & Social Sciences: March 3, McGhee Library, ICC

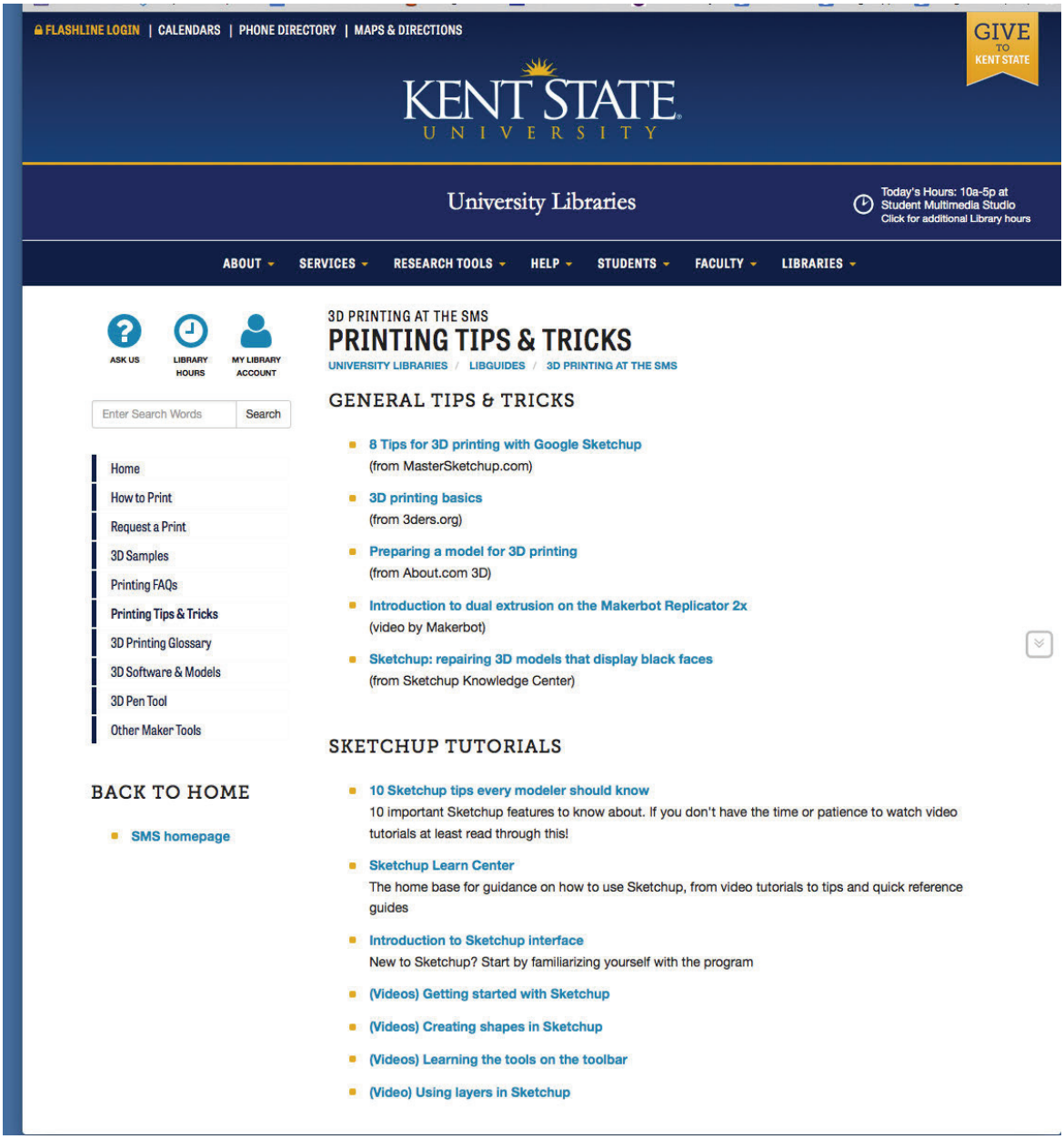
Business & Economics: March 17, 360 Hariri Building

International Affairs: March 24, McGhee Library, ICC

all sessions are 2 PM-3:30 PM ⬡ open to all interested faculty

GEORGETOWN UNIVERSITY LIBRARY

KENT STATE UNIVERSITY
3D Printing at the SMS | Printing Tips & Tricks
http://libguides.library.kent.edu/3d/3dtips



TINKERCAD TUTORIALS

- **Keyboard shortcuts for the Tinkercad Editor**
  (from the Tinkercad blog)
- **Tinkercad Quests**
  Interactive tutorials from Tinkercad to introduce users to the editing tool
- **Heard rumors that Tinkercad was going away?**
  If you've done searches on Tinkercad you may have seem articles stating that Tinkercad was no longer being developed and would soon disappear completely. Fear not - Autodesk bought Tinkercad! Read on for details.
- **How to 3D print a vector file using Tinkercad**
  (from instructables.com)

RHINO TIPS & TRICKS

- **Model preparation in Rhino**
  (from Williamette University) important aspects of your model to review before having it 3D printed

We do not currently have Rhino on our machines in the SMS so unfortunately we are not able to provide much instructional support. However, here are a few resources that may be of use to Rhino users.

- **Rhino - tutorials**
  (from Rhinoceros)

ONLINE 3D MODELING COMMUNITIES

- **Thingiverse**
  from Makerbot - a place to share and download free printable 3D model designs
- **Smithsonian X 3D**
  The Smithsonian is in process of digitizing its collection in 3D and offers free, downloadable model files
- **Sketchfab**
  Online community for publishing and browsing 3D models - some offer the option to download
- **YouMagine.com**
  a file-sharing 3D printing community with a built-in web-based 3d modeling tool
- **My Mini Factory**
  Downloadable 3D models (some free); sign up for a free account to earn free credits toward downloads; upload your own designs to earn more credits (and can even charge for your models)
- **Shapeways**
  Make, buy and sell 3D printed products
- **Ponoko**
  Make, share, buy or sell 3D product designs

LIBRARY

UM3D LAB
DIGITAL MEDIA COMMONS

Walk Up - Cube 2

Home » Cube 2

The UM3D Lab offers a wide range of Additive Manufacturing and 3D Printing technologies to help you create physical versions of your digital creations. We want to provide you the technology and support needed for you to do what you do best, come up with great ideas and novel uses.

As part of our service we have a collection of walk-up Cube 2 printers which give you the opportunity to get your hands dirty and print designs yourself. These printers are currently located in the Duderstadt Center just past the 1st floor info desk. All you need to get started is a material cartridge, an STL file, and registration into the reservation system. Below is a list of tutorials to get started, some helpful links for reserving time on the printers, and generally how to get started.

General hours for support in the UM3D Lab are: **Monday-Friday**: 9am-6pm

3D Printer Cluster

Steps to 3D Printing on the Cube 2:

1. Learn to Operate the Machine

Review the how-to videos below. They're short and show you how to use the printers so your part comes out correctly (and the machine survives the process). You will need this information to pass the knowledge test.

Watch Cube Tutorial Videos
Frequently Asked Questions

2. Get Access to the Printers

To be able to reserve the printers we need to know you understand how the printers operate and how to print a part. Take a basic knowledge test showing you understand what's in the videos.

