

BANFF

CENTRE FOR ARTS AND CREATIVITY

Visual Arts Production Facilities and Fees 2021-2022

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Fees are applicable to all artists enrolled in programs at Banff Centre for Arts and Creativity.

All fees are charged in Canadian dollars and are subject to change without notice.

Last update: *October 5, 2021*

Facilities and Fees

This booklet outlines materials, equipment, and fees for production facilities at Banff Centre.

Before arrival at Banff Centre, please contact your assigned facilitator. Contact information for your facilitator can be in your acceptance letter and in the table below.

Facility fees are applicable to all artists and are not charged in the artist's tuition (program fees); facility fees are paid directly to the studio facilitator upon commencement of production work or return of the equipment.

Facilitator Contact Information

Digital Media Lab	Tyler Jordan	403-762-6606 tyler_jordan@banffcentre.ca
Photographic Services	Rita Taylor	403-762-6612 Photo_Services@banffcentre.ca
Printmaking / Papermaking / Digital Imaging	Wendy Tokaryk	403-762-6402 wendy_tokaryk@banffcentre.ca

Making Art in Banff National Park at Banff Centre

Banff National Park is a UNESCO World Heritage Site and, therefore, a protected environment. **It is illegal (and punishable by fines) to collect and use organic materials found within Banff National Park.** Plant matter should not be transported inside the Banff National Park; disease, pests and invasive plants affect native plant populations. Hazardous and toxic materials are discouraged and restricted for environmental reasons.

Resources are limited in the town of Banff, and artists are encouraged to bring or ship supplies for their projects. Supplies may be obtained in Calgary, approximately 140 km east of Banff (about an hour and a half drive). Artists may ship supplies from home, personally transport items, or ship supplies from Calgary to Banff Centre *care of the artist's name* (please review the Banff Centre Artist Handbook, available online).

Natural Environment

Banff Centre is located in Banff National Park, established in 1885, and is Canada's oldest national park. Parks Canada sets guidelines to preserve the natural beauty and ecological history of this region; it is illegal to collect or take anything out of the park, such as rocks, flowers, bark, grasses, bones or historical artifacts. The Town of Banff is a municipality that lies within Banff National Park, and residents and visitors are required to abide by these guidelines. The Town of Banff strives to be a model community in low-impact living, and we pride ourselves on making sure that Canada's first national park will stay pristine for generations to come. Banff has a rich and vibrant cultural and natural history, recognized globally by the United Nations, which designated the area of the Canadian Rockies as a UNESCO World Heritage Site in 1984.

Shared Facilities Environment

As an artist-in-residence you will be part of a community of like-minded people, working alongside your peers. Specialized production facilities in ceramics, sculpture, digital media, printmaking, paper making, digital imaging, and photography are available for all to share. In addition, artists exploring mediums such as painting, drawing, performance, video, and digital technologies, make use of these production facilities. A diversity of mediums and approaches to art-making are present at any given time, and the facility working environment is communal and respectful.

Studio Environment and Architecture

Artists participating in Visual Arts residencies are allocated individual studio spaces within Glyde Hall. Studios contain tables, chairs, and a desk lamp. The architecture of Glyde Hall may not offer complete privacy because some studio walls do not reach the ceiling. Odours, dust, and particulate may travel into adjacent studios. Artists have access to specialized production facilities such as the sculpture shop for sanding, grinding, and cutting (hand tools provided). A ventilated spray booth for sprays and particulate use is also available in the sculpture shop. Painters are asked to use odourless mineral spirits and avoid the use of toxic products (like dammar). Artistic practice as it normally occurs in your private studio may not be appropriate for the open studio environment.

Health and Safety

Prior to submitting a residency application, artists with allergies and/or sensitivities should inquire about risks to their personal safety with regards to the artist studios and production facilities. Artists should bring personal safety equipment for their art projects. Items such as gloves, smocks, respirators, dust masks, eye & ear protection, and appropriate footwear are important considerations in your practice. The specialized production facilities provide some personal protective equipment, but to ensure a safe and healthy work environment, please consider your needs prior to application.

Shipping

If you are shipping items or buying materials while in Banff, please plan to ship them home at the end of your residency. In this way, your materials will return to your home rather than be disposed of in the local landfill. The Town of Banff is a rural township. The cost of building and shipping crates, boxes, or heavy materials can be financially limiting. When planning your project, it is advisable to consider how you will ship items home at the end of your residency. Working modularly, eliminating stretchers, armatures, using collapsible structures, and considering scale is advised. Staff is unavailable to build crates or shipping structures; artists are expected to build containers at their costs and plan in advance.

Materials

Please carefully consider the materials and chemicals you will bring into the National Park, and the material you will use in your project; toxic, carcinogenic, and non-biodegradable materials should be avoided. Artists are required to provide Safety Data sheets (SDS) for hazardous products brought to Banff Centre.

