

# **Member Handbook**

Makers, Builders and Innovators - Welcome to the Ultimate Playground!

# About the Makerspace at the CSM Velocity Center

The Makerspace at the CSM Velocity Center is a place of innovation, learning, and collaboration for academia, the Navy, and the community. Anyone can purchase a makerspace membership. Membership allows you access to the space, tools, computers, and resources of the Makerspace.

The Makerspace at the CSM Velocity Center is a collaborative community workspace for creating, making, learning, exploring, and sharing. The CSM makerspace community is made up of entrepreneurs, students, educational professionals, artists, skilled craftspeople, DIYers, engineers, entrepreneurs, hobbyists, and anyone else looking to bring their ideas to life or learn new skills! We work together, play together, improve the community together, and make together.

The makerspace is equipped with a variety of maker equipment including 3D printers/scanners, laser cutters, electronics, soldering irons, other additive and subtractive machines for making. Your monthly membership provides you with access to our space, equipment, hand tools, computers, and online resources.

# Location and Hours of Availability

4465 Indian Head Highway, Indian Head, MD 20640 (inside the CSM Velocity Center).

For current hours of operation visit our website at www.csmd.edu/makerspace or contact us at <a href="makerspace@csmd.edu">makerspace@csmd.edu</a>

# **Getting Started**

What can I do at the Makerspace at CSM's Velocity Center? You can:

- Become a member by enrolling in an Equipment and Safety class for new members. Visit the website for more details. csmd.edu/makerspace
- Reserve tools or space
- Take a class.
- Teach a class.
- Buy supplies (limited supplies available)

# Membership

As a member you will have access to our 1,984 square foot lab space and fabrication tools and equipment for your use. Membership is required to schedule and use the tools at the Makerspace at the CSM Velocity Center. Many tools require training classes or safety checkouts. Membership is not required to take a class or participate in public events at the space.

# **Becoming a Member**

- Complete an Equipment and Safety class. In this class, you must complete all safety related quizzes with a score of 100%. You can take the safety test as many times as needed for a passing score. Don't worry, it is a multiple-choice quiz with many questions only having two answers. Less than 15 questions.
- 2. Once you receive a passing score on the safety test, you will receive an email with further instructions.
- 3. All members will be required to submit a Member Agreement and Waiver of Liability form.

# Open Lab

During open lab hours members can work on their projects. Open hours are self-guided, and members are working independently. To participate in open hours, members must have completed the Makerspace Initial Membership class and have an active monthly membership. Most equipment is first-come, first-serve currently.

# Reserving Time on Equipment

Visit our website at csmd.edu/makerspace to reserve certain pieces of equipment.

# Signing Up for Classes

You do not have to be a member to sign up for classes. Classes can be found at https://csmd.augusoft.net/info/landing/Makerspace. We also advertise our classes on social media.

## **Entry and General Use**

- 1. Always place the safety of you and others first! If you feel uncomfortable with a tool or situation, ask a staff member for assistance.
- 2. All users of the Makerspace must complete the Makerspace Initial Membership class.
- A completed Liability Waiver must be completed and on file. For Children under 18 a parent
  or legal guardian must complete the Liability Waiver. The liability waiver can be found in our
  website at www.csmd.edu/makerspace.
- 4. Upon arrival check in with a staff member.
- 5. When the space is open, there is a first come, first serve policy when it comes to utilizing tools and equipment. Please be courteous and share equipment when others are waiting. If

- others are waiting to use equipment, please limit your time to 30 minutes.
- 6. When creating digital content with the makerspace equipment, please be prepared to save your work to your own personal online cloud storage service. Use of USB devices is not permitted, and you are not permitted to store your work on CSM's computers. Any work stored on CSM computers will be deleted.
- 7. Equipment and tools cannot be removed from the makerspace.
- 8. Makerspace equipment should be used in a manner consistent with the proper use of each device. Equipment should not be mishandled or used in a way that can cause damage. Staff have the right to end the use of equipment if deemed necessary.
- 9. No running, horseplay, lying on the floor or tabletops or practical jokes in the Makerspace.
- 10. Food and drinks may only be consumed outside of the makerspace.
- 11. Observe good housekeeping practices. Work areas must be always kept clean and tidy.
- 12. Know the locations and operating procedures for all safety equipment including first aid kit, eye-wash station, and fire extinguisher.
- 13. Know where the fire alarm and exits are located.
- 14. Notify a staff member immediately of any unsafe conditions you observe.
- 15. Have fun creating!
- 16. Guests are not allowed in the makerspace unless accompanied by a staff, faculty, or administrator acting on college business.

