Classes

Bellingham Makerspace teachers are very important. We are always looking for diverse and interesting topics to add to our how-to classes.

Getting Started

If you are already a member of the Bellingham Makerspace, you're interested in developing a class, and want information, please talk to the Teaching Coordinator, Jason Davies (jason@bellinghammakerspace.org), or the Operations Manager.

You do not need to be a member of the Makerspace to teach a class here. However, we do need key information about your class before we can add you to our class schedule and assist with advertising your class.

If you already have a class and would like to offer it at the Makerspace:

- Fill out the Class Proposal application
- Submit your Class Proposal at least 3 weeks before you want to teach the class.
- If you have not used Eventbrite, talk to the Teaching Coordinator to get training on it.

> - You must follow current infectious disease protocols for wearing masks, spacing, and sanitizing tools between classes.

Makerspace Class Types

The Bellingham Makerspace offers a wide variety of classes.

Class Type	Schedule	Sequence
–	–	–
Introductory	Generally 1 hour, offered bi-weekly	Required before reserving many tools
Tool proficiency, intermediate	Can be multi-session, longer sessions, offered monthly	May require safety or introductory classes to be taken first

Safety	Generally 1 hour, offered bi-weekly	May be required before taking other classes or for certain volunteer positions
Project-based	Can be multi-session, longer sessions, offered monthly	May require proficiency-level classes to be taken first
Special Interest	Can be one time or multi-session	Can depend on previous classes or be independent

Core Classes

Introductory classes are required before reserving many of our more expensive and potentially dangerous tools to make sure members can use them safely. These classes are generally offered at least once per month by our Tool Team. The classes below are our core classes. We try to schedule them out at least three weeks in advance.

Class	Description
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Intro to 3D Printing and Design	Beginners class that covers: 3D CAD design - Use of 3D slicing software - Printing on the 3D printers
Woodworking 101	Gain foundational woodworking skills and the tools required to process rough lumber for fine woodworking projects. Required for: - Use of the Wood shop's large power tools - All other Makerspace woodworking classes
Intro to the Epilog Fusion Laser Cutter	Beginner's class to cut and engrave with the Epilog Fusion laser cutter. Required prior to use of the Epilog Fusion laser.
Intro to the CNC Router	Beginner's class to learn to cut with the CNC Machine. Required prior to use of the CNC Router.

See the class schedule for current information.

Typical Classes

The list of classes offered at the Bellingham Makerspace is always changing depending on teacher availability and interests. Examples of classes the Makerspace has offered in the past:

Woodshop Tools - Intro:

- Basic woodshop safety

- Follow ups:

1. Advanced woodworking techniques
2. CNC milling machine

Digital Designs - Intro:

1. 2D Vector Graphics and Inkscape

- Follow ups:

1. Vinyl cutter
2. Laser engraver

MakersSpace sabers - Intro:

1. assemble a pre-made space saber

- Follow ups:

1. learn to use the lathe to make a custom handle
2. build saber with a color changing light display

Traditional Woodworking - Intro:

1. Make a cutting board

- Follow ups:

1. Jewelry box, wall shelf
2. Make a table

Machine Sewing - Intro:

1. Make a mask

- Follow ups:

1. Make a grocery bag or tote bag
2. Make a shirt from a pattern

3D printing and design - Intro:

1. learn slicing, print a figurine

- Follow ups:

1. make your own design in 3D CAD

2. build your own 3D printer

Simple electronics - Intro:

1. solder a light-up weevil

- Follow ups:

1. use a breadboard and a timer to make a simple clock
2. build your own radio

Coding and Raspberry Pi - Intro:

1. Use a raspberry pi to make a blinky with a button

- Follow ups:

1. Simple digital picture frame
2. Build your own minecraft server

STEM for kids

- Elementary School: Scribble bots
- Middle School: Water powered rockets
- High school: Rube Goldberg machines

Planning Your Class

Makerspaces are not trade schools, and focus more on project-based learning rather than theory. With that in mind, we like to teach people how to make stuff, with the theory behind the tools and the skills is important as a means to the end of exercising creativity.

The following general guidelines apply for teaching at the Makerspace:

- Each class should focus on teaching a particular subject or skill set, with a clear goal in mind.
- By the completion of the class, the student will be able to take home something tangible with them.
- Intro classes should generally be accessible to people of varying skill levels.

Requirements

Consider introductory, intermediate and advanced task levels in evaluating different projects and offerings.

- How many people do you plan to teach at a time?
- Is there an age requirement?
- Are there any prerequisites?
- Does the class require tools or supplies?
- Are there enough tools and supplies that students don't have to share them?

Scheduling

Scheduling is determined by the Teaching Coordinator based on the information in the Class Proposal. Talk to the Teaching Coordinator and check the existing schedule to avoid conflicts.

In general, classes are offered on weekday evenings and weekend mornings to make them more available to the general public.

Weekday classes should be about 1 hour long. If you need more time than that, consider requesting a weekend time slot.

Plan to schedule introductory or stand-alone classes at least once a month. Multi-part classes or very technically challenging classes can be scheduled less often.

Things to consider when filling out your Class Proposal:

- How long will it take the average person who meets the class requirements to complete the class objective?
- Can the class goal be completed in one session, or will it need multiple sessions?
- How many sessions will be needed, and how long should they be?
- What time of day or week should the class be offered to attract the intended students?
- How often will the class be repeated?

