

Machine Shop Policy

Implementation Date: January 11, 2023

Introduction:

The Science Machine Shop Policy outlined here describes the functions, terms of use, procedures, forms, and responsibilities of the Science Machine Shop. Anyone (i.e., Students, Staff, Faculty and Clients) making use of the machine shop, or the staff of the Machine Shop, are covered by this policy and should be familiar with it. The policy also outlines the roles and responsibilities of the Machine Shop staff and strives to create a productive and safe working environment.

The primary goal of the Faculty of Science Machine Shop is to support and provide in order of priority:

1. Undergraduate labs and Research groups within the Faculty of Science.
2. Vacuum pump service and repair within the Faculty of Science.
3. Partners within the Faculty of Science.
4. Other UVic related machining activities, where they do not conflict with 1, 2 or 3.
5. **No services/access is permitted for personal or private sector purposes.**

Functions of Shop Supervisor:

1. General operations, infrastructure, and work assignment in the Machining Facility.
2. Project management through acceptance and approval of Job Requests, cost quotations, work distribution and maintenance of the queue, communication with the client and invoicing of completed work orders.
3. Consultation with students, staff, and faculty on repair, design, and manufacturability.
4. Shop Safety.

Functions of Shop CNC Machinist:

1. Under supervision of the Shop Supervisor, responsible for the use and maintenance (including repairs) of the CNC machines and related equipment.
2. Assisting the Shop Supervisor with shop operational needs, workflow managing CAD/CAM software & SOP, quoting CNC machining time, fixture & work holding management, tooling inventory & organization, machine tooling and consumable purchasing.
3. Development of workflow strategies to improve CNC machine shop capabilities, efficiency, and accuracy.
4. Shop Safety.

Submitting Job Requests:

1. Clients must submit a job request via the online job submission form before any work can take place. (<https://www.uvic.ca/science/facultystaff/tech/machine-shop/index.php>)
2. The shop supervisor will respond to the job request by email and all correspondence related to the job request shall remain in the assigned email chain.
3. All job requests for vacuum pump service must include make, model and the serial number of the pump in the description. One vacuum pump per job submission.
4. All 3D printing jobs must be accompanied by a solid part file.

Machining Facility:

ELL 023 – Vacuum Pump Facility

ELL 029 – Science Machine Shop (incl. 007, 008, 023, 024, 025, 026, 028 & 029.)

Scope of Services:

1. Mechanical design (CAD) services:
 - a. For all jobs submitted by Science Technical services (except 2D electro-mechanical).
 - b. Job submissions from UVic clients that consist of an assembly with more than 3 mating components (except for professionally approved designs)
 - c. For jobs that require on site measurement.
2. Machining:
 - a. 3 axis CNC milling
 - b. 2 axis CNC lathe
 - c. Manual milling and lathe
3. Supporting services:
 - a. Wood working shop
 - b. Plastic fabrication
 - c. Sheet metal fabrication
 - d. 3D printing (FDM & SLA)
 - e. TIG, MIG, Plasma & laser welding
 - f. Laser cutting (wood & plastics)
 - g. Waterjet cutting
 - h. Paint, powder coating, anodizing & ceramic coating
4. On site service and repair:
 - a. Measurement, design & consultation
 - b. Diagnose and repair of scientific equipment (mechanical/vacuum)
 - c. Equipment assembly & installation (with limitations)
 - d. Portable TIG welding (requires adequate ventilation)
 - e. Heavy equipment moving/installation (with limitations, ~2250kg)

This policy is subject to revision without notice.