# **Makerspace Tours**

The Makerspace at CSM's Velocity Center offers tours. Tours take about 10 minutes and can be scheduled in advance or on demand based on staffing availability.

# Safety

Safety is important at the Makerspace at CSM's Velocity Center. We implement a variety of safety measures and safety guidelines for using equipment and working in the Makerspace, which if followed, result in safe enjoyment of the facilities. It is of the utmost importance that members follow the safety guidelines and policies, including those covered in the required safety and orientation session.

Members must recertify their qualifications every year.

The most current health safety measures can be found at CSMReady <a href="https://www.csmd.edu/ready/covid-19/index.html">https://www.csmd.edu/ready/covid-19/index.html</a>

# **Basic Safety**

- Give your work and the tool you are using your undivided attention.
- Operate the tool according to its manufacturer's safety regulations.
- Pay attention to the tool while it is running (i.e., do not walk away from the laser when in
- operation).

- Operate tools and machines with a clear mind (never under the influence of drugs, alcohol, or when fatigued).
- Follow the instructions for the tool you are using.
- Repairs, modifications, and/or tampering with equipment outside of normal operating parameters is prohibited by patrons.
- Headphones are prohibited if it prevents you from remaining aware of their environment. Do not
  plug in anything into an outlet group where at least one outlet is being used for makerspace
  equipment.

#### Wear safe attire:

- Closed toed shoes.
- Wear proper PPE when using or around equipment, including earmuffs, goggles, and masks. Use only proper PPE for the equipment you are using. For example, use a dust mask and not a T-Shirt.
- Tie back long hair.
- No loose clothing.
- Remove loose jewelry, necklaces, hoodie strings, and non-essential gloves when using power tools. This includes watches of any kind including smart watches.
- No wired headphones. These can get caught on tools.

#### Ask for help:

- If you have a problem with a machine or operation.
- When handling long, large, or heavy materials.
- Anytime you feel unsure especially about the safety of what you are about to do.
- Seek first aid help immediately for any injury!

## **Shared Safety**

Be respectful – the Makerspace is a community. What you do will affect others. Only communicate with your immediate group members and only speak to those outside the group when asking to use the tool next.

- Avoid startling people who are focused on their project and using potentially dangerous tools.
- Allow others to give their work their undivided attention.
- Do not tap people on the shoulder.
- Move into others' line of sight before attempting to attract their attention.
- Stay clear of areas where others may move unexpectedly without checking for your presence.
- Give warning before making sudden loud noises.
- If a person is doing something dangerous, you notify a staff member first unless their actions are within your immediate presence and would hurt you.
- Notify any staff member of broken or damaged tools. Broken tools from regular usage are not the financial responsibility of the patron.

#### **Unsafe Materials**

Do not bring toxic materials to the makerspace! The following materials are not allowed:

- Lead materials, for example, lead paint, solder, sheets, and ingots.
- Flammable explosives
- Radioactive materials
- Paint of any kind
- Use only the approved materials for the laser (see acceptable materials list).
- Disposal of electronic, corrosive, or other hazardous material provided by makerspace staff must be disposed of by makerspace staff.
- Disposal of approved electronic, corrosive, or other hazardous materials (such as batteries, PCBs, light bulbs) must be recycled by the user.
- This list is not comprehensive. If usage of the material begins to affect other people, then we will ban this material.

# **Safety Expectations**

We are all here to share space, tools, and expertise. Be polite and civil with others particularly when giving or receiving feedback about safety.

- Respect all members, staff, faculty, and guests.
- Return tools to their proper place so that they are readily available for all to use.
- Sweep, vacuum, and wipe off your workspace as appropriate when finished.
- Do not leave projects on workspace surfaces.
- Storage space may be available for a small fee, but space is limited.
- Take all your scraps and trash out to the dumpster on your way out.

# Cleaning

Everyone requires space to work. When you are done for the day, please return tools and clear horizontal surfaces of materials and projects. Sweep your area if needed.

# **Equipment and Tools**

The Makerspace at CSM's Velocity Center has equipment tools that can be used while working in the space. Usage is included in your membership.

# **Equipment Use Guidelines**

- 1. Equipment may be used only for lawful purposes. The patrons will not be permitted to use equipment to create material that is:
  - Prohibited by local, state or federal law.
  - Unsafe, harmful, dangerous or poses an immediate threat to the well-being of others.
  - Obscene or otherwise inappropriate for the Makerspace environment, including weapons.