PRINTMAKING FACILITIES AND FEES

- Printmaking studio fees are based on weekly usage.
- Printmaking fees cover expenses for exhaustible materials, equipment rental, personal protective equipment, and rag service.
- Artists have full-time access to the print studio 24 hours a day, seven days a week.
- Artists requesting access to printmaking facilities must have a fundamental knowledge of the techniques and equipment with which they will work to ensure safe working conditions.
- A mandatory orientation is led by the Print & Paper Facilitator, providing an overview of studio equipment.
- Artists are expected to bring a respirator for use with hazardous materials and any additional Personal Protective Equipment they will require.

Etching (Intaglio) and Relief Printing Facility - Weekly rate of \$30.00 includes:

- Charles Brand Etching Press – press rental (36" x 60")
- Charles Brand Etching Press – press rental (26" x 48")
- ABM Rosin Box for copper plates - up to 18" x 24"
- Darkroom and Acid room access
- Ferric Chloride for use with copper plates
- Varsol & Isopropyl Alcohol
- Non-toxic cleaners (Soy-Solv)
- Rags
- Brayers & Hand Inking Rollers
- Paint scrapers and ink spatulas
- Some materials such as copper plates, Fine Art papers, and newsprint are available for purchase from the Printmaking Studio.
- Artists are responsible for providing their own plates, papers, inks, tools, and other materials not listed.
- See pages 15 and 18 in this booklet for information about the CNC router and the Epilog Helix Laser Cutter/Engraver.

Screen Printing Facility (Water-based inks only) – Weekly rate of \$30.00 includes:

- Equipment rental: silkscreens, squeegees, scoop-coater, screen printing tables, and drying rack
- Darkroom access for NuArc UV exposure unit
- Pressure washer and spray out booth
- Photo-emulsion
- Emulsion remover
- Rags
- Artists are responsible for providing their own papers and water-based screen printing inks.
- Screen printing inks provided by artists must be non-toxic and water-based.
- The print studio stocks some inks, paper, mylar and materials for purchase.
- Artists have access to the Digital Imaging for output onto Clear Film for the creation of photo positives.

Stone or Plate Lithography - Weekly rate of \$30.00 includes:

- Bavarian Limestone rental
- Griffin press rental and drying rack
- 1000lbs lift for moving stones
- Leather rollers
- Levigator grits (and graining sink)
- Rosin and Talc
- Gum Arabic, solvents, asphaltum, nitric acid
- Rags
- Ball-grained litho plates for traditional lithography are available for purchase from the print facility
- Artists are responsible for providing their own printing papers, lithography ink, litho drawing crayons and pencils.
- Materials and tools (like acetone and heat gun) are provided for waterless lithography.
- **Artists must bring steel-toed boots to wear when moving litho stones, and a respirator for use with hazardous materials.**

Letterpress - Weekly rate of \$30.00 includes:

- Vandercook 4T Letterpress (14" X 17" maximum paper/cylinder drum size)
- Photopolymer Platemaker (10" x 13" maximum plate size)
- Standard Boxcar Grid Base (13" x 19" non-magnetic metal base)
- Metal and Wood Hand-set Type
- Varsol
- Rags
- The Standard Boxcar base (used with adhesive film) is the mount for printing Photopolymer plates.
- Photopolymer plates may be provided by the artist or purchased from the print studio.
- **Artists are expected to bring a respirator for use with solvents.**
- See pages 15 and 18 in this booklet for information about the CNC router and the Epilog Helix Laser Cutter/Engraver.

CONTACT:

Print & Paper Facilitator – Wendy Tokaryk

(403) 762-6402

wendy_tokaryk@banffcentre.ca

Monday – Friday, 9:00 am – 5:30 pm MST

PAPERMAKING STUDIO FACILITIES AND FEES

- Paper Studio fees are based on weekly usage.
- The paper studio fee covers expenses for exhaustible materials and equipment rental.
- Artists have full-time access to the paper studio 24 hours a day, seven days a week.
- Artists participating in Visual Arts Residencies may access the papermaking facilities provided they have fundamental knowledge in the techniques and production area(s) they will use.
- A mandatory orientation is led by the Print & Paper Facilitator, providing an overview of studio equipment.
- **Artists should bring rubber boots or appropriate protective footwear.**
- See pages 17 and 20 in this booklet for information about the CNC router and the Epilog Helix Laser Cutter/Engraver.

