A makerspace in 4 easy steps

Step 1:
Get some friends:
Having support from a group of faculty, staff, and students is crucial. The more disciplines represented in this group, the better.

Step 2:
Do your research:
- Look at resources such as Make magazine, MakeSchools website, makerspace Facebook groups, library makerspace websites, and, of course, search the databases to discover what other academic makerspaces are doing.
- Reach out to learn how those on your campus would like to use this type of space and equipment.

Step 3:
Get funding:
- Make a plea to administration
- Share costs with other departments
- Get friendly with the grants department. They will not write a grant proposal for you, but they can help you write one well.

Step 4:
Find a space:
- Library is already a central gathering place. We converted an underutilized media workroom into our makerspace and reused most of the furnishings.
- Look for any other campus spaces that can be set up with card or key access. It doesn’t need to always be a large space.

Well, maybe not that easy

Complications:
- Writing a grant proposal takes a lot of time and getting funding isn’t always guaranteed.
- Equipment problems: 3D printers can be finicky
- Maintaining enthusiasm and participation among faculty
- Documenting usage of the space and equipment
- Keeping up with student demand for non-academic use
- Ensuring that the campus community knows the focus of the space (e.g., those who want to design and print things for them or who want to print lots of things for profit).
- Learning 3D design software takes time and skill.

Where do you start when setting up a makerspace?

Get some policies and procedures
Reserving use: Devise a system for reserving equipment such as Outlook Calendar, Google Calendar, Acuity Scheduling, etc.
Documentation: Make instructions and policies available on a LibGuide or website as well as on signs posted in the space.
Software: Make sure any software needed to use the equipment is installed where necessary.

Get all the little stuff
In addition to the supplies you expect (such as filament, vinyl, etc.) you’ll also need tons of little things like:
- Tools: Multiple pairs of snippers, tweezers, pliers, sanding files, small spatulas, hammer, nails, hex wrenches, cutting blades
- Cleaning supplies: Hand vacuum, paper towels, spray bottle, canned air, alcohol pads
- Weird 3D printer supplies: Sewing machine oils, glue stick, hairspray, painter’s tape
- Other supplies: Clipboards, paper cutter, cutting mat, super glue, glue gun, plastic primer, safety glasses, model paints, first aid kit

Get organized
- Label. Everything.
- Make sure printed instructions are available in the space near each piece of equipment.

Get the word out
- Assemble a group of interested faculty and staff
- Post on the campus digital display or send out fliers
- Advertise on social media
- Word of mouth starting with library student workers and tech savvy faculty.

Get training
- Plan a training session all trainers will follow
- Find others to help with sessions
- Schedule training sessions during set times or meet with classes.

Who has been using the makerspace?

Department | Project
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History | Astrolabe models
Chemistry | SpecPhone, Instrumental Analysis, protein structures, housing for a fluorometer
Religious Studies | Models of Minarets and other religious structures
Art History | Studying the art of a thing, replicas of sculptures
Computer Science | EEG headset to measure brainwaves
Anthropology | Bone fracture models, replicas of hominid bones, models from MRI scans, reproductions of cultural artifacts
Studio Art | Creating objects and signs for gallery exhibits, street art, stencils, analyzing replicas
Geology | Fossil replicas, scans of geodes
Wriston Galleries | Exhibits signs, scanning collections, scanning broken objects and creating a complete replica
Music Pedagogy / Conservatory | Saxophone reed, violin chin rest, cello hand support
Music Theory | 3D models of sound waves

What do we have in our space?

- Desktop 3D Scanner
- Two Ultimaker 2 3D Printers
- Fuel3D Scannit Handheld 3D Scanner
- Collage & Craft Station
- Singer Sew Mate Sewing Machine
- Silhouette Cameo Electronic Cutter
- MakeSpace podcast

What’s next?
Continue to spread the word to faculty, staff, and students
- Events: Guest speakers, more open houses, summer coffeehouses, speak at various committee meetings, summer ACM maker conference
- Social media: @LUMakerspace on Twitter and advertise on the Mudd Library social media channels
- Maker Pedagogy on campus: Have regular meetings
- Expand creative use: set up sewing, crafting, painting, and tinkering projects in the makerspace
- Possibly collaborate with the Appleton Makerspace

Expand access to the space
- Work with students to form student Maker Club for non-academic use of the space to make the space more available to all students.
- Give Back:
  - Submit Lawrence-created 3D files to repositories like Thingiverse and NIH 3D Print exchange.
  - Publish more blog posts and assignment ideas to our makerspace website and community sites.

Let us help you!
Steal our ideas
- We post lots of projects and ideas on
  - Twitter: @LUMakerspace
  - Flickr: Lawrence_Makerspace
  - Website: blogs.lawrence.edu/makerspace

Use our documentation
- Most of the documentation we use in the makerspace is available to download from our website blogs.lawrence.edu/makerspace

Contact us!
- Send an email to makerspace@lawrence.edu

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Setting Up an Academic Makerspace
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