

Makerspace Financial Projections Worksheet

This worksheet was developed by Gui Cavalcanti and Molly Rubenstein at Artisan's Asylum. We've grown through several sizes (1,000 to 9,000 to 25,000 to 40,000 square feet!) and business models at the Asylum, and have developed a worksheet based on those experiences that helps identify realistic costs based on your mission and, as a result, the income necessary to sustain such a space. We've designed this worksheet both to be used both independently of a workshop or lecture, and in conjunction with such a thing. We strongly suggest you start a companion spreadsheet to keep up with all the arithmetic we ask you to do in this worksheet. Enjoy!

Space Description:

1. Space Design

What kind of space do you want? Are you looking to share a garage with your friends? Establish a small, close-knit community of makers with a couple of shared tools? Create a sustainable business with a diverse income? Create a community center or hardware incubator for your entire institution or city? It doesn't matter if your space isn't where you want it now, but for the purposes of projections, you need to know where you'd like it to end up. This question will affect the rest of your decision making, so spend some time on it and write a brief answer down here. Identify if you're for-profit, non-profit, communal, or supported by an outside institution:

A couple of the most-common makerspace styles we've seen are:

- Small teaching-only space with a small number of instructors (1-10 people) that can be sustainable by requiring relatively little infrastructure or full time staff
- Small, volunteer-run community (10-60 people) that occasionally teach classes and pay rent on a 1,000 to 8,000 sqft space with relatively low membership fees
- Shared workspace (4,000 to 25,000+ sqft) where many individuals and small businesses band together to rent a larger warehouse space at low per-person costs, sometimes sharing equipment and sometimes not, with a small group (1-3 people) nominally in charge
- Large (8,000 to 40,000+ sqft) community workshop usually featuring at least educational programs and shared tools/workspace, a robust business plan, and sometimes featuring storage or studio rental space
- Very large (40,000 to 150,000+ sqft) community development facility intended to rent large spaces to startup businesses that each need 1,000+ sqft, usually featuring a mentorship network and sometimes featuring shared tools/workspace

2. Size

How big is your space? How big do you want it to be eventually? What kinds of uses do you want out of your space? Classrooms, workshops, storage, and rental studios all take up significant amounts of space. In broad terms, we've found that spaces need to be at least **8,000 square feet** (in an area with low rental rates) or larger to support continuously paid, full-time staff (with exceptions for spaces that run exclusively off of **grants and/or classes**, and don't offer much in the way of shared equipment or common workspace). Write down the overall size you would like to project for in this document:

A couple of example spaces include:

- Artisan's Asylum is 40,000 sqft, supports 5 full-time staff and 40+ part-time teachers
- MakerWorks is 30,000 sqft, supports 2 full-time staff and 8 part-time staff
- TechShop is 15,000 sqft on average, supports 5-10 full-time staff
- i3Detroit is 8,000 sqft, supports 1 paid accountant
- sprout is 2,000 sqft, supporting 3 full-time staff and 5-10 part timers through classes

3. Space Distribution

How is your space divided up between workshops, classrooms, offices, rental areas, and the like? You don't have to know for sure, but we have some basic suggestions for how large things turn out to be based off of experience. Fill out the following list with whatever seems most appropriate right now – based off income and expenses you fill in later, you will probably choose to come back and adjust these proportions.

- Fire Lanes: _____ sqft (Minimum **25-35%** of your floor area!)
- Welcoming Area: _____ sqft (50-250+ sqft, if needed)
- Social/Food Area: _____ sqft (15-40 sqft/seated person required)
- Dedicated Classroom: _____ sqft (20-50 sqft/seated person required)
- Workshops: _____ sqft (Minimum 500 sqft; 75-150 sqft/person)
- Rental Studios: _____ sqft (50 sqft seems to be minimum sqft/person)
- Storage Space: _____ sqft (1 pallet = 13 sqft, 1 shelf set = 8-12 sqft)
- Gallery/Display Area: _____ sqft (Can be thin sections of wall)
- _____ sqft
- _____ sqft
- _____ sqft

4. Number of Connections

Before we get into potential numbers of members and students you might have, take a minute to quantify the size of the social network of your founders, the size of recurring events that you're already running that draw crowds, and access to any established networks that you might have. Keep these numbers in mind when you start projecting how large your classes might be, or how many members you can convince to join you.