Paper Studio - Weekly rate of \$30.00 includes:

- 24-hours, seven days a week access to the Paper Studio
- Ventilated Dye Room with natural gas burners
- Access to the 1lb David Reina Hollander Beater
- Access to the 2lb David Reina Hollander Beater
- Access to 4ft x 6ft Vacuum Table (1hp wet vacuum pump with polyethylene tabletop)
- Rental of vats, moulds and deckles
- Howard Clark 20T Hydraulic Press (22" x30")
- Dake 25T Hydraulic Press (32"x42")
- Lee S. McDonald Santa Ana Professional Paper Dryer
- Pulp Sprayer
- Stainless Steel Pots
- Measuring cups, spoons and blender
- Safety Equipment – dust masks, gloves, eye protection, and aprons

PAINTING AND DRAWING FACILITIES AND FEES

- Artist's working in painting/drawing are provided an individual studio space as their primary place of work.
- It is encouraged that artists staple canvas to the studio walls and forego the need to build stretchers/panels.
- Fabrication of stretchers, panels, or crates by staff or practicums is unavailable.
- Access to the sculpture facility (woodshop) for building stretchers or panels is available; additional fees may apply (please read the Sculpture Facility Fees section).
- Artists are responsible for constructing stretchers, panels, or crates. Wood is available for purchase locally.
- Please consider your shipping options in advance. Rolling your canvas is an option, and shipping tubes are available for purchase.
- Odourless mineral spirits, walnut oil, and non-toxic cleaners are acceptable for use in the studio.
- If you require solvents, waxes, or toxic products for project completion, please consult your Facilitator prior to arrival to approve your products.
- Overhead fume extraction and direct local exhaust ventilation is not provided in artist studios.

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DIGITAL IMAGING STUDIO FACILITIES AND FEES

- Visual Arts Digital Imaging provided a calibrated environment to produce archival pigment-based prints.
- The facility is available to skilled artists to independently scan and edit images for output on archival paper.
- Scheduling and printing are overseen by a Facilitator.
- Digital Imaging offers two workstations bookable for morning or afternoon sessions.

Station 1 provides the following equipment:

- Epson Stylus Pro 9900 archival inkjet printer with UltraChrome® HDR inks
- Maximum roll width is up to 44 inches wide (and accommodates smaller roll widths)
- Epson Perfection V750-M Pro flatbed scanner (4800dpi, 8.5x11.75")
- Mac Computer Station
- Adobe Creative Suite Software

Station 2 provides the following equipment:

- Epson Surecolor P9000, Standard Edition, Epson UltraChrome® HDX pigmented inks
- Maximum roll width is up to 44 inches wide (and accommodates smaller roll widths)
- Epson Expression 10000XL photo flatbed scanner (2400dpi, large format 12" x17")
- Nikon Super Coolscan 9000ED multi-format film scanner (4000dpi)
- Mac Computer Station
- Adobe Creative Suite Software

Providing your own paper:

- Artists may supply their own paper (approved for use with Epson brand inkjet printers, rated for pigment based inks, and use Epson media profiles).
- If a third party brand paper is provided by the artist, an **Ink only fee will be charged** for prints. Testing is mandatory to achieve accurate paper /colour calibration (ink only fees apply).
- If printing errors occur, Artists will not be reimbursed for the paper they provided.
- Third party manufacturers provide ICC colour profiles for their inkjet papers. Please check their website and provide the Facilitator with the current ICC profile information prior to your arrival in Banff.

CONTACT:

Print & Paper Facilitator – Wendy Tokaryk

(403) 762-6402

wendy_tokaryk@banffcentre.ca

Monday – Friday, 9:00 am – 5:30 pm MST

PHOTOGRAPHIC SERVICES FACILITIES AND FEES

Darkroom fees are applicable to all artists. All artists are responsible for the cost and provision of film and paper and excessive chemistry use at the discretion of their Facilitator. Photographic Services can support both traditional and digital photographic requests through its full-service in-house lab, studio and imaging facilities.

Photographic Darkrooms

Each darkroom houses a Devere 504 enlarger capable of handling film formats from 35mm to 4" x5". Enlargers are equipped with dichroic colour heads or Varicon multicontrast heads. Cold light and condenser heads are also available. Lenses are exclusively Rodenstock Rodagon.

3 Black & White Darkrooms

These are individual darkrooms for printing up to 20" x 24". An adjacent shared print-washing area is equipped with archival print washers, drying racks and a dryer for Resin-coated papers.

Special Process Darkroom

This room is custom designed for large-scale printing. It is equipped with a freestanding Devere (4 x 5) enlarger, with dropping baseboard and wide-angle lenses. Horizontal projection is also possible. This darkroom is also equipped with an 8" x 10" Durst colour enlarger that can be used to project both vertically and horizontally. Other features include a roll-paper safe with rotary cutter and large working surface, stainless steel processing sinks with built-in ventilation, large wash sink (46" x 120") and drying racks.

3 Colour Darkrooms

Colour printing from negatives is supported by a Colex (32") Colour Print Processor (RA4 chemistry) Two darkrooms have the capacity for printing up to 30" x 40"

One darkroom has the capacity for printing up to 20" x 24"

Alternative Processes Darkroom

This darkroom holds a Devere 4" x5" enlarger and a NuArc 23" x27" UV exposure unit. This space uses Cyanotype chemistry processes.

Imaging Lab

This space has been established to provide artist 24 hr access to colour calibrated computers, scanners and a B&W laser printer in a fully calibrated space. There are four workstations available complete with Adobe Creative suite software, Wacom tablets and a local area server for image storage and access.