Take the Knowledge Test

3. Reserve a 3D Printer

Once you've been added to the system (you will receive an email), you can reserve time on a printer through the Event Management System (EMS) reservation system. Once you've reserved a time block you can then get a key from the info desk **during your reserved time.**

Learning to Reserve Time
Open the EMS System

4. Print Your Creation

To fabricate your part you will need a **PLA** material cartridge **(NO ABS)**, and a USB memory stick containing your Cube file. It may take a couple tries to have a successful print, but once you get the hang of it you will be on your way! Be sure to order **PLA material only** as **ABS is not permitted** on MLibrary Cubes.

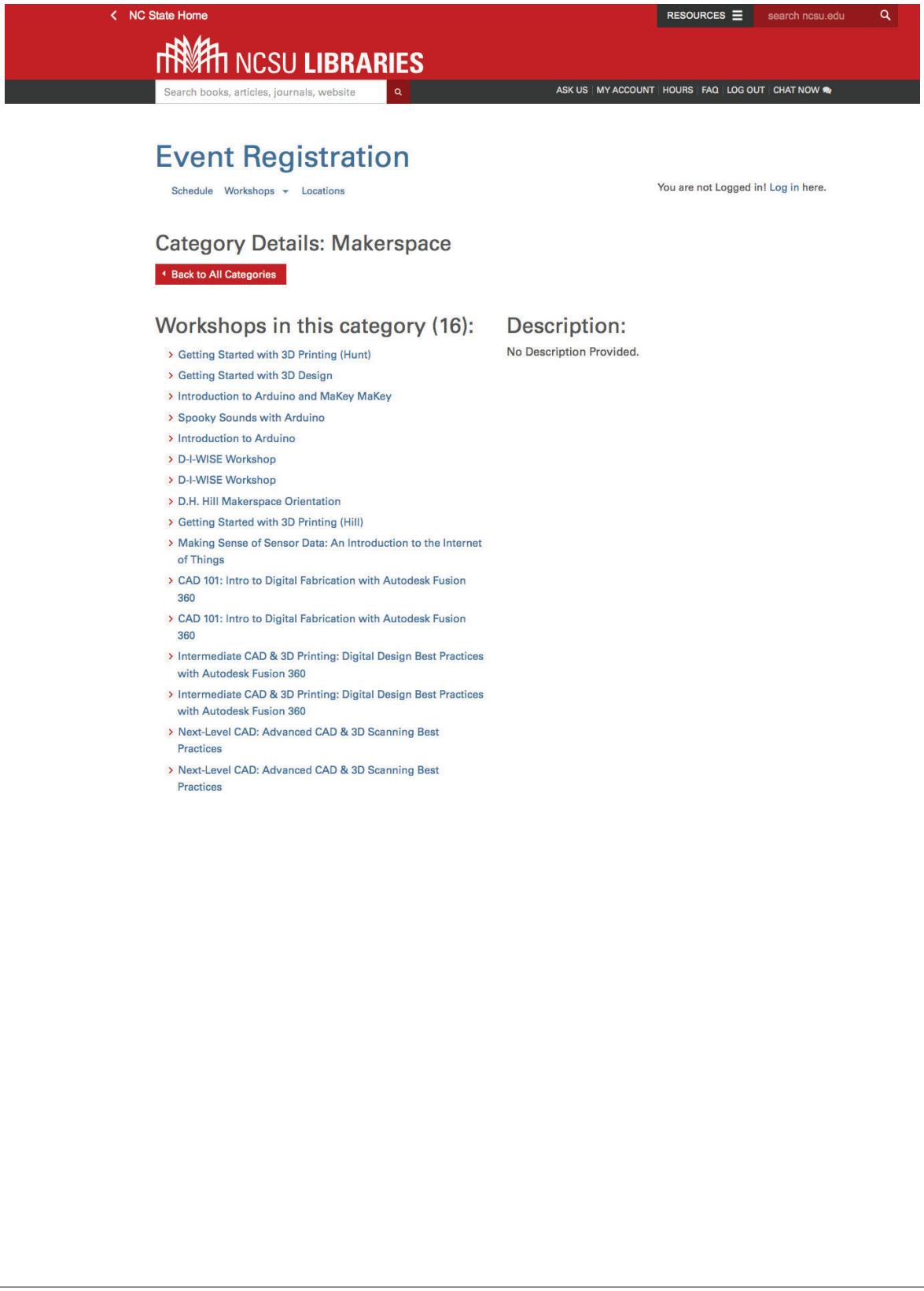
Order Your Own Materials
Download the Software

5. Final Cleanup

Please return the Cube to the state that you found it in. Remove your part, clean the print plate, toss any waste, return checkout items, and don't forget to take your USB memory stick.

Provide Us Feedback

NORTH CAROLINA STATE UNIVERSITY
Event Registration
https://www.lib.ncsu.edu/events/registration/workshop/category/details/categoryId/4



PURDUE UNIVERSITY
3D Printing: Tutorials
http://guides.lib.purdue.edu/3dprinting/tutorials

PURDUE LIBRARIES

Hours | My Account | Ask a Librarian | Course Reserves | Interlibrary Loan (ILL) | Libraries Directory | Give to the Libraries

Library Guides / 3D Printing / Tutorials

3D Printing: Tutorials

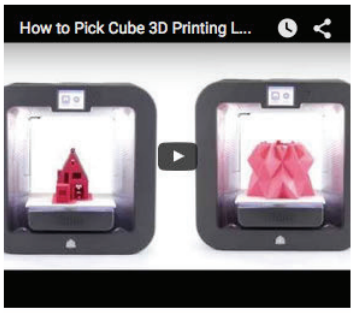
Enter Search Words | Search

This guide will assist patrons who plan to use the 3D printing available in the Engineering Library.

Home | Software | Tutorials | FAQ | 3D Scanning

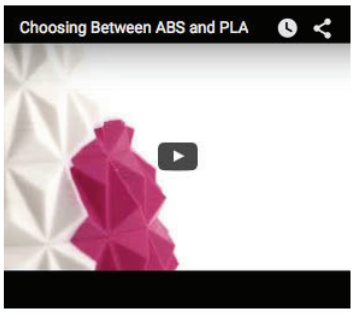
Decisions in Your 3D Print

- **Layer Resolution**



  - This video explains the differences in layer resolution options in the Cubify software. Layer resolution determines the thickness or thinness of your 3D print. Your options are 70 microns & 200 microns. 70 microns are for small, very detailed designs. This layer resolution does take more time in printing. Whereas the 200 microns layer resolution is prefered with larger, little-detailed designs, and prints much faster with less layers.

- **ABS or PLA Material**



  - After you've created your design, you can decide between two different printing materials; ABS or PLA. It's important to know that each material has its own qualities and characteristics, which can be an advanatge or disadvantage to your 3D Print. ABS is a softer, maluable plastic with a tendacy to warp. PLA is a recycled plastic with a glossier finish, but can be a bit more fragile.

- **Color Options**
  - The ENGR Library 3D Printer has the following colors to choose from. Even though you do have the option to create two-color 3D prints, we discourage it. Two-color prints are more expensive and require more time in printing. If you absolutely need a two-color print, **consult with the engineering library staff** first.

ABS Color Options	
PLA Color Options	

Using The Cube

A variety of tutorials via Cubify on how to manage the Cube 3.