- Number of people already on your mailing lists and event groups: _____
- Total number of 'friends', 'followers', etc. founders have access to: _____
- Average attendees for frequent events (classes, Meetups, etc.): _____
- Number of people on accessible, established networks: _____
- Average attendees for rare events (Maker Faires, festivals, etc.): _____

Keep in mind that most of these people won't directly participate in your business, but might pass information along for you (especially at first). Artisan's Asylum's initial kickoff party had 100 interested people attend after a mailing that reached 700 individuals in 2 major communities, and a Facebook invitation that reached another 600 (with some overlap to the mailing). Of all those people, around 30-40 signed up for an initial month of classes, 10-15 were interested in volunteering in a significant way, another 10-15 wanted memberships, and around 150 signed up for the mailing list over the course of a month.

Artisan's Asylum now has 300 members and a sustained 250-300 students a month that are the result of 2,200 people on our main mailing list, 1,600 people on our Facebook group, 1,200 people on our Facebook page, and occasional messages to related communities that connect to 3,000-4,000 people.

Monthly Expenses:

Before we get into potential income, let's figure out how much money it costs to actually run your space. Working on expenses first will put you in a mindset of determining what the bare minimum level of participation in your space must be for you to be sustainable – if those numbers look unattainable to you, it's time to think about changes to your business model.

1. Rent

To-date, our single biggest expense is rent. It used to be more than 75% of our monthly expenses; with paid staff and large utility bills, it's now hovering around 25-30%. Pay attention to how much your rent is, as that will drive the rest of your business plan. A word of caution, though – try not to skimp on your building choice in order to pay a lower rent. Fixing broken buildings costs much more, on average, than renting good ones. Redoing the roof of an industrial space can cost upwards of \$5-10 per square foot, installing a sprinkler system because the fire marshal told you to costs \$10-15 per square foot, and replacing a broken or ineffective hulk with a new industrial-grade air conditioner can easily run \$5,000 to \$15,000 – just to name a few common expenses.

Do you have a space picked out already? If so, record your monthly rent here: \$_____

If not, think about where you're located and see if you can estimate what you might pay. Keep in mind that the larger you are, the less you pay per floor area, and the closer you are to a city center, the more you pay. Here's a sample of commercial rents we know of in the 5,000 to 25,000 square foot range; come up with an estimate for yourself and write it on the line above.

- Detroit, MI and parts of Oakland, CA are **\$0.25-1.00/sqft/year** for almost any quality of industrial property outside of the city limits
- Philadelphia and Pittsburgh, PA vary between **\$2-8/sqft/year** depending on distance from city limits and building condition
- Somerville, MA is **\$8-14/sqft/year** for 20-30 year old industrial property located in a heavily populated (77,000 people/4 square miles) small town next to a large city
- Cambridge and Boston, MA are now charging **\$35-65/sqft/year** in their extremely centralized "Innovation District" areas, including Kendall Square and the waterfront.

2. Building Maintenance / Property Tax

Unless you have a very invested and forgiving landlord, most large commercial spaces operate under a triple-net (NNN) lease. This means that tenants are responsible for Property Tax, Insurance, and Maintenance on the building envelope (i.e., repairing the roof if it leaks, repairing and painting walls, maintaining plumbing fixtures, and so on), and the landlord receives rent as a net sum on top of those costs. Usually, this means that the landlord will either hold you legally responsible for conducting building maintenance to-code, or will simply charge you a fixed rate to maintain the building envelope and pay the property tax bill. Our landlord charges us a very significant NNN rate of **\$2.50-3.00/sqft/year** in common area maintenance, with **\$1.20/sqft/year** of that being property tax. Investigate whether your landlord charges this fee on top of rent.

Record your estimate of monthly building maintenance / property tax here: \$_____

3. Utilities

Are you used to an electricity bill for your apartment or house in the \$50 to \$150 per month range? Imagine an electricity bill in the \$5,000 to \$6,000 per month range. Heating, cooling, and powering large commercial facilities doesn't scale nicely with size. Use this list to generate an appropriately conservative monthly estimate for your utilities, keeping your area of the country in mind.