- Imacon Flexscan X5
- Epson V750 Pro Flatbed Scanner
- Epson V600 Photo Flatbed scanner
- Nikon 4000ED film scanner
- Nikon 8000ED film scanner

Lighting Studio

The lighting studio is \$5/day and must be booked ahead of time through Photo Services.

- Two large banks of north facing windows for natural light capability
- 6 Bowen electronic strobes (750w) with soft boxes, reflectors, snoots, umbrellas and grid spots.
- 7 Mole-Richardson tungsten lights (max: 750w): 4 soft lights, 3 spot lights (Fresnel).

Print Finishing Area

- Large light box, compressed air, 2 Seal dry-mount presses (16x20 and 30x40)
- Dry-mounting tissue is available for purchase from Facilitator.

Photography Studio User Fees:

Standard black & white - \$50 access fee

- Includes a full set of chemistry for film and paper processing
- Additional chemistry available at an additional cost.

Special Process black & white - \$90 access fee

- Includes a full set of chemistry for film and paper processing (Chemistry set scaled for large printing)
- Additional chemistry available at an additional cost.

*** Artists that would like to access both standard and special process rooms will be charged \$50 access fee but may require additional chemistry and will be billed accordingly.

For **B&W processing**, the following chemistry is supplied and included in the Darkroom Fee: Dektol, D76, Stop Bath, Ilford Universal Fixer and Hypo-Clearing Agent. Other chemistry must be specially ordered and paid for by the artist.

Colour darkrooms - \$75 access fee + \$10/day

\$10/day is for average usage and throughput heavy usage may incur additional chemistry fees.
(The \$75 access fee might be waived if the colour processor has been set up for other artists.)

***Artists using the special process room to exposure colour paper will only be charged the colour darkroom fee.

Alternative Processes Darkroom

**Please contact Photography Facilitator for current pricing and information on chemistry for the alternative processes darkroom.

Lighting Studio – Fees: \$5 / day or \$25 / week

- Cross department access

Camera Equipment, Lighting and Accessories:

*** Please note that Artists are responsible for providing film and memory cards where required.

Equipment Name	Accessories	Fee / day
4"x5" Cambo studio camera	<ul style="list-style-type: none"> Nikkor-W 150 mm Schneider G-Claron 210 mm 8 - 4"x5" film holders, 1- Polaroid film holder, dark cloth 	\$5.00
Nikon D800 Digital SLR	<ul style="list-style-type: none"> Nikkor AF-S 24-70 	\$15.00
Nikon D3S Digital SLR	<ul style="list-style-type: none"> Nikkor AF-S 24-120mm F4 lens 	\$15.00
Nikkor AF-S 70-200mm F2.8 lens		\$5.00
Nikkor AF-S 105mm F.28 Macro		\$5.00
Nikon D300 Digital SLR	<ul style="list-style-type: none"> 17-55 F/2.8 lens and SB800 flash 4GB card 	\$5.00
Hasselblad 503CW camera	<ul style="list-style-type: none"> 80mm lens, 150mm lens, A12 back. 	\$10.00
Canon C100 video camera	<ul style="list-style-type: none"> Tamron 24-70 F2.8 lens 	\$15.00
Nikon Z6 Filmmakers kit	<ul style="list-style-type: none"> NIKKOR Z 24-70mm f/4 Lens FTZ Adapter Mounts Nikon F Lenses Atomos Ninja V 5" 4K60P ProRes Recorder MOZA Air 2 3-Axis Gimbal VideoMic Pro Plus On-Camera Shotgun Microphone 	\$15.00
Litra Lighting Kit	<ul style="list-style-type: none"> 4 Litra LED lights Grips and clamps 	\$10.00
Tripods	<ul style="list-style-type: none"> Photo and video tripods available 	\$5.00
Arri Lighting Kit	<ul style="list-style-type: none"> 150w, 300w, 650w fresnels 3 Barn doors, 6 full and double scrims, softbox for large lamp, scissor clamps, 3 stands Travel case with wheels 	\$10.00
Bowens Explorer Two Head Kit	<ul style="list-style-type: none"> 1 Explorer 1500 Battery Generator 2 QUAD 3KM Flash Heads 2 Manfrotto 1052BAC stands 	\$10.00

Digital output

Digital output is available through Photography Services.

While the Digital Imaging area is set up for the artist to be involved in the print process, Photo Services asks for artists to meet with our staff to review the files, and then we take care of the output at no additional cost.

All output is done on one of our Epson Stylus Pro Large Format Archival Inkjet Printers

This is a pigment-based large format printer capable of printing up to 60" wide prints on roll paper.

Paper and Ink Prices

Pricing is based on average photographic images that cover 80% - 100% of the page with an image. Prints that are text or vector-based will be pro-rated based on ink and paper. Images that only use a smaller percentage of the paper will also be pro-rated.

Roll Printing – Cost per linear ft.