- About the Cube 3
  A brief video highlighting the best features of the Cube 3.
- Cube First Print
  A basic introduction to using the Cube 3 for the first time, including basics about the Cube 3 software.
- Two-color Printing
  Information about printing with two colors.
- Auto Level and Auto Gap
  An explanation of how the auto level and auto gap features work on the Cube 3.
- Cartridge Change
  A brief demonstration of how to change the cartridges.

Designing 3D Models

- AutoCAD
  Essential training tutorial of AutoCAD'S 2016 program.

Below are a few Lynda.com tutorials on how to use different 3D design software programs. Refer back to the software section for available programs and the links to download them.

- TinkerCAD
  Designing replacement parts using basic tools on TinkerCAD.
- Blender
  An overview of modeling 3D designs in Blender 2.6.
- SketchUp Make
  A tutorial in navigating, drawing in 2D and 3D space, and designing ideas in SketchUp Make.
- OpenSCAD
  Creating a captive sphere using OpenSCAD's text instructions.

SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
3D Printing at Morris Library | Resources
http://libguides.lib.siu.edu/content.php?pid=551069&sid=4555728

SIU Southern Illinois University CARBONDALE

Webmail | SIU Online | SalukiNet | A-Z Index | People Finder | Morris Library

SEARCH...

MORRIS LIBRARY
SOUTHERN ILLINOIS UNIVERSITY CARBONDALE

Morris Library » Morris Library Research Guides » 3D Printing at Morris Library

Admin Sign In

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.

Last Updated: Aug 17, 2015 | URL: http://libguides.lib.siu.edu/3d | Print Guide | RSS Updates | Email Alerts

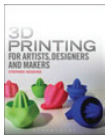
Home | 3D Modeling Software & Free Models | Request a Print | Examples printed at Morris | Policies & Procedures | Resources
3D Printing Terms | Previous Tips of the Week | Virtual Exhibits Information

Resources | Print Page | Search: This Guide Search

BOOKS

Fabricated - Hod Lipson; Melba Kurman
Call Number: Z249.3 .L57 2013x
ISBN: 9781118350638
Publication Date: 2013-02-11

3D Printing - Christopher Barnatt
Call Number: TS171.8 .B37 2013x
ISBN: 9781484181768
Publication Date: 2013-05-04



3D Printing for Artists, Designers and Makers - Stephen Hoskins
Call Number: TS171.4 .H67 2013x
ISBN: 9781408173794
Publication Date: 2014-01-02

Makers - Chris Anderson
Call Number: HB615 .A683 2012x
ISBN: 9780307720962

TUTORIALS

- Autodesk 123D Design Tutorials
- MasterSketchup.com
- Blender Tutorials
- Blender 3D Design Course
- Netfabb Studio Video Tutorials
- Makerbot's OpenSCAD Tutorial

3D PRINTING BLOGS

- 3D Printing Industry
- 3DPrint
- Makerbot Blog
- Fabbaloo
- 3ders
- Makerhome

3D PRINTING NEWS

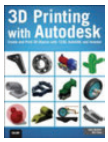
- 3D Printing Will Change Auto Industry, From Manufacturers to Dealers - Ward's Auto
- ORNL & Clayton Homes are 3D Printing a Home & Car That Share Energy with One ... - 3DPrint.com
- 3D printing can revolutionise emergency healthcare - SciDev.Net
- InterLatin Continues Success in 3D Market with Constructor 3D Printing Software - 3DPrint.com
- 3D Printing Dog 'Helps' Creates These One-piece Fully Assembled Kinetic Sculptures - 3DPrint.com

View Website
View Feed

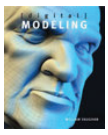
OBJECT REPOSITORIES / COMMUNITIES

- **Thingiverse**
  Thingiverse is a community to discover, make, and share 3D models. Users can download files of objects that others have made. Several of the objects can be customized and modified.
- **Yeggi**
  Yeggi is a search engine to find 3D printable objects.
- **Repables**
  Open repository of digital files suitable for 3D printing.
- **Sketchup 3D Warehouse**
  Sketchup's design library of 3D models.
- **Smithsonian X3D**
  Collection of 3D models of various artifacts from the Smithsonian Museums.
- **NIH 3D Print Exchange**
  Search, browse, download, and share 3D biomedical printable models including custom labware.
- **NASA 3D Resources (Beta)**
  NASA's 3D resources site that includes several printable models in .STL

3D MODELING BOOKS



3D Printing with Autodesk - John Biehler; Bill Fane
Call Number: TS171.8 .B54 2014
ISBN: 9780789753281
Publication Date: 2014-05-14



Digital Modeling - George Maestri; William Vaughan
Call Number: T385 .V38 2012x
ISBN: 9780321700896
Publication Date: 2011-12-23

Beginner Blender - Lance Flavell
ISBN: 9781430231271
Publication Date: 2010-01-01

Publication Date: 2014-04-08

Printing Things - Claire Warnier; Dries Verbruggen; S. Ehmann (Editor); R. Klanten (Editor)
Call Number: TS171.8 .P75 2014x
ISBN: 9783899555165
Publication Date: 2014-05-22

Make - 3D Printing - Anna Kaziunas France (Editor)
ISBN: 9781457182938
Publication Date: 2013-12-13

Blender Master Class - Ben Simonds
ISBN: 9781593274771
Publication Date: 2013-03-03

Autodesk Inventor 2014 and Inventor LT 2014 - Thom Tremblay
Call Number: T385 .T74 2013x
ISBN: 9781118575208
Publication Date: 2013-07-22

format.

- **British Geological Survey**
  Site contains many 3D models of fossils. You can download an OBJ file to use in 3D printing.
- **AfricanFossils.org**
  Africanfossils.org has several 3D models of significant fossils and artifacts in categories such as hominids, animals, and tools. It is a partnership with Autodesk, National Geographic, the Turkana Basin Institute, the National Museum of Kenya, and Stony Brook University.
- **The Collection - Art & Archaeology Museum**
  3D Scan project by artist Oliver Laric at The Usher Gallery at The Collection in Lincolnshire, UK.
- **The Virtual Hamspon Museum**
  3D scans of Native American artifacts from the Hampson Archeological Museum State Park in Wilson, Arkansas. OBJ files are included.