- Electricity: \$_____ (We've seen **\$0.10-\$0.20/sqft/month**)
- Natural Gas: \$_____ (**\$0.15/sqft/month** is the peak cost in Boston winters)
- Trash: \$_____ (Maintaining trash pickup for us was always **\$100-\$300**)
- Internet: \$_____ (Just providing service is easily **\$75-\$150**, depending)
- Other Utilities: \$_____ (Website costs, recycling, hazmat disposal, etc.)

Record your expected monthly utility bill here: \$_____

4. Salaries

Artisan's Asylum ran as an all-volunteer organization for a year at a size of 9,000 square feet. At the end of the year, all of our volunteers were dead tired, and our programs were starting to fall apart. Classes weren't being advertised or developed on-time, memberships weren't being collected as effectively as they needed to be, and nobody could work on their personal projects. We decided, in the end, that we needed to be of a size and of a business model that allowed us to operate sustainably with multiple staff people whose entire job was to keep the space running smoothly, keep classes organized, and keep the tools repaired and up to speed on a regular basis. This decision was directly related to our expenses, however; we had to pay more than **8X** as much in rent as i3Detroit, which after 4 years still runs as an 8,000 square foot volunteer-run organization with membership dues that equal expenses, that occasionally runs classes for fun (and not because they're absolutely necessary to the business plan).

What style of business are you interested in becoming? Here are some example roles that you might hire for your organization. Assign them a monthly salary (whether full or part-time) as you see fit for your mission. We've listed these roles in the rough order in which we've hired for them at Artisan's Asylum, plus a few types of jobs we've heard of but don't have – your mission may vary!

- **CEO/Executive Director:** Primary point of contact, main organizer \$_____
- **Controller:** Bookkeeper and accountant for the business \$_____
- **Facilities Manager:** Responsible for repair of shops and tools \$_____
- **Development:** Seek grants, partnerships, and other significant money \$_____
- **Member Services:** Front desk management, responds to requests \$_____
- **Programs:** Develop classes and programs, find partners for them \$_____
- **Marketing:** Market the business and its programs to the public \$_____
- **Full-Time Trainer:** Trains and tests new members on equipment \$_____

Do you have other ideas for potential staff members? Record them here. If you're interested in staff-level instructors, you can record them here as well, but note that the Asylum and several other spaces around the country have found that instructors are often considered part-time contractors for us, which is a different section.

- _____ \$_____
- _____ \$_____

Write the sum of your monthly salaries here: \$ _____

Now, take **10-15%** of that number for **payroll tax** to your state, and put it here: \$ _____

Sum both monthly salaries and the resulting payroll tax, and put it here: \$ _____

5. Health Insurance & Benefits

Some states require employers to pay for health insurance, others don't. The Asylum pays for health insurance (but not dental insurance) for its employees. While we may not pay the best salaries, we want to make sure that our employees have the ability to see a doctor whenever they need to. We've managed to find health insurance for **\$500/person/month**; we've seen quotes from **\$350 to \$1,500/person/month**. We also include membership and some rental space as a benefit to employees, which "costs" between **\$150 and \$300** a month. It may not make sense you to record this cost as an expense, but for your own clarity we suggest you record both the expense of the benefit and the income of your staff as members (to a sum of 0) for the purposes of planning.

Estimate your per-person monthly health insurance and benefits cost here: \$ _____

Multiply your per-person cost by your number of staff and total it here: \$ _____

6. Tool Maintenance / Consumables

It costs a lot of money to keep a shop going. Blades get dull, belts snap, welders run out of gas, you name it. After 3 years of tuning, the Asylum is getting to the point where its monthly maintenance budget is on the order of **\$500 to \$1,000/month**, and the shop consumables budget is anywhere from **\$1,200 to \$1,600/month** for a heavily-utilized 8,000 square feet of shop equipment. Take a look at some of these example expenses and come up with a monthly maintenance and consumables budget for your space. Bear in mind that you can require your members to pay for some or all of this if you want to – some spaces require members to bring their own consumables, or purchase them from the space.

- **Woodworking** (Table saw blade \$70, bandsaw blade \$30, belts \$15, etc.): \$ _____
- **Welding** (Gas refill \$40, MIG spool \$50, \$10 consumable packs, etc.): \$ _____
- **Machining** (End mill set \$150, drill index \$150, center drill \$5-10, etc.): \$ _____

All that said, the Asylum ran for some time on relatively low maintenance and consumables budgets – our equipment wasn't in the best shape, but it worked.