- In violation of another's intellectual property rights. For example, equipment may not be used to reproduce material that is subject to copyright, patent or trademark protection.
- 2. Saws cannot be used in the makerspace.
  - a. Due to the ventilation requirements of various electronic equipment, saws are not allowed in the makerspace. Sandpaper is allowed but only light, hand powered sandpaper. You must be away from all electronics.
- 3. Makerspace staff reserves the right to refuse any print requests or other maker requests.
- 4. Please consult staff about materials not available or requests to use your own materials for other equipment.
- 5. A staff member will be present during operational hours to supervise the use of equipment and manage the order of work being produced. Staff will have the final say when determining the order jobs when there are multiple jobs in the queue.
- 6. No baggy clothing or dangling items are permitted when working with moving equipment and machines, this includes:
  - a. No long, flowing jackets, dangling chains, dangling jewelry, wearing purses, or backpacks.
  - b. Long hair must be tied-back or secured.
- 7. All hand tools need to be returned to their designated home after use.
- 8. Know the locations and operating procedures for all safety equipment including first aid kit, eye-wash station, and fire extinguisher.
- 9. When using knives and other sharp instruments, always carry them with tips and points pointing down and away.
- 10. When handing off a tool to another person, turn off the tool, make sure that any safety mechanisms are in place, orient any sharp components/parts/points away from both you and the recipient, place the tool on the table, and have the other person pick it up.
- 11. Never try to catch falling sharp instruments. Grasp sharp instruments only by the handles.
- 12. If you have a medical condition (e.g., allergies, pregnancy, etc.), check with your physician prior to working in the makerspace.
- 13. Report any accident (spill, breakage, etc.) or injury (cut, burn, etc.) to a staff member immediately, no matter how trivial it may appear.
- 14. Never override any machine safety measures.
- 15. Never leave machines unattended.
- 16. Never try to stop a machine with your hands or other body parts.
- 17. Leave stations clean and organized.
- 18. You will need a basic understanding of Computer Aided Design (CAD) to operate most of the equipment in the Makerspace.
- 19. It is recommended that you wash your hands after using the makerspace to remove any debris.

# **Supplies**

Members should bring their own materials for the laser cutter and CNC router (see acceptable materials list) for materials that the makerspace does not have on hand. We do not allow outside filament for the health of our machines.

We provide 3D printer filament for a fee. The most recent pricing is available via Papercut (<a href="https://pc.csmd.edu/">https://pc.csmd.edu/</a>). We do not allow outside filament for the health of our machines.

# **Equipment/Tool Training and Assistance**

# Note: you may only use equipment you are trained to use.

Initial membership requires basic operation and safety training for all members. We have tried to cover the safety and basic operation in our Makerspace Initial Membership class. However, if you ever feel unsure or think something is wrong, stop what you are doing and ask any staff member. We are here to assist you.

Please ask for help when you run into problems with our tools and equipment. Subject to our regular duties, knowledge, and experience, we will try our best. We may need to refer you to other resources.

Keep in mind that the Makerspace at the CSM Velocity Center provides access to the tools and equipment while you, the maker, provides the design skills to make your actual items. If you need more than 10-15 minutes to solve your design or project problem, you should inquire about signing up for a class to improve your skills.

# Equipment (Currently available to members)

#### **3D Printers**

- 3D model designs must be saved as: STL, OBJ, DAE, or AMF.
- Users will be charged for 3D printing materials based on estimated print time, not actual time. The cost, which is subject to change, will be determined by the College of Southern Maryland based on various factors. Material charges vary based on membership levels. Visit our website to 3D printing fees (https://pc.csmd.edu).
- No outside filament is allowed to be used in the 3D printers.
- All print jobs will be sent through Papercut https://pc.csmd.edu. Jobs will be received by staff, and you will be given a price quote for your print job based on your specifications.
   Upon receipt of payment, your job will be processed for printing. Once payment is received your job will be printed. You will receive a notice once your job is complete and ready for pick up.
- Please allow several days for the prints to be completed, although they may be completed sooner.
- 3D prints that are not picked up within 7 days of notification, will be subject to a storage fee and discarded after 14 days. Items must be picked up by the individual who printed them.
- Digital designs also are available from various file-sharing databases such as thingiverse.com. You can print or modify designs that are not protected by copyright.
- Staff are not responsible for knowing whether an object is protected by copyright.