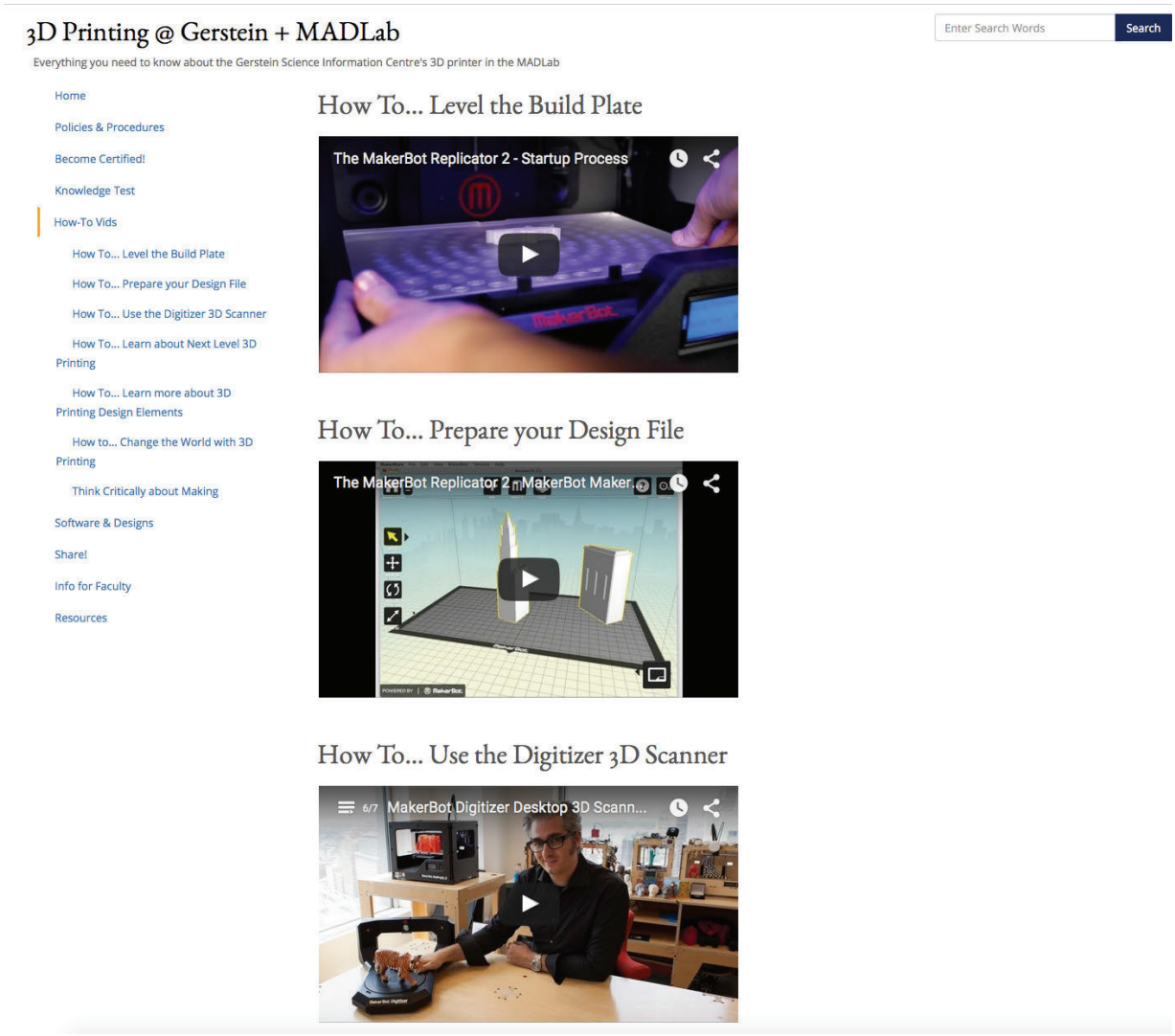
CONTACT MORRIS

Morris Library
Southern Illinois University
Carbondale, IL 62901
Information Desk: (618) 453-2818
Administrative Office: (618) 453-2522
Circulation Desk: (618) 453-1455
Web Administrator

CONNECT WITH MORRIS

Find us on Facebook
askalibrarian@lib.siu.edu

UNIVERSITY OF TORONTO
How-To Vids
http://guides.library.utoronto.ca/c.php?g=251855&p=1678124

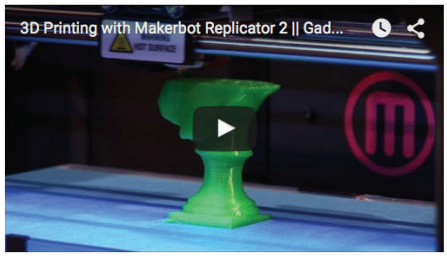


UNIVERSITY OF TORONTO
How-To Vids
http://guides.library.utoronto.ca/c.php?g=251855&p=1678124

How To... Learn about Next Level 3D Printing

Watch Toronto's resident 3D Printing expert, Derek Quenneville, show off objects and design elements created by 3D printers more powerful than our own Makerbot Replicator 2s.

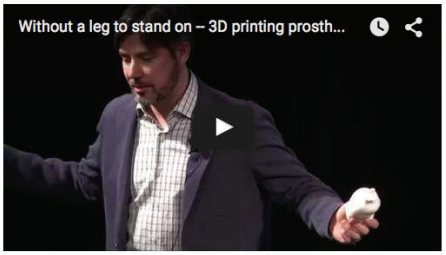
How To... Learn more about 3D Printing Design Elements



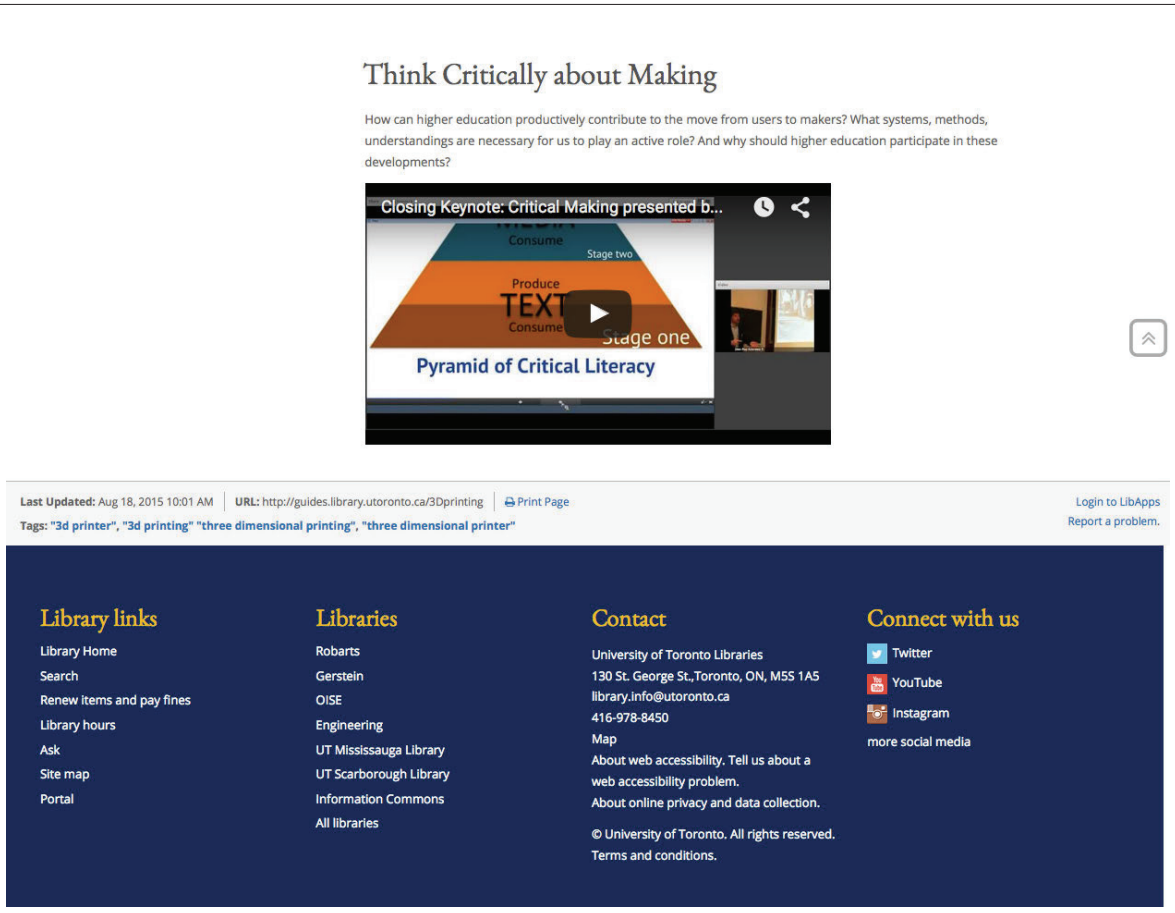
How to... Change the World with 3D Printing

Watch the inspiring videos below to see how 3D printing is changing lives with patience, spirit, and a desktop 3D printer.