	Enhanced Matte	Premium Lustre	Sunset Metallic	Backlit	Adhesive
16" roll	N/A	\$5.50	N/A	N/A	N/A
24" roll	\$7.00	\$8.00	\$10.00	\$10.00	\$8.50
44" roll	\$13.00	\$15.00	\$18.50	\$14.50	\$16.00
60" roll	\$17.50	\$20.00	N/A	N/A	N/A
	Cold/Hot Press Bright		Photo Tex	Exhibition Satin Canvas	Exhibition Fibre
24" roll	\$12.75		\$8.00	\$11.75	\$14.00
44" roll	\$23.50		-	\$11.00	\$25.00

Sheet Printing

	Enhanced Matte	Premium Lustre	Exhibition Fibre	Velvet Fine Art
8.5"x11"	\$4.00	\$4.00	\$6.50	\$6.50
13"x19"	\$8.50	\$8.50	\$17.25	\$17.25
17"x22"	N/A	N/A	\$26.00	\$26.00
24"x30"	N/A	N/A	\$50.00	N/A

Ink Only - \$2.00 per square foot, \$4.00 per square ft. for rag type papers, or \$8.00 per square ft. for Fabric

Operational Guidelines for Digital Printing

Due to the print times for large scale prints, all printing **must be booked ahead of time**. Bookings are taken on a first-come, first-serve basis.

Test prints are recommended to ensure print quality and colour fidelity if the client is unfamiliar with the substrate. Please allow 24hrs for the inks to dry for an accurate colour assessment. There will be a charge for all testing, as noted above under Ink & Paper Prices.

If you provide your own paper:

- It must be Epson Inkjet compatible and rated for pigment-based inks. Media with ICC profiles are recommended.
- Artists bringing their own paper should check with Photo Services prior to purchase
- There will be no compensation for media lost due to printing problems.

Images should be print ready and may be delivered over the network or via portable storage
Images destined for large scale prints can be scaled at Photo Services just prior to printing.

Payment for a print is due upon delivery.

Photographic Services Pricelist				
	Banff Centre Participant Rate			
			Banff Centre Participant Rate	
Film Processing				
color or B&W negative				
35 mm	\$	6.00	Portraits	
120 mm	\$	6.00	sitting fee	\$ 75.00
4x5	\$	3.00	extra images	\$1 ea
Digital photographic prints from our files				
5x7	\$	6.00	General	
8x10	\$	9.00	during office	\$80.00/hr+ image
11x14	\$	16.00	Image processing	\$1 per image/ min
16x20	\$	28.00	min charge	\$40.00 + image
20x24	\$	48.00	Weekdays - after	\$120.00/hr+ image
contact sheet	\$	12.00		\$160.00
			Weekends - after	\$120.00/hr+ image
				\$300.00
Digital Files				
1024x1520 or smaller	\$	4.00		
5x7@300 dpi	\$	7.00		
8x10@300 dpi	\$	10.50		
Full resolution files	\$	18.00		
Disc	\$	5.00		
Disc with index page	\$	17.00		
Digital Imaging		\$80.00 per hr		
		/ min charge \$40		

Only individuals enrolled as artists or participants at Banff Centre qualify for this rate. Please present artist card when requesting services.

CONTACT:

Photographer – Rita Taylor

(403) 762-6612

Photo_Services@banffcentre.ca

Monday – Friday, 8:00 am – 5:00 pm MST

CERAMICS FACILITIES AND FEES

Each studio has a sink, worktables, ware carts, and additional furniture. Studio access is 24/7. It is recommended that artists bring their own hand tools for personal use. Most equipment use is included in the program fee, but artists do pay for kiln firings, clay and some raw materials.

Clay Mixing and Storage Room

- Estrin mixer
- Bailey mixer/pugmill
- Hammer mill
- Clay storage
- Scrap clay bin - free

Glaze Room

- Spray booth
- Lightning glaze mixer
- Air brush
- complete range of raw materials

Other Facilities and Equipment

- Wheels - Shimpo, Brent, Pacifica, etc.
- Sandblaster
- Extruders - 3 (one hydraulic)
- Ball Mills – 2
- Slab roller
- 3D Potter Bot
- Variety of hand tools
- Plaster room for mold making
- Lounge
- Outdoor balcony

Kilns

Glaze materials are generally included in the cost of kiln firings, except in situations where larger quantities of expensive materials or specialty glazes are used, in which case separate charges may apply at the discretion of the Ceramics Facilitator.