Come up with a total estimated monthly budget for maintenance here: \$ _____

7. Contractors

Artisan's Asylum employs 40-50 part-time instructors a month for our classes. These instructors usually work between 2 and 10 hours a week on their classes, with very little oversight from us. As a result, we consider these instructors contractors, pay them hourly, and don't provide them with a salary or benefits.

We've paid our instructors **50% of class proceeds** since we started as a space. This has proven to be an effective method of getting a lot of interest in teaching at the Asylum, and getting our

instructors to market their own classes. Other spaces and related businesses in our area pay their instructors fixed rates that vary between **\$25 and \$75 an hour** depending on the class.

This may be hard to estimate now (and you may want to come back to this after you take a look at income), but write down an estimate for how much you pay contractors monthly: \$_____

8. Insurance

Contrary to popular belief, makerspaces can find insurance! You just have to know how to phrase your request to your insurance broker in a way that makes sense. It turns out craft schools, vocational schools and machine shops have been around for years and years, doing most of what we're doing. Don't call yourself a makerspace to your insurance broker – they won't have any idea what to make of you, and will have no risk profile to associate with your activities. Call yourself a craft school, vocational school, or even public-access machine shop. These descriptions give your broker something to dig into and research, to prepare a case for the insurance company you will purchase insurance through.

Artisan's Asylum maintains General Liability & Property Insurance (also known as "Businessowners Insurance"), Umbrella Insurance (for overages of General Liability & Property), Workers Compensation, and some other minor insurance. Use the numbers we've come up with to get an idea of how much insurance will cost you per month, but bear in mind that your numbers may vary significantly. Refer to your lease for the specifics of the insurance you're required to maintain.

- Liability & Property (**\$0.20-\$0.40/sqft/year**, depending on value): \$_____
- Umbrella (Usually **15-25%** of the cost of Liability & Property): \$_____
- Workers Compensation (**.061 - .32 times staff salaries per year**; depending on the type of work they're doing): \$_____
- Other Insurance (We have an additional **\$1,000-\$3,000** in yearly insurance costs due to numerous small-potatoes policies): \$_____

Sum up the yearly insurance that you pay, and record the monthly rate here: \$_____

Note that you may be required to pay your insurance in one lump sum, but it's easiest to consider that figure as a monthly expense for right now.

9. Charges & Fees

Assume all of your income comes from online transactions or credit card transactions at your front desk – almost nobody pays with checks anymore. As a result, take 3% of your total income (once you're done filling it out) and record it as a fee you have to pay banks, payment gateways, and credit card companies here: \$_____

10. Other Expenses

Unfortunately, the list of expenses we have so far are just a sample of the total expenses paid on a monthly basis to run a space like this. Luckily, we've covered the big ones – you can expect that you won't have to pay more than 10-25% of what we've already covered. The remaining expenses are a lot of nickels and dime-type payments. Here are some examples you might consider putting a monthly number down for:

- Advertising and marketing: \$ _____
- Supplies for classes: \$ _____
- Volunteer food/beer/etc: \$ _____
- Cost of any goods or services you sell: \$ _____
- Discounts off of memberships or classes: \$ _____
- Office supplies: \$ _____
- Telephone/cell phone plans: \$ _____
- Subscription websites: \$ _____
- _____ \$ _____
- _____ \$ _____
- _____ \$ _____

Total your other expenses here: \$ _____

11. Total

Total the sum of all your monthly expenses (points 1-10) here: \$ _____

Does that number look intimidating to you? Good – it should. It takes around **\$80,000 per month** to run Artisan's Asylum right now, and we're understaffed for what we're trying to do at 40,000 square feet. It's expensive to run these kinds of spaces, and if you don't know that from the very beginning you're in for a rude awakening. Take your expenses seriously, and have a very good plan for how to address them. You don't have to do everything from the start – the Asylum didn't pay anyone until the start of our second year, for instance – but have a plan in place for how you're going to grow into a sustainable business that will outlast its founders.

Monthly Income:

Let's switch gears and start talking about making money. Now that you have a rough idea of your expenses, use it to guide your decisions about how you make money. Are you going to teach classes? Offer memberships? Rent studio space? Each of these sources of income have benefits and drawbacks, so consider your blend of income carefully.