UNIVERSITY OF TORONTO
How-To Vids
http://guides.library.utoronto.ca/c.php?g=251855&p=1678124

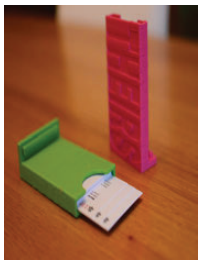


UNIVERSITY OF TORONTO
How-To Vids
http://guides.library.utoronto.ca/c.php?g=251855&p=1678124



UNIVERSITY OF TORONTO
Resources
http://guides.library.utoronto.ca/c.php?g=251855&p=1678122

Featured Print



Want to up your networking game and show off your 3D printing skills? Organize your business cards and collected cards with these dual card holders on Thingiverse. More job-hunting designs on the blog!

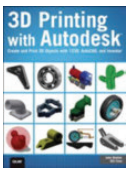
3D Printing Collection @ The MADLab

Getting Started with MakerBot by Bre Pettis; Anna Kaziunas France; Jay Shergill
ISBN: 1449338658

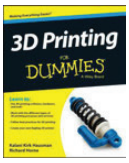
Makers: The new industrial revolution by Chris Anderson

Makers by Cory Doctorow

Fabricated by Hod Lipson; Melba Kurman



3D Printing with Autodesk by John Biehler; Bill Fane

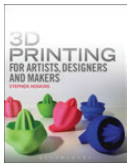


3D Printing for Dummies by Kalani Kirk Hausman; Richard Horne

Make: Ultimate Guide to 3D Printing 2014 by Mark Frauenfelder (Editor)

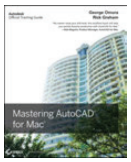
DIY Citizenship by Matt Ratto (Editor); Megan Boler (Editor)

More 3D Printing Resources at UTL

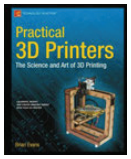


3D Printing for Artists, Designers and Makers by Stephen Hoskins

Beginning Google Sketchup for 3D Printing by Sandeep Singh



Mastering AutoCAD for Mac by George Omura; Richard (Rick) Graham



Practical 3D Printers by Brian Evans

The

3D Printing & Making Websites

- Adafruit Industries
  Tutorials, community forums, and an online shop for makers and 3D printers. Also view their extensiv YouTube channel!
- Instructables 123D group
  Instructions for designing creative prints using Autodesk 123D Design.
- MAKE Magazine
  Online resources for videos, how-tos, blog posts, and more on a wide range of maker projects.
- MakerSpace
  MAKE Magazine's online community for makers.
- Shapeways
  Sell 3D printed products in Shapeways' online marketplace.
- The Art of 3D Print Failure Flickr Group
  A community for sharing epic fails and learning from mistakes.
- YouMagazine
  An online community of 3D print enthusiasts and tinkerers for sharing ideas.

3D Printing & Making Blogs

- 3D Printing Industry
  News and reports on new developments in 3D printing.
- 3Digital Cooks
  A blog all about experimental 3D food printing.
- James Madison University 3-SPACE
  JMU students in 3D printing courses blog about what they've learned and applications of 3D printing i their future careers.
- Law in the Making
  The 3D printing law blog. All about copyright, patents and other legal issues.
- MakerBot Blog
  The company's blog featuring tips, updates, and cool projects.
- RepRap Magazine
  Free online magazine including reviews, interviews, and news about 3D printing.
- Tales of a 3D Printer
  A middle school Maker Club blogs about their adventures in 3D printing.
- Textile Messages
  Blog of The Creativity Labs at Indiana University Bloomington. Posts on wearable tech, maker culture, and learning and technology.

UNIVERSITY OF TORONTO
Resources
http://guides.library.utoronto.ca/c.php?g=251855&p=1678122

Toronto 3D Printing Services & Maker Communities

- University of Toronto Faculty of Applied Science & Engineering - Entrepreneurship Hatchery 3D Printing Service
  After you apply for the 3D printing service and submit your STL file, one of the Hatchery connectors will contact you about all the specifics we need to know for the printing.
- 3D Hubs in Toronto
  Find makers in your community who will print your designs for a fee.
- 3Dphacktory
  A full-service 3D printing and design studio located downtown.
- Critical Making Lab
  Website of the University of Toronto's Critical Making Lab, including workshops and info about their projects.
- Hacklab.to
  A collective of computer programmers, web designers, and hardware hackers. The group runs a blog and meets on Tuesday nights.
- Hot Pop Factory
  A 3D design and printing studio, offering printing services and consultations for client projects.
- MakeLab
  A manufacturing studio for makers and businesses. Also run classes and events.
- MakerKids
  Programs for kids and training for adults in their Dundas West makerspace.
- Toronto MakerFaire
  A two-day festival for makers to show off and share their projects and expertise.

Last Updated: Aug 18, 2015 10:01 AM | **URL:** http://guides.library.utoronto.ca/3Dprinting | Print Page
Tags: "3d printer", "3d printing" "three dimensional printing", "three dimensional printer"

Login to LibApps
Report a problem.

Library links

Libraries

Contact

130 St. George St.,Toronto,
ON, M5S 1A5

416-978-8450

About . Tell us about a .

About .

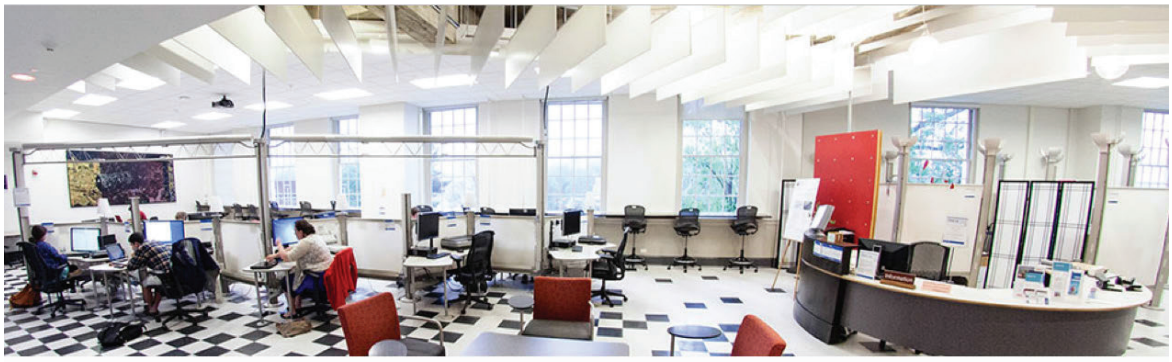
Connect with us



UNIVERSITY OF VIRGINIA
Scholars' Lab | Spring 2015 Makerspace Workshops
http://scholarslab.org/experimental-humanities/spring-2015-makerspace-workshops/