ELECTRIC KILN FEES	
	<i>LowTemp. / HighTemp.</i>
• Test Kilns - 2	\$10/12
• 17"x22" - 2	\$20 / \$25
• 23"x27" - 3	\$25 / \$35
• Oval kilns - 2 (16 cu. ft.)	\$40 / \$55
• Front-loader (14 cu. ft.)	\$40 / \$55
• Glass kiln (22" x 18") – fusing, slumping	\$40

GAS KILN FEES	
• Downdraft car kiln (36 cu. ft.)	\$150
• Bailey downdraft - front loader (18 cu. ft.)	\$85

OUTDOOR KILN FEES	
• 2-chambered wood kiln (90 cu. ft.)	\$300
• Wood fire Train kiln (45 cu. ft.)	\$175
• Salt / Soda kiln (14 cu. ft., propane)	\$140
• Raku	\$10

(Note: artists also pay the cost of wood for the wood kilns)

SCULPTURE STUDIO FACILITIES AND FEES

All visual artists have access to the sculpture studio; however, if a project demands extensive use of the Sculpture Studio facilities, a \$30 weekly fee may be charged at the discretion of the Sculpture Facilitator.

Materials Purchase & Availability

The Sculpture Studio does not typically stock materials such as wood, plastic, metal, stone, wax, mold making silicones or rubber, paints and stains. Most of these materials can be obtained in Calgary. To ensure that all required materials are available upon arrival at Banff Centre, artists should contact the Sculpture Facilitator at least two weeks prior to the residency start date in order to determine what should be ordered in advance.

Sculpture Studio Equipment

Although most equipment can be applied to numerous processes, the following list is organized in categories of traditional usage for ease of identification:

Wood Working Tools

Stationary Power Tools:

- Two 10" table saws (each with 48" + tables)
- 16" General band saw
- 20" Felder band saws
- 12" Bosch miter saw
- 22" General drill press
- 12" General Disk sander
- 6" x 18" General upright belt sander
- 20" General 7.5hp thickness planer
- 6" Rockwell jointer
- 10" Radial arm saw
- Oscillating spindle sander
- 19" Supermax Drum Sander (with flattening brush)
- 20" Dewalt scroll saw
- 8" Tradesman Twin Bench Grinder (with Cuttermaster 100 & 180 Grit CBM type wheels, standard tool rests, and the Wolverine Grinding Jig system for sharpening lathe gouges)
- Vicmarc VL175 lathe, 180mm centre height (with wood-buffing system)

Portable Power Tools:

- Hand drills (corded and cordless)
- Jig saws (corded and cordless)
- Belt sanders
- Orbital and random orbital palm sanders
- Electric and pneumatic angle grinders for shaping and sanding (4"-8")
- Pneumatic die grinder
- Dremel
- Freedom rotary tool
- Pneumatic nailer, pin nailer and stapler
- Various Routers (trim, 2-1/2 hp and 3-1/2 hp) for handheld and table-top applications
- Skill saw
- Biscuit jointer

- Sawzall
- Electric chain saw
- 3" power planer
- Heat guns
- Glue guns

Hand Tools:

The Sculpture Studio has a full complement of hand tools, including, but not limited to: hand planes, chisels and gouges, pipe and bar clamps, hammers, screwdrivers, knives, marking and measuring tools, taps, dies, rivet guns, anvils, vices, clamps, cold chisels and punches.

Metal-Working Tools

Stationary Tools:

- 7" x 12" horizontal band saw
- 14" chop saw
- Drill press
- Sheet metal break
- Sheet metal roller
- 2 grinding and sharpening bench grinders
- Access to Hossfeld bender
- Beverly sheer

Portable Power Tools:

- Miller Spectrum 375 Xtreme Plasma Cutting System
- Electric and pneumatic angle grinders (4" and 5")
- Pneumatic die grinder
- 8 gauge sheet metal "nibbler" shears
- Foredom rotary tool

Welding equipment:

- Lincoln power MIG 255
- Lincoln precision TIG 225Oxy-Acetylene torch
- Miller MSW-41 110 Spot Welder

Digital Fabrication

- CNC Router – C.R. Onsrud, 2x3 Tablemate with a 2x3 foot cutting bed.

This tool is used in conjunction with the Digital Media Lab. Users should be experienced in CNC and proficient in Autodesk's Fusion 360 3D software. Please contact the Digital Media Facilitator for all software related questions.

The CNC is equipped with a wide variety of tooling capable of milling foam, wood, plastics, and aluminium. It can also

support engraving projects. Please consult with the Sculpture Facilitator for a full list of available tooling.

Fees for the CNC router are calculated based on cutting time. The current base fee is \$5 an hour. Please contact the

Sculpture Facilitator regarding substrate options and resulting cutting times.

Mold Making and Casting

Mold making and casting in many mediums is possible in the studio. Found objects or objects prepared by artists can be molded in rubbers, plastics, plasters, etc. and cast in a material of the artists choosing. The studio contains a Vacuum Degasser, which is capable of degassing up to a 5-gallon bucket of rubber. The studio also has a ventilated wax working station with wax tools and a water jacket wax melting pot capable of holding approximately 60 pounds of wax. This station supports the Sculpture Studio foundry and may also be used by artists wanting to prepare bronzes for casting at another facility.