MakerBot Method X (submit print request)

Quantity: 2

Printing Bed Size (Dual Extruder Setup): 6.0 x 7.5 x 7.75 in

Filament Types: PLA, ABS, Tough

Dissolvable Supports: Yes

Website link to manufacturer: <a href="https://www.makerbot.com/3d-printers/method">https://www.makerbot.com/3d-printers/method</a>

#### MakerBot Replicator+ (submit print request)

Quantity: 4

Printing Bed Size: 11.6 x 7.6 x 6.5 in

Filament Types: PLA and ABS Dissolvable Supports: No

Website link to manufacturer: <a href="https://www.makerbot.com/3d-printers/replicator/">https://www.makerbot.com/3d-printers/replicator/</a>

#### Stratasys F370 (submit print request)

Quantity: 1

Printing Bed Size: 14 x 10 x 14 in Filament Types: ABS, PLA, ASA Dissolvable Supports: Yes

Website link to manufacturer: https://www.stratasys.com/3d-printers/f123-series

#### **Laser Cutter & CNC Router**

# NOTE: You are not allowed to wear long sleeves, watches, or anything that might get caught when working with the CNC router.

The laser cutter uses a high powered and precise laser to cut or engrave a wide variety of materials including wood, acrylic, glass and more (see acceptable materials). The CNC Router with its large capacity is ideal for cutting a range of resistant materials such as hard and soft wood, plastic, modelling foam, acrylic and prototyping material.

- 1. The Makerspace will supply limited amounts and types of materials for the laser cutter.
- 2. A small number of materials will be available for purchase. Otherwise, users must supply their own materials upon prior approval by Makerspace staff.
- 3. Please consult with Makerspace staff about materials not available or requests to use your own materials.
- 4. Files for the laser cutter can be created using vector graphic programs.

For a list of acceptable and banned materials refer to the appendix at the end of this handbook.

Universal Laser System VLS R50000 - Large Laser (direct use)

Quantity: 1

Printing Bed Size: 32" x 34"

Acceptable Materials: see acceptable materials

Website link to manufacturer: <a href="http://website.denford.ltd.uk/products/router-2600-pro/">http://website.denford.ltd.uk/products/router-2600-pro/</a>

#### Denford 2600 Pro

Quantity: 1

Printing Bed Size: 27.56" x 17"

Acceptable Materials: see acceptable materials

Website link to manufacturer: https://www.ulsinc.com/products/platforms/ultra-r5000

# **Computers and Software**

#### Appropriate use/Policies

- Do not leave files on the desktop. Files stored on our laptops and desktops will be deleted.
- Email files to yourself so they can be easily accessed at the Makerspace at CSM's Velocity Center.
- USB drives are not permitted.
- Some software may only be available on one or two computers. Please ask staff to identify computers with these types of software.
- The Makerspace laptops and desktops will provide you with access to the following software for use with the equipment. Video tutorials can be helpful when needed.

#### Stratasys F370 3D Printer:

- GrabCAD Print this is the slicer for the 3D Printer.
- SolidWorks (Education and Research version)

#### MakerBot Method X and Rep+ 3D Printers:

- MakerBot Print –
- MakerBot CloudPrint
- SolidWorks (Education and Research version)

#### **Denford CNC Machine:**

- Denford VR Milling V5:
- Denford Quick CAM 2D w/ VCarve:
- Denford QuickCAM Pro:
- Vectric VCarve:

#### Creaform HandySCAN 700 3D Scanner:

- VXElements: This is the software that connects to the scanner, captures the data, allows the user
  to clean the scan up, fill holes, and save the file out as an STL for 3D printing, or transfer it to
  CAD.
- SolidWorks (Education and Research version)

# **Materials**

#### **Fees**

- Members do have to purchase "machine specific" consumable materials. (Excludes 3D printers).
- Pricing and material availability are subject to change.
- Materials can be purchased in the lab using our electronic payment site.
  - https://secure.touchnet.net/C20376\_ustores/web/store\_main.jsp?STOREID=5&SIN GLESTORE=true

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 We use a <u>no cash</u> payment system. All payment methods are electronic through our Touchnet system found on our website www.csmd.edu/makerspace.

# **3D Printing**

- Print jobs are managed entirely through our remote print management system, Papercut.
- Once a print job is sent through the print management system, the specifications will be confirmed, and the price of the print job will be calculated BEFORE printing and sent to the member for approval and payment.

# 3D Printing Pricing

The current pricing is listed on the papercut website. All MakerBot brand 3D printers pricing is based on Makerbot CloudPrint's estimated time.