SCHOLARS' LAB

about research fellowships makerspace events blog people



Spring 2015 Makerspace Workshops

By Laura Miller · January 21, 2015

Introduction to Omeka
Wednesday, January 28
10:00 am–11:30 am · Alderman Library, Room 421
Omeka is a simple, free, web publishing system developed at the Roy Rosensweig Center for History and New Media at George Mason University. It was specifically built to enable scholars, archives, libraries, museums, and independent researchers to create online exhibits of their work without having to know HTML or CSS. If you have a collections of digital resources that you want to show in a scholarly way, Omeka could be a great tool to have in your toolkit.
Instructor: Ronda Grizzle

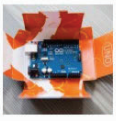
omeka

Introduction to 3D Printing
Thursday, January 29
2:00 pm–3:30 pm · Alderman Library, Room 421
This workshop will introduce participants to the exciting world of desktop fabrication. We'll provide a brief overview of current trends and tools for 3D modeling and printing. We'll also go over the basics of model creation with photogrammetry, and discuss how 3D printing works, including a live demonstration with one of our Makerbots.
Instructor: Jeremy Boggs

Working with Arduino I
Thursday, February 5
2:00 pm–3:30 pm · Alderman Library, Room 421
Do you want to hack your personal items with switches or sensors? Arduino is a tool for making microcomputers that can sense and control the physical world. This workshop will introduce participants to the basics of physical computing programming through a series of hands-on exercises using our Arduino kits. No electronics experience required!
Instructor: Jeremy Boggs

Introduction to Neatline
Wednesday, February 11
10:00 am – 11:30 am · Alderman Library, Room 421
Using Neatline, anyone can create beautiful, interactive maps, timelines, and narrative sequences from collections of archives and artifacts, telling scholarly stories in a whole new way. Join us for this hands-on introduction. See http://neatline.org/ for more information.
Instructor: Ronda Grizzle

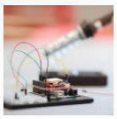
Working with Arduino II
Thursday, February 12
2:00 pm–3:30 pm · Alderman Library, Room 421
New to microcontrollers? Or used an Arduino before and want more time to play in a supportive environment? Come on by! Arduino is a tool for making microcomputers that can sense and control the physical world. This workshop will introduce participants to the basics of physical computing and programming through a series of hands-on exercises using our Arduino kits. This workshop builds on the Working with Arduino I workshop, but it's not required to attend this one.
Instructor: Jeremy Boggs



HTML for Beginners
Thursday, February 19
2:00-3:30 pm · Alderman Library, Room 421
Wonder how websites work? Want to get started creating web content of your own, but have no idea how to do that? This is the class for you. We'll cover everything from how URLs work to basic HTML coding skills to general netiquette. This workshop is intended for absolute beginners with no knowledge of HTML.
Instructor: Ronda Grizzle

Intro to Wearables and Soft Circuits
Wednesday, February 25 [THIS EVENT HAS BEEN RESCHEDULED FOR **MARCH 18 at 10:00 AM**]
10:00-11:30 am · Alderman Library, Room 421
Have ideas to make your life simpler with hacks for your outerwear or accessories? This beginner workshop will introduce the basics of circuity and give an overview of current trends in wearable computing. Participants will make their own circuit using LED's and conductive thread. Materials will be provided and no experience with sewing or electronics is necessary.
Instructors: Jeremy Boggs and Purdom Lindblad

Working with Arduino III
Thursday, February 26
2:00 pm–3:30 pm · Alderman Library, Room 421
New to microcontrollers? Or used an Arduino before and want more time to play in a supportive environment? Come on by! Arduino is a tool for making microcomputers that can sense and control the physical world. This workshop will introduce participants to the basics of physical computing and programming through a series of hands-on exercises using our Arduino kits. This workshop builds on the Working with Arduino I and II workshops, but they're not required to attend this one.
Instructor: Jeremy Boggs



Introduction to 3D Printing
Thursday, March 5
2:00 pm–3:30 pm · Alderman Library, Room 421
This workshop will introduce participants to the exciting world of desktop fabrication. We'll provide a brief overview of current trends and tools for 3D modeling and printing. We'll also go over the basics of model creation with photogrammetry, and discuss how 3D printing works, including a live demonstration with one of our Makerbots. This course is a repeat of the Jan. 29 session.
Instructor: Shane Lin

Scholars' Lab workshops assume attendees have no previous experience. They will be hands-on with with expert assistance. All are free to attend, and they are open to the UVa and larger Charlottesville community.

Job Descriptions

UNIVERSITY OF CALGARY

Job Profile

UCPL Number:
Job Title: **Digital Media Commons (Student) Assistant**
Date: **April 16, 2012**
Faculty/Admin Area: **Libraries and Cultural Resources**
Department/Unit: **Digital Media Commons**
Job Family *(if known)*: **OPA**
Development Phase (*if known*)**: Phase I**

Nature of the Work (*To whom position reports, complexity and amount of work/peak periods, other conditions: eg shift work, callout, dangerous or stressful conditions etc*)**:**

Reporting to the Manager of the Digital Media Commons, the incumbent will be supporting new and cultural media learning services to a diverse cross-disciplinary environment of students, faculty and the public.

The Digital Media Commons (DMC) consists of space and technologies for students, faculty and the public to explore traditional and emerging digital collections, high-end Apple hardware, edit suites, touch tables, cutting edge gaming PCs, retro and contemporary gaming consoles and software as well as audio and visual carrels. It is intended to be a place to facilitate exploration and creation of new and cultural media forms such as animation, soundscapes and maintaining a progressive position in new and cultural media applications within an academic environment.

Primary Purpose of the Position (*Key purpose, functions, roles*)**:**

The primary purpose of this position is to provide operational support for digital media equipment and software within the Digital Media Commons including Mac Pro computers, Magic Planet digital globe, SMART Touch Tables, PC and Mac A/V Edit suites, DJ Controller/Mixers, Gaming PCs, retro and contemporary gaming consoles, 3-D Printers and scanners, and providing operational support for Audio/Video previewing stations and auditory and visual collections in the

Visual and Performing Arts (VPA) department.

The position plays an important role assisting the manager in ensuring the smooth daily operations of the Digital Media Commons. This requires working closely with students, Faculty, staff and members of the public.