1. Memberships

One of the most common sources of income for makerspaces are memberships. Some makerspaces have a single membership rate, some have sliding scales that vary with your ability to pay, and others like Artisan's Asylum have different membership levels for different amounts of access to the space (based on which hours and days of the week you're interested in). Some makerspaces consider membership a service they offer to the community – they don't charge for it, and instead devote themselves to raise money through grants for their running expenses. Brainstorm types of memberships here, and come up with rough numbers for how many people your space could support using our guidance.

- Type: _____, # of People: _____, Rate: \$ _____, Total: \$ _____
- Type: _____, # of People: _____, Rate: \$ _____, Total: \$ _____
- Type: _____, # of People: _____, Rate: \$ _____, Total: \$ _____
- Type: _____, # of People: _____, Rate: \$ _____, Total: \$ _____

Sum up your expected steady-state membership here: \$ _____

When considering the number of people that might be interested, consider example spaces like this:

- Artisan's Asylum is very low-density because of all of our rental studios. Our membership numbers have held steady between **133-200 sqft/person**.
- All-volunteer Makelt Labs has grown its membership in a 6,000 square foot space over 2-3 years with very little private space, and is now at **60-100 sqft/person**.
- TechShop has no private studio space, an incredibly effective marketing campaign, very good positioning of its locations, and very high end tools. The density of their locations tend to vary between **25-40 sqft/person** after 5+ years of operation.

2. Rentals

Artisan's Asylum grew to the extent that it has by offering more than 50% of its floor area as rental studio or storage space for projects. The real estate market in our area is relatively expensive (median home sales are around \$450,000), and as a result one of the primary things our members look for is additional personal space. This is a mixed bag; on the one hand, you get steady income that doesn't vary with the seasons and people's ability to spare personal time. On the other hand, the income from a studio space is lower than an equivalent floor area of shop space or teaching space.

If you've listed studio space or storage space as space you're interested in offering, use our examples to come up with possible incomes for those spaces. Note that our 'rent' is fairly high, and tracks the commercial property value of the nearby area for small studios.

- Rental Studios:
 - Size: _____ sqft, # of Studios: _____, Rate: \$_____, Total: \$_____
 - Size: _____ sqft, # of Studios: _____, Rate: \$_____, Total: \$_____
 - Size: _____ sqft, # of Studios: _____, Rate: \$_____, Total: \$_____
- Storage Space:
 - Size: _____ sqft, # of Spaces: _____, Rate: \$_____, Total: \$_____
 - Size: _____ sqft, # of Spaces: _____, Rate: \$_____, Total: \$_____
 - Size: _____ sqft, # of Spaces: _____, Rate: \$_____, Total: \$_____

Artisan's Asylum offers the following studios and storage spaces:

- 50, 100, 200, 250 sqft studios: **\$2/sqft/month**
- Pallet Storage (13sqft): **\$30/month**
- Shelf Storage (2'x2'x2' shelf space, stackable 4 high on a 2'x2' floorplan): **\$10/month**

You may want to factor in some amount of vacancy in your total number due to turnover.

Sum up your expected monthly rental income here: \$_____

3. Class Income

Classes provided more than 60-75% of the income for Artisan's Asylum in its early stages, and are a fundamental part of almost all makerspaces I've seen. Classes train new people in your way of using tools, they provide an easy gateway into the space for those who don't have projects but want to get involved anyway, and they raise the level of ability of your community over time. Classes now represent 25-35% of the income of the Asylum, but that's income that is used to pay for our staff on top of infrastructural expenses like rent and utilities. It also helps pay our members

enough money to transition out of their jobs and experiment with self-employment through their craft, which is a fundamental part of our mission.

We charge **\$10 to \$30/student-hour** for our classes, and they have an extremely high fill rate at that price. We have sometimes been accused of ‘undercutting the market’ for craft classes, and most nearby craft spaces charge higher prices than we do. Classes are generally **2-3 hours per session**, and most of our classes are **4 sessions long** (though some engineering, design, and project-based classes are now **6-8 sessions long**). For the record, Somerville’s median household income is \$51,000 a year; compare this to your own town to get a sense for how your prices may need to shift. Also note that the Asylum generally fills each of its independent craft areas with classes roughly **50% of peak hours**; in other words, we have welding classes 2-3 nights of the week and on one weekend day, machining classes on 2-3 nights of the week, and so on. We’ve found that our members are unhappy with shop availability if classes run any longer than that amount of time. As a final note, bear in mind that tool training loses its efficiency quickly when you have too many students per teacher; we tend to keep classes between **4 and 8 students per instructor**, unless the skill is easy to pick up or distribute (like soldering or other simple operations).