Tools include:

- Vacuum Degasser capable of degassing up to a 2.5-gallon bucket of silicone
- 5-gallon pressure chamber for casting transparent resins
- Toaster oven for post-curing small scale resin casts
- Ventilated wax working station with wax tools
- Water jacket wax melting pot capable of holding approximately 60 pounds of wax
- Rotocasting machine with a 24" x24" frame for mounting molds to cast hollow sculptures
- Centroform EZFORM LV 1827 110V Tabletop Vacuum Forming Machine.
 - Plastic sheet size: 21-1/4" x 30-1/4"
 - Forming area: 18" x 27"
 - Max. depth of draw: 9 -11 inches depending on mold geometry.

Metal Casting

The metal shop houses a small propane furnace capable of casting Bronze or Aluminum. It uses a #16 crucible which will accommodate castings of 45 pounds of bronze or 16 pounds of aluminium. The lost wax or organic burnout technique is used for casting. Our 14 "burnout kiln can accommodate small scale molds, and our refractory mold making process can accommodate solid metal castings. Costs for these consumable materials are subject to change depending on market value. For more detailed information on our metal casting process, limitations, cost, or to discuss the metal casting project you wish to apply with, please contact the Sculpture Facilitator via email.

Metal Working Fees

Metal Working Fees for welding rods and wire, welding gas, electrodes and grinding/cutting wheels, as well as for refractory mold materials, bronze, aluminium, and patina chemicals are charged on a cost-recovery/replacement basis and are calculated based on the amounts used. Costs for these consumable materials are subject to change depending on market value. Please consult with the Sculpture Facilitator for current rates.

Spray Painting and Staining

The Sculpture Studio has a spray booth with a paint gun and a fresh air helmet. The studio stocks all related safety equipment e.g. respirators, gloves, coveralls and splash aprons, and has environmentally sound chemical disposal.

Due to the nature of the equipment in the studio, all artists must complete a safety orientation led by the Sculpture Facilitator before they may operate the power tools in the Sculpture Studio.

Please contact the Sculpture Facilitator if you have any questions about available tools of facilities fees.

DIGITAL MEDIA LAB FACILITIES AND FEES

Due to the nature of the equipment, all artists must complete an individual orientation led by the Digital Media Facilitator before they may use the Digital Media Lab or Fabrication Spaces.

Work Stations are available for 24-hour self-directed access. Artists requiring support can arrange one-on-one assistance through the Digital Media Facilitator from 9:30 am – 5 pm, Monday through Friday.

A \$30 weekly fee may be charged at the discretion of the Digital Media Facilitator if a project demands extensive or exclusive use of the facilities or equipment.

Computer Workstations:

- 2 x Apple Mac Pro – 3.0ghz 8core CPU, 64gb ram, Dual AMD D500 GPU
- Apple Mac Pro – 3.5ghz 6core CPU, 32gb ram, Dual AMD D500 GPU
- 4 x Apple Mac Mini (late 2014 model) – 2.8 GHz 2core i5-4308U, 8gb Ram, Iris 5100 GPU
- Windows Custom PC 1 – 3.3GHz 6core i7-5820K CPU, 48gb ram, Nvidia GTX 980Ti GPU
- Windows Custom PC 2 – 3.5GHz 6core i7-5930K CPU, 48gb ram, Dual SLI Nvidia GTX 980Ti GPU
- Windows Custom PC 3 – 3.2GHz 8core i7-6900K CPU, 96gb ram, Nvidia GTX 1080 GPU
- Windows Laptop 15.6" – 6core i7 8750H CPU, 32gb ram, Nvidia Quadro P4200 GPU

Computer Software:

Free & open source titles are not listed below. Please contact the Digital Media Facilitator if you require installation of any unlisted software

- Adobe Creative Cloud
- Autodesk Suite (All Available on request)
- Final Cut 7
- Final Cut X
- DragonFrame (Stop Motion)
- Touch Designer
- MadMapper
- MaxMSP
- Ableton LIVE Studio
- Cinema 4D R17
- ZBrush
- Rhino 5

3D Printing:

MakerBot – Replicator 2

- Build: 28.5cm L x 15.5cm W x 15.5cm H
- Layer resolution: 300 to 100 microns
- Filament Types: PLA, Wax-like Castable

Makerbot – Z18

- Build: H 30cm L x 30.5cm W x 45.7cm H
- Layer resolution: 300 to 100 microns
- Filament Types: PLA, PVB, Wax-Like Castable

We stock filament spools in many common colour choices. Artists requiring specific colours, speciality filaments, or anticipate high volumes of printing are encouraged to discuss purchasing options with the Facilitator before arrival.

Fees for printing are calculated based on the weight of the printed object and machine wear, costing approximately 10¢-15¢ per gram.

3D Scanning

The Digital Media Facilitator will provide orientation on the scanners and provide assistance if required with the scanning process, software, and model cleanup.