Qualifications/Expertise:

Required
Completion of some courses in Computer Science or a digital media related discipline
Strong background in Mac and PC's
Excellent skills in working with people in a problem-solving and support environment
Excellent written and verbal communications skills
Experience setting up and installing hardware and software,
Relevant working knowledge of digital media creation software
Experience with troubleshooting and support of computer equipment
Experience with gaming hardware (PC, console, handheld)
Experience in SMART technology, including touch tables
Experience with A/V viewing/listening equipment

Accountabilities, Tasks, and Duties (*Results and outcomes expected when roles are carried out successfully, with supporting details on how results are accomplished*)**:**

Maintenance

Technical systems are fully functional and available to users whenever the Digital Media Commons (DMC) is open to the public.
New software is installed as requested and required
Ensure equipment and area is clean and presentable
Diagnose and correct simple hardware problems
Assist users with both hardware and software problems
Train users in the use of various technologies, with the goal being user competence and independence

Client Services

Users are courteously provided with information and advice about programs and services offered by the Digital Media Commons.
Users are provided with necessary technical assistance to operate audio/visual and digital media equipment.
Users are provided with access to reserved equipment, media and facilities in the DMC and Visual and Performing Arts
Users and potential users are aware of programs and services offered via DMC and VPA

Ensure users are following proper policies and procedures when booking and using equipment
Host and/or assist with workshops for students on Digital Media related topics

Communications / Relationships

Tracking usage of DMC technologies and applications
Collecting examples of digital media creations completed using DMC technologies for promotional purposes
Informs Digital Media Commons Manager of emergencies and new developments in a timely manner
Ability to work independently and as part of a team
Ensures that the Manager is kept informed of activities and progress of work; shares information regarding projects and activities with others
Collaborate and communicate directly with Visual and Performing Arts and other LCR service points staff

Occupational Health & Safety

- Understands and complies with the requirements of the University's Occupational Health and Safety Policy.
- Has knowledge of and understands the expectations of the University's Occupational Health and Safety Management System (OHSMS) and applicable Faculty/Departmental/Unit specific health and safety policies and procedures.
- Ensures that all work conducted is in accordance with the Alberta Occupational Health and Safety Act, Regulation and Code and other health and safety legislation as applicable

Core Competencies

The University has established 8 core competencies that flow from its mission and values. Competencies define the behaviours, knowledge and skills important for University of Calgary staff. Further information about the 8 competencies and detailed definitions can be accessed on the Human Resources website at www.ucalgary.ca/hr, or through contacting Human Resources.

Each of the 8 competencies is important for staff at the University. Applying relative weightings to them identifies which of the 8 are especially important for a particular position. Relative weightings assist with selection and performance development processes. Most job profiles have 3 to 4 competencies selected as having CRITICAL IMPORTANCE, with the rest being selected as having CORE IMPORTANCE. Please choose the relative weightings below.

1. **COMMUNICATION** *(Ability to share information in an effective and collaborative manner)*

   Critical Importance\

2. **INNOVATIVENESS/INITIATIVE** (*Ability to be creative, challenge and demonstrate initiative to generate improvements and foster positive outcomes)*

   Core Importance

3. **TEAMWORK** (*Ability to function effectively in team situations both within and across departments and other organizations to achieve optimal collective results)*

   Core Importance

4. **KNOWLEDGE AND TECHNICAL SKILLS** (*Ability to demonstrate proficiency in technical and job knowledge aspects of the position to achieve a high level of performance. An ability and a desire to learn)*
   Critical Importance

5. **PERSONAL EFFECTIVENESS** *(Ability to demonstrate respect, dignity and integrity in interpersonal relationships and to demonstrate positive personal coping and wellness strategies)*

   Core Importance

6. **UNIVERSITY UNDERSTANDING** *(Ability to demonstrate effectiveness within the University environment and demonstrate an understanding of the University context)*

   Core Importance

7. **LEADERSHIP** (*Ability to achieve positive outcomes by encouraging, supporting, coaching, developing and mentoring others)*

   Core Importance

8. **FLEXIBILITY** *(Ability to adapt and respond to the changing environment and to constructively create opportunities for change through active participation)*
.

   Critical Importance

Staff Member:	**Date (yy-mm-dd):**
Team Leader/Supervisor:	**Date (yy-mm-dd):**
Dean/Director (optional):	**Date (yy-mm-dd):**

NORTH CAROLINA STATE UNIVERSITY LIBRARIES

EMERGING TECHNOLOGY SERVICES LIBRARIAN
VACANCY ANNOUNCEMENT

The NCSU Libraries has a well-earned reputation for creating adventurous library spaces and innovative services that delight today's students and researchers. Soon we will open a magnificent new library that promises to be nothing less than the best learning and collaborative space in the country. Located on NC State's Centennial Campus, the James B. Hunt Jr. Library will be an iconic space, a place where people gather to explore new ways to research, learn, experiment, collaborate, and affect the world. Designed as a working incubator for educational technology, this is a library that features dynamic video walls, computing and visualization spaces, gaming and media labs, and group collaboration rooms, as well as 2 million print volumes housed in the bookBot, an automated book delivery system. The Hunt Library will serve as a second "main library," complementing the D. H. Hill Library, with services focused on the Centennial Campus community. Centennial Campus, adjacent to NC State's main campus, includes the colleges of Engineering and Textiles, more than 75 science and technology research centers, and 60+ corporate, government, and non-profit partners. If you are a person who would like to provide a new generation of library users with everything they can imagine and more, consider applying for the following position.

The NCSU Libraries invites applications and nominations for the position of **Emerging Technology Services Librarian** to join the Learning Commons team. The NCSU Libraries has a Learning Commons in the D. H. Hill Library and will offer two large Learning Commons in the Hunt Library. These Commons are active, collaborative, comfortable spaces with workstations, productivity software, group work areas, and flexible seating. Learning Commons staff and trained student peer advisors provide research and technology assistance and programming to support users of these spaces.

Responsibilities
The Emerging Technology Services Librarian

- provides frontline services for digital media and technology equipped spaces in the James B. Hunt Jr. Library, including the Technology Showcase, gaming lab, group studies, and media rooms
- manages the technology-lending program at Hunt Library, working closely with students and faculty to identify emerging needs for new devices and software
- recruits, trains, and supervises students who provide peer-to-peer support and instruction for related services
- publicizes the Libraries' digital media resources and technology services and updates and maintains related information on the Libraries' website
- participates in library planning, serves on library-wide committees, task forces, and teams

NCSU librarians are expected to be active professionally and to contribute to developments in the field. Reports to the Director of Learning Commons Services.

Required qualifications:

- ALA-accredited MLS or equivalent advanced degree in library or information science
- experience with digital media including some combination of video and audio production, 3D modeling, data visualization, and/or game design
- demonstrated commitment to creative, high-quality library services and facilities
- outstanding written and oral communications and interpersonal skills
- supervisory ability and the ability to work both independently and in a team environment
- evidence of ability for ongoing professional development and contribution

Preferred qualifications:

- knowledge of applications of current and emerging digital media technologies as they contribute to meeting the needs of students and researchers

•relevant experience, including engagement with a user community

The Libraries, the University, and the Area
The NCSU Libraries and its staff have won numerous awards, including the first Association of College and Research Libraries' **Excellence in Academic Libraries Award**, *Library Journal*'s **Librarian of the Year**, **Paraprofessional of the Year, and** six **Movers and Shakers** awards. The library system currently consists of the D. H. Hill Library and branch libraries for design, natural resources, textiles, and veterinary medicine, with the James B. Hunt Jr. Library opening soon. With a staff of 260+ FTE, the Libraries has more than 4.4 million volumes in its collection, acquires more than 62,000 print and electronic serials, and has a total annual budget of over $25 million, with approximately $9.5 million allocated to collections. The Libraries is the host site for NC LIVE, a multi-type library initiative making digital resources accessible to North Carolina residents.