Figure out how many teachers you have available, how often they’re willing to teach, workshop availabilities might be like, how many people you can teach in a given class (given the workshop constraints from before and the number of people one teacher can teach) and come up with a rough sense of how much classtime you could provide in each of your craft spaces per month.

- Area: _____, Hours Per Month: _____, Students: _____, Income/Hour: \$ _____
- Area: _____, Hours Per Month: _____, Students: _____, Income/Hour: \$ _____
- Area: _____, Hours Per Month: _____, Students: _____, Income/Hour: \$ _____
- Area: _____, Hours Per Month: _____, Students: _____, Income/Hour: \$ _____
- Area: _____, Hours Per Month: _____, Students: _____, Income/Hour: \$ _____
- Area: _____, Hours Per Month: _____, Students: _____, Income/Hour: \$ _____
- Area: _____, Hours Per Month: _____, Students: _____, Income/Hour: \$ _____
- Area: _____, Hours Per Month: _____, Students: _____, Income/Hour: \$ _____

Sum up your monthly estimates here: \$ _____

4. Donations

Artisan’s Asylum has found that donations can help aid general income in the early stages of makerspace development, and can help acquire specific tools and infrastructural projects in later stages of development. If donations are going to be a part of your business plan, estimate how many events you might have and how well they’re attended using our suggestions, and average that amount out over a year to come up with monthly income. We’ve found that we can reliably bring in **\$25-\$40/person** at large-scale, once-or-twice-a-year fundraising events, and in the case of fundraising drives for specific items can hit averages as high as **\$100-\$200/person**. Again, bear in mind that Somerville’s median household income is \$51,000 a year. The number of people participating is directly related to the size of your social network and the scale of the event; for our fundraising events, we would have 200-300 people attend when our available network was between 1,500 and 2,000 people. Our fundraising drives had 50 people participate, out of a membership community of 300. Your mileage will vary significantly from ours.

- Fundraising Events: # of People _____, Avg Donation/Person: \$ _____, Total: \$ _____
- Fundraising Drives: # of People _____, Avg Donation/Person: \$ _____, Total: \$ _____

Total your donations here, and come up with a monthly figure: \$_____

5. Other Income

Makerspaces have extremely varied sources of income past the standard membership, rentals, and classes. Take a look at some of these examples, and see if you can think of other ways you might make money, though bear in mind that all of them require additional staff time to implement:

- Several spaces sell raw materials and kits at a markup (note for non-profits: this gets very hairy to explain to the IRS!)
- Several spaces offer vending services (for food and drinks) to their members
- TechShop offers design, engineering, and fabrication consultation for a fee
- Columbus Idea Foundry takes commissions from the community and pays members to develop responses to those commissions
- Artisan's Asylum offers flexible studio space without walls, and charge by the day and by the square foot to use it for time-sensitive projects
- EatART generates most of its income from monthly parties in the space, and rental of its large-scale works of art

If you're interested, feel free to brainstorm ideas for income for your space here, and total what they might make monthly:

- Concept: _____, Monthly Income: \$_____
- Concept: _____, Monthly Income: \$_____
- Concept: _____, Monthly Income: \$_____
- Concept: _____, Monthly Income: \$_____
- Concept: _____, Monthly Income: \$_____

Sum up your monthly income from other, custom sources here: \$_____

6. Total Income

Total the sum of all your monthly income here: \$_____

Income vs. Expense

Compare your income vs. expense. Do you come out ahead at the end of a month? If you're like most spaces around the country (with the possible exception of TechShop), the gap should be pretty tight. That's ok! It means you're being realistic, all things considered. Keep tweaking your model over time until you feel secure that you've identified all the costs and income you can, and create multiple models – what's your breakeven level of participation? What's your expected level of participation? On your best possible day, what does your business plan look like?

Congratulations! You're well on the path to taking this effort seriously.