# Failed Print Policy

Failed prints with the Replicator+ and Method X do not cost anything. If resubmitting a print after we determined that it has failed before, we will simply reject the print and explain why.

Members are not entitled to their failed prints.

# **Deposit Policy Stratasys**

Stratasys has a deposit. This deposit is returned to you after accepting the final print.

Prior to using the Stratasys, it is highly recommended you test a smaller version of your print with the Replicator+ or the Method X.

It is highly recommended that you consult with a staff member about the settings of your 3D print.

#### Forfeiture of deposit:

- 1. If the print fails within the first 4 hours, there will be no forfeiture of the deposit.
- 2. If the print fails at any time after the first 4 hours, your deposit will be forfeited. You may attempt 1 more print.

- 3. If the print fails after 8 hours, we will keep the deposit and refund the rest and you will be required to reexamine the settings.
- 4. After print completion if patron does not accept the print, we will refund everything but the deposit.

# Other 3D Printing Policies

Members are responsible for the final settings of the print regardless of the suggestions made by staff or faculty members. Staff and faculty members cannot be held responsible for their suggestions. They are only speaking from experience.

FDM 3D printers are prototyping equipment. Small defects that can be fixed with filler material, sanding, or minimal gluing are not considered failed prints. Staff will have final say over what is considered a failed print.

Your 3D print is not intended to be your final product. Please consult with a faculty member or a staff member on how to finalize your product.

We will NOT INCREASE the speed of the prints. We can, however, lower it. This will increase the cost of your 3D print but increase the likelihood of a successful print. The default print setting is to ensure that your print will most likely print. Making it faster will reduce the chances of your model printing.

We do not remove any support material other than dissolvable support material. We can provide tools to remove them.

We reserve the right to change the pricing at any time without notice.

# **Papercut Instructions**

We use papercut for managing 3D prints.

Registering for a new Account here: https://pc.csmd.edu/user

Make sure you remember your password and pin. They will not be shown on confirmation of registration or sent in the confirmation email.

# **Standard Operating Procedures (SOP)**

SOPs are how we run and operate the Makerspace at CSM's Velocity Center in a safe and reliable manner. There is a procedure for everything from how we operate the tools to how we lock up at the end of the day. These are the keys to continuously improving how we do things.

Checkout the SOP for tools and equipment when necessary. There is no need to memorize how to run a tool or equipment, in fact we prefer you to check with our staff for details. Our staff will know where to find our SOP Handbook which includes links to the specific operating manuals and other safety details for all our tools and equipment.

# **APPENDIX**



# **Unapproved and Banned Materials – Laser Cutter**

Material	Rationale
Construction Grade wood, Treated Wood, construction lumber from your local hardware store, plywood	These types of wood might have been treated with arsenic or other chemicals that when they combust, will emit poison, specifically arsine or formaldehyde gas. Ask before you buy from a store.
Wood with the intention of using it for storing food	For your own safety, don't use the laser cutter with the intent of using the wood for food. The laser cutter is a shared piece of equipment.  Porous wood especially.
Wood from furniture	We do not know what the furniture was treated with. For the safety of members, please do not laser unknown materials.
MDF - Medium Density Fiberboard	MDF is often too dense or contains unsafe glue.  If the manufacturer states that their specific MDF material is a laser safe, then you will be allowed to use it. You may be asked to confirm.
Polycarbonate (Vinyl fabric, imitation leather for example)	Will emit toxic gas and fumes. Material datasheets are not specific to what gas or fume is emitted but it is not good.
Foam or Styrofoam	Will emit styrene gas when burned.
PVC	Polyvinyl chloride (PVC) is just vinyl, but we would like to make sure to clarify.
Anything containing Vinyl or has the word Vinyl in the name	Will release toxic fumes such as hydrogen chloride and phosgene
Rubber	Will release toxic fumes
Toxic natural woods	Though it is highly unlikely you would pick up wood that is dangerous, we want to make sure that you should always research if the wood is laser safe.
Plastics other than Acrylic	We are only sure about acrylic.
Any highly reflective materials	Nothing containing mylar, mirrors, polished aluminum, etc. Reflecting an invisible and powerful laser away from its intended target is not a good thing.