Creaform Go!SCAN 50 – Ideal for medium to large objects and high levels of accuracy

- Scan Accuracy: Accuracy up to 0.05mm, resolution up to 0.5mm
- Object size: Ideal for objects from 0.3 to 3 metres
- Scanner Type: Handheld

Creaform Go!SCAN 20 – Ideal for small objects and very high levels of detail

- Scan Accuracy: Accuracy up to 0.1mm, resolution up to 0.2mm
- Object size: Ideal for objects 0.05 – 0.5 metres
- Scanner Type: Handheld

Matter and Form V1 – Ideal for artists new to 3D looking for simple economical workflow and don't require the highest levels of accuracy.

- Scan Accuracy: Capture details as small as 0.43mm
- Maximum object size and weight: 25 cm H x 18cm Diameter
- Maximum object weight: 3kg
- Scanner Type: Turntable

CNC Router (Located in Sculpture Facilities)

The Digital Media Lab supports the modelling process and preparation of files for CNC fabrication. Final file exporting, Tool Path prep, and operation of the machine is overseen by the Sculpture Facilitator.

C.R. Onsurud – 2x3 Tablemate

This CNC machine has a 2'x3' cutting bed. Users should be experienced in CNC and proficient in Autodesk's Fusion 360 3D software. The CNC is equipped with a wide variety of tooling capable of milling foam, wood, plastics, and aluminium. It can also support engraving projects. Please consult with the Sculpture Facilitator for a full list of available tooling.

Fees for the CNC router are calculated based on cutting time. The current base fee is \$5 an hour. Please contact the Sculpture Facilitator regarding substrate options and resulting cutting times.

Laser Engraving & Cutting

Hours of operation are 9:30 am to 5 pm, Monday through Friday.

The **Epilog Helix 24** is equipped with a 60 Watt Co2 Laser, allowing us to cut into paper, wood, acrylics, plastics, ceramics, and much more. For a full list of compatible materials, please contact the Digital Media Facilitator. Files are ideally prepared as Vectors; if Raster (pdf, tiff, jpg), a minimum 300dpi (600dpi preferred) is required to ensure quality.

Maximum Engraving Area: 24" x 18"

Maximum Material Thickness: 8" (this is the object thickness. Cut depth varies by material)

Artists may bring their own materials; however, an SDS sheet must be provided and all materials discussed with the Facilitator. The Facilitator can also assist with ordering materials from nearby vendors. A small selection of common materials are kept in the facility and available for purchase from the Facilitator.

Fees for printing are calculated based on cutting time. Materials that are prone to clogging the air filters are \$6 per hour, while materials less prone to clogging are charged \$3 per hour.

Electronics / Soldering

The Studio has a small supply of common electronics components, wire, solder, and prototyping boards available for artist use. Please contact the Digital Media Facilitator for info on nearby electronic vendors.

- 2 x Weller 50W Soldering Stations
- Benchtop Smoke Absorbers
- DC Power Supply w Voltage Adjustment
- Small tools, multimeters, clamps, etc
- Raspberry Pi 3 B Kits
- Various Phidgets Sensors
- Breadboard

Digital Media Lab Accessories and Equipment

As some artists prefer working in their private studios, we provide an array of supplemental equipment to enhance their studio workspaces. These items may also be used in the Digital Media Lab or across Campus.

If a required accessory or piece of equipment is not listed below, please contact the Digital Media Facilitator to discuss possible availability of equipment across campus.

Variety of Video + Audio Cables	Projector: Christie 555-GS HD, 5.5K Lumen
PC + Mac Keyboards, Mice	Projector: Christie 555-GS WUXGA, 5.5K Lumen
iPad Air 2	Projector: Optoma gt1080 HD, 3K Lumen (Short)
WD Media Player	Projector: NEC M300 XGA, 3K Lumen
Wacom Cintiq 22HD	Projector: Christie D-12HD 11K Lumen
Wacom Tablet: Intuos Pro Pen+Touch	Projector: Epson PowerLite Pro HD 10K Lumen
Bluray+DVD Writer/Reader	
Matrox DVI Dualhead2Go	Audio Mixer: 6 Channel Yamaha MG06
Matrox DisplayPort Triplehead2Go	Audio Mixer: 10 Channel Yamaha MG10XU
	Audio Interface: Focusrite 2i2o
Go Pro Hero 4-Black	Audio Interface: Focusrite 18i20o
Microsoft Kinect v2	Audio Interface: RME Fireface UCX 18i18o
Microsoft Kinect v1	
Leap Motion Controller	Studio Monitor: Yamaha HS5
Logitech HD Webcam	Studio Monitor: Yamaha MSP7
	Studio Monitor: Genelec 8030
Computer Display: 27" 2K (Apple Thunderbolt)	Genelec 7040 Subwoofer
Computer Display: 27" 2K	
Computer Display: 27" 4K	VR Headset: HTC VIVE
Computer Display: 24" HD	VR Headset: Oculus Rift
	VR Headset: Oculus Rift DK2

CONTACT:

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Monday – Friday, 9:00 am – 5:30 pm MST