Tools and Supplies

Teachers can use any of the tools at the Makerspace provided they have:

- shown sufficient proficiency to teach with them
- scheduled time with them in advance if the class happens during open shop hours

Tool stations can be reserved in advance as part of the class approval process.

For details on available tools, consult the wiki. For specific tool use questions, talk to the Teaching Coordinator or Operations Manager.

Teachers can also bring their own tools. Make sure you have enough tools for the number of students in the class.

Safety

We are committed to making sure that classes are taught as safely possible. Teachers must verify they are proficient in the tools and subjects they propose to teach, and that they can teach their topic in a safe manner.

Logistical Support

How can we help you to create a good learning opportunity for your students? Talk to the Teaching Coordinator to find out more about Makerspace logistical support options.

Things to consider when filling out your Class Proposal:

- What will you need to set up in the class area before your class?
- Will you need tool time or supplies to create student kits for your class?
- What type of audio/visual support will you need to present your topic in the Makerspace?
- Have you posted classes on Eventbrite, or will you need training on how to post your class?

Describing Your Class

Describing your class in the Class Proposal form is very important for attracting potential students. Be sure to use full sentences and describe the class in such a way that it sounds appealing to your intended audience!

Things to consider when filling out your Class Proposal:

- Describe the scope of the class and what it will cover. Include student proficiency level (Beginner/Intermediate/Advanced/All Levels, artists looking for engineering skills, vice versa, all of the above, etc.)
- Explain why people should be excited to take the class.
- Provide a list of the skills or outcomes that students should expect to acquire when they leave the class. That might be a list of tools students will learn to operate, processes like project management or brand development, and any concrete outcomes like "5 complete screen-printed greeting cards of your own design."
- If possible, add an example photo of the final product of the class.
- List anything students should bring with them such as materials, specific clothing appropriate for the class activity, ideas, etc.
- If students need to purchase any materials on their own, list the items needed plus estimated costs and, if applicable, locations where students can purchase them.
- Give a description of your teaching style and background. Describe your teaching and subject-matter experience and what you're interested in teaching.
- Describe briefly how you plan on organizing your material (per session for multi-session classes, or per section for 1-day workshops.
- Include a brief bio to be used as part of our course descriptions, with an emphasis on skills and experience immediately relevant to the content of this class.

Advertising Classes

How can the Bellingham Makerspace help get the word out about your class? Talk to the Teaching Coordinator about posters and social media advertising to reach your intended students.

Things to consider when filling out your Class Proposal:

- What is your expected student demographic?
- What is the best way to reach those students?
- How much lead time do you need to fill your class?

Pricing

Bellingham Makerspace instructors generally charge between $20 and $50 per student hour separate from materials cost, depending on the experience of the instructor and demand for the class. Instructors keep 60% of all class income after covering the cost of materials.

We suggest a minimum of $25/hr per student for introductory classes. This price is lower compared to other local comparable class options, but should still allow the teacher to make at least $20/hour for their total time after accounting for the Makerspace's share of the proceeds from the class. For higher skill classes, continuing education, certificate programs, or classes that use expensive tools, teachers should expect to be compensated fairly for their total time.

Consider the amount you need to charge each student to break even on your time. When filling in the minimum students you need to offer the class, the number should enable you to still break even on your time and materials.

Cost of materials should be included in the basic class rate rather than listed as a separate expense. For example, if a class has a $5.00 cost of materials, it should be at least $25/hr plus $5 extra for materials; therefore, the class should cost $30 per student.

Discounts offered by the Makerspace:

- Maker members receive a fixed basic discount of 20%.
- Volunteers can earn credits that can be used for discounts for classes.
- Discounts are managed by the use of Promo codes for registration on Eventbrite.

Scholarships of 50% or more can be made available to an individual student at the request of the teacher, but they are not advertised. The Makerspace will cover half the cost of the teacher-requested discounts.

For a scholarship code to be approved:

- The student must ask the teacher
- The teacher must request the discount
- The Operations Manager must approve the discount

Makerspace volunteers who have earned volunteer credits can apply them toward auditing classes. This option is reserved for volunteers only and is generally offered for tool training and safety

classes.

Getting Paid

The Bellingham Makerspace typically shares the revenue from class registration with teachers on a percentage basis, teachers keeping 60% of the revenue after subtracting materials costs.

The 40% portion the Makerspace helps us pay our rent, utilities, tool maintenance, and insurance. Teachers using our space are covered by our insurance.

Taking Student Payments

Teachers will need to set up their classes on Eventbrite to take student payments. Payment is made when a student registers for class. Revenue is sent to the Makerspace and shared with the teacher. The Teaching Coordinator can assist or train new teachers in setting up classes on Eventbrite.

Paying Teachers

Teachers are typically paid twice a month on the 15th and last day of the month. Other arrangements can be negotiated on a case by case basis at the Teaching Coordinator's discretion. We can use PayPal or write you a check.

Teaching Agreement

Once a class is approved, the teacher will need to complete a form with a signature acknowledging that they:

- Have read, understand, and agree to the payment process
- Have provided truthful information about the class
- Will show up and teach the class as described
- Will follow all safety practices
- Will inform the Makerspace immediately if unexpected situations arise such as illness or accident that prevent them from teaching the class

A copy of the Teaching Agreement can be found here.

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