#### **Approved Materials - Laser Cutter**

Material	Raster (etch) or Cut	Notes
Untreated Natural woods that are considered non-toxic	Both. Cut up to ¼ in thick	
Untreated plywood or construction wood	Both. Cut up to 1/4 in thick	Be sure to ask if there is a material safety datasheet or something in writing that says the material is laser safe.
Cork	Etch only	
Acrylic	Both. Cut up to 1/4 in thick	
Metals – Aluminum only with non-toxic coating (powder coated paint is non-toxic)	Raster only	
Stone	Raster only	Low power due to chance of cracking. Ensure that the stone is COMPLETELY DRY. Chance of exploding when heated if not properly dry.
Glass	Raster only	Low power due to chance of cracking.
Paper / Cardboard	Cut and raster.	Low power only. High chance of combustion.

Other than proper application of water, masking tape, and a borax water solution, do not pre-treat any materials unless you ask first.

Everything else is banned or considered unapproved.

If you are unsure about the material, ask a staff member. A piece of material can be approved for future use as we do want to expand our services. We just want to make sure that we properly follow all safety precautions first. If you find a material online that says laser safe, but it is under the banned category (for example, MDF), we might allow you to use it under supervision.

When asking staff for approval, please show a staff member the product listing on a website. Do not purchase a product beforehand as it may or may not be approved.

No reclaimed or "found on the side of the road" materials allowed.

Painted and stained wood is considered treated wood.

Please note that while we understand that our ventilator will suck up most irritants and dangers, this is still a learning environment. We want to make sure that you understand the dangers of combustible materials as affordable laser cutters do not have safety features included.

If you need a supplier, you can try out Makerstock. Or just look for any product on Amazon that says, "Laser safe," "For laser engraving", or "For laser cutting."



#### Approved Materials - CNC Router

Material	Notes
Untreated Natural woods that are considered	
non-toxic	
Most plywood or construction wood	MDF or Medium Density Fiberboard will
	create excess dust. Mask highly suggested.
Acrylic	
Metals – Aluminum only with non-toxic coating	Ask a staff member first for guidance.
	Requires proper training.

All materials must have a flat base and can be secured on the bed. No irregularly shaped materials such as branches.

Everything else is banned or considered unapproved. Harder metals, such as steel, are too strong for the CNC mill. Other materials may pose a safety risk. If you are unsure about the material, ask a staff member. A piece of material can be approved for future use as we do want to expand our services. We just want to make sure that we properly follow all safety precautions first.

When asking staff for approval, please show a staff member the product listing on a website. Do not purchase a product beforehand as it may or may not be approved.



#### Roland BT-12 Direct to Garment Printer

Garment to print	Price Per Unit
Tube tops, sleeveless shirts, t-shirts (anything	\$1.00
that covers the stomach or chest) or larger (if it	
covers the entire smaller tray, it fits here)	
Shorts, tote bags, and pants larger than 12	\$1.00
inches in both width or length (if it covers the	
entire smaller tray, it fits here)	
Anything smaller (socks, handkerchiefs,	.50 cents
boxers). If it doesn't fill the entire smaller tray,	
it fits here.	
Purchased garment from the Makerspace	Free

# New and unused garments only. 50 percent or more cotton only\* recommended 100 percent for best results.

#### **Procedures:**

- 1. Bring garments you want to print on to the staff members.
- 2. A staff member counts your garments and charges you for each garment by sending you an email to our Touchnet payment site.
- 3. You pay per garment (see pricing above)
- 4. You receive the trays to start printing.

Please remember that all equipment requires training and a badge. You will receive practice T-shirts and fabric.

There are no refunds for damaged garments and misprints as we do not perform the printing. You are always required to read the instruction manuals.

\*Garment printer does not work on other materials not containing cotton.

#### Roland BN-20A Vinyl Cutter and Printer

Criteria	Cost per foot rounded UP to the nearest inch. Longest side.
If you use makerspace owned vinyl AND print on it	\$2.00 per foot
If you bring your own vinyl AND print on it	\$1.00 per foot
If you bring your own vinyl and only cut on it	Free
Makerspace Vinyl, Calendared Vinyl	\$1.00 per foot / measured by the longest side

#### Procedures:

- 1. Notify staff of intent to use machine (mention if you are going to print and/or cut) and check out laptop.
- 2. We measure the material that you have. Please bring only the material you intend to use. Try to maximize the material use as there are no refunds for excess / extra / unused vinyl.
- 3. We charge you via the Touchnet system.

Please remember that all equipment requires training and a badge. You will be provided 2 feet x 50in of calendared vinyl and printing as practice.

The Member Handbook can change without notice. Please refer to the makerspace website (www.csmd.edu/makerspace), the in person administrative manual page, emails, and other official forms of communication to keep up to date with changes. Continued usage and membership of the makerspace assumes that you as a member agree and will abide to the new rules.