The NCSU Libraries is a member of the Association of Research Libraries, the Digital Library Federation, the Coalition for Networked Information, the Scholarly Publishing and Academic Resources Coalition, the Council for Library and Information Resources, and the Center for Research Libraries. Duke University, the University of North Carolina at Chapel Hill, North Carolina Central University, and North Carolina State University form the Triangle Research Libraries Network (TRLN), with combined resources exceeding 14 million volumes and collections budgets totaling more than $30 million.

Recognized as one of the nation's leading universities in science and technology, with strong programs in the humanities and social sciences, NC State offers degrees through the Colleges of Agriculture and Life Sciences, Design, Education, Engineering, Humanities and Social Sciences, Management, Natural Resources, Physical and Mathematical Sciences, Textiles, and Veterinary Medicine. As the largest academic institution in the state, NC State enrolls more than 34,000 students and offers doctoral degrees in 61 fields of study. The university is ranked third among all public universities (without medical schools) in industry-sponsored research expenditures and has more than 660 active patents. NC State is a national leader in networking technologies and a charter member of the North Carolina Networking Initiative (NCNI), an Internet2 initiative with the most advanced operational networking system infrastructure in the nation.

Between the mountains of the Blue Ridge and the shores of the Outer Banks lies North Carolina's Research Triangle of Raleigh, Durham, and Chapel Hill. One of the nation's premier concentrations of academic, corporate, and public research, the area combines moderate year-round temperatures, rolling hills, championship college athletics, and a rich diversity of cultural events. The Triangle consistently ranks high on lists of desirable American communities, including recent ratings by ***Forbes*** as the number-one place for business and careers and as the number-two spot for young professionals.

Salary and Benefits
The Libraries offers a highly competitive salary in recognition of applicable education and experience for this position. Librarians have non-tenure track faculty status (without levels of rank). Benefits include: 24 days vacation, 12 days sick leave; State of NC preferred provider medical insurance, and state, TIAA/CREF, or other retirement options. Additional and optional dental, life, disability, deferred compensation, and legal plans are offered. Tuition waiver program for all campuses of The University of North Carolina is available. More benefits information is available at http://www7.acs.ncsu.edu/hr/benefits/

Application process and schedule
Applications will be reviewed upon receipt; applications will be accepted until finalist candidates are selected. Candidates are encouraged to apply as soon as possible to receive full consideration. The nomination committee may invite candidates for confidential, pre-interview screenings. Appointment requires successful completion of background check. This position is available immediately; start date is negotiable.

Applicants must apply through the NC State University online employment website at http://jobs.ncsu.edu/postings/677 . Complete application, and attach cover letter and résumé, with contact information for four current, professional references. For assistance with this process contact NCSU Libraries Personnel Services Office (919) 515-3522.

Affirmative Action/Equal Opportunity Employer
NC State welcomes all persons without regard to sexual orientation
Persons with disabilities requiring accommodations in the application and interview process please call (919) 515-3148.

10/11

POSITION DESCRIPTION

SIU CARBONDALE
LIBRARY AFFAIRS

Title of Position: Lecturer (Science Librarian)

Appointment: Lecturer, full-time, 12 month, term, renewable, Non-Tenure-Track

Responsibilities: Under the general direction of the Associate Dean for Information Services and responsive to input from the Dean of Library Affairs , the Science Librarian provides reference, instruction, liaison, collection development, outreach, and general library services to the University community. Specific responsibilities include:

- Assists patrons at the Information Desk with research and reference questions, including limited nights and weekends. Provides general reference service via face-to-face, online, email, chat, phone, and consultation means.
- Instructs students and faculty in the use of library resources and technologies, as well as in information access, evaluation, and management in face-to-face and online settings as appropriate. Assists in the development of instructional curricula (including for credit and non-credit courses), online learning modules, web pages, user guides, and assessments.
- Serves as subject specialist and liaison to departments covering Science disciplines, providing formal and informal instruction in library research for these departments. Assists with subject-specific research queries in areas of expertise. Identifies opportunities for outreach and strategic partnerships with specific SIU departments based on expertise.
- Assists with student recruitment, orientation, and retention strategies.
- Selects monographs and recommends other resources for science disciplines. Participates in other collection development activities as needed.
- Participates in the library's scholarly communication initiatives, including the population of the Institutional Repository.
- Serves on library and university committees.
- Other duties and responsibilities as assigned.

Required Qualifications:

- ALA-accredited master's degree in Library Science (MLS) awarded by date of appointment.
- Bachelor's degree in a science or engineering discipline.
- Proficiency in the use of general and subject-specific reference resources and in conducting library research.
- Experience creating web-based guides and tutorials (e.g., LibGuides).
- Working knowledge of a wide variety of information technology applications (e.g., Microsoft Office) and databases.
- Excellent interpersonal and oral and written communication skills.
- Demonstrated strong organizational skills, including the ability to manage projects, and multiple tasks while meeting deadlines and solving problems in a complex and dynamic environment.
- A strong customer-service orientation.
- Demonstrated ability to work independently and collaboratively with diverse faculty, staff, and students in a rapidly-evolving, team-oriented environment.

Preferred Qualifications:

- Additional master's degree in a science or engineering discipline.
- Speaking, reading and writing knowledge of a second language.
- Experience working in an academic library.
- Teaching experience.
- Collection development experience.
- Familiarity with online learning management systems and tools.
- History of working with diverse populations and college students.
- Experience writing, obtaining, and managing grants.

_____ _____
Incumbent Date

_____ _____
Associate Dean for Information Services Date

_____ _____
Dean of Library Affairs Date

UNIVERSITY OF VIRGINIA
Scholars' Lab | Expanding Our Makerspace Community
http://scholarslab.org/uncategorized/expanding-our-makerspace-community/

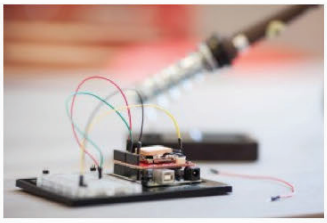
SCHOLARS' LAB

about research fellowships makerspace events blog people

Expanding Our Makerspace Community

By Laura Miller · May 5, 2015

Are you a UVA graduate student or upper-level undergraduate in the humanities? Interested working in our Makerspace?



Our Makerspace is designed to foster experimentation with 3D modeling and printing, physical computing (e.g. Arduino, wearables) and more. We are seeking part-time student consultants to help maintain the public space, field users' basic maker and general computing questions, and connect researchers to Scholars' Lab staff when necessary. When not actively engaged with users, students will be asked to experiment with the equipment, to pursue their own research, and to publish their processes and observations on the Scholars' Lab blog. They will also be expected to conduct informal workshops to train new users.

Experience with 3D modeling and printing, electronics, sewing, and/or programming preferred, but can be learned on the job. The successful candidate will be able to work up to 10 hours per week.

An important aspect of the maker culture is apprenticeship and supporting makers in their pursuit of professional experience. We are looking for motivated individuals who are capable of working independently and value the opportunity to engage with and support a growing community. Benefits of the job may include: access to expertise and mentoring in your field of interest, use of equipment and tools, and ability to shape Scholars' Lab workshops and programming.

Candidates should include a cover letter discussing their interest in working in the Scholars' Lab, detailing any experience or interest in participating in a maker space, and outlining any previous experience with public service or assisting others in using technology.

If you would like to apply, please fill out an application in CavLink.