1. Purpose of SOP

1.1. To outline the policies, procedures, and guidelines, specific to working in the MMRI-MSL (JHE 109A) during the phased return-to-workplace during the COVID-19 pandemic.

1.2. This SOP does not replace existing procedures for MSL activities such as safe equipment operation and training.

2. Scope

2.1. This SOP applies to all faculty, staff, students, volunteers, visitors and contractors to the MSL (JHE 109A).

2.2. This SOP will be posted in Microsoft Teams.
   - MMRI – McMaster Manufacturing Research Institute > General > Files > COVID-19 SOPs

3. Related Documents

3.2. McMaster HR
3.3. McMaster RMM 304 - Working Alone Policy
3.4. UNIFOR COVID-19 Updates and Resources
3.5. Ontario COVID-19 Self-Assessment Tool
3.6. Ontario Physical Distancing Guidelines
3.7. New Yorker – Article on Workplace Restart

4. How to Use this Document

4.1. This document is intended to:
   - Define the document scope and allowable activities (Sections 2 and 5 respectively).
   - Provide high level procedural reference via an illustrative flow chart (Figure 1: MMRI – MSL – JHE 109a – COVID-19 SOP Flow Chart),
   - Support the illustrative flow chart (Figure 1: MMRI – MSL – JHE 109a – COVID-19 SOP Flow Chart) through procedural sections (Section 6 -10),
   - To effectively use this document, the reader must reference the illustrative flow chart (Figure 1: MMRI – MSL – JHE 109a – COVID-19 SOP Flow Chart) and refer to the respective sections within this document to provide additional procedural details for identified tasks.
5. Appropriate Work

5.1. Phase 1 does not signal a return to work/study/research for any reason other than to perform activities that are impossible to perform in a remote manner. No individual will come to campus to take part in activities that include (but are not limited to) group or individual meetings, literature review, paper writing, grant preparation, thesis defense, comprehensive exams etc. Similarly, while trained undergraduates and graduate students will be permitted to work as described above, “hands on” training of such individuals is not permitted.

- Work in the MSL is limited to COVID-19 projects, machining/microscopy tasks, supervisory roles other activities that cannot be performed from home. All other academic and work-related activities must be performed from home.

6. Scheduling Work

6.1. Only trained MMRI student and staff are permitted to work in the MSL during phase 1 of the return-to-workplace guidelines as no equipment training will take place at this time.

6.2. Student/staff work must be planned in advance with an MMRI senior staff member.

6.3. To maintain effective 2m (6ft) distancing and individual equipment use, the MSL is limiting its occupancy to 5 individuals.

- On normal workdays the MSL will be limited to 4 individuals with 1 of the individuals being the “lab supervisor” who will ensure COVID-19 protocols are followed and provide general lab assistance if required.

- The 5th spot will be reserved for industry emergency services i.e. if one of the MSL’s industry partners requires urgent assistance and the 4 lab spots are already filled.

6.4. Individuals must request machine/lab time in Microsoft Teams.

- MMRI – McMaster Manufacturing Research Institute > General > MSL Scheduling Request Form

6.5. The machining schedule will be developed by the MSL senior staff based off received requests and priority and the confirmed schedule will be available for all to see in Microsoft Teams.

- MMRI – McMaster Manufacturing Research Institute > General > MSL Schedule

6.6. If requests are not submitted and confirmed, individuals will not be permitted in the MSL.

7. Coming to the MSL Lab for Work


- McMaster
- Hamilton
- Canada

7.2. Review all MSL COVID-19 SOPs on Microsoft Teams before coming to the MSL for work.

- MMRI – McMaster Manufacturing Research Institute > General > Files > COVID-19 SOPs
  - CNC Mills and Lathes Cleaning SOP
  - Tool Cleaning SOP
  - Microscope Cleaning SOP
7.3. The MMRI Pre-screening Questionnaire found on Microsoft Teams must be filled out every day before coming to campus to complete scheduled work.
  • MMRI – McMaster Manufacturing Research Institute > General > MMRI Pre-screening Questionnaire

7.4. Follow social distancing guidelines while traveling to and from work and navigating the McMaster campus.

7.5. Be cautious around frequently touched surfaces and try to avoid them while on campus (doorknobs, hand railings, light switches, elevator buttons etc.).

8. Working in the MSL

8.1. Arrival
  • JHE will remain locked for phase 1 of return-to-work.
  • The primary entrance to the MSL in phase 1 of return-to-work will be at the MSL bay door where a doorbell has been set up.
    ➢ Ring the doorbell and the acting “lab supervisor” will let you into the MSL.
  • In the case where more than 1 individual arrives at the MSL at the same time, individuals will follow social distancing guidelines and wait for the “lab supervisor” to allow them into the MSL.
  • Some individuals may have a key for JHE or a key card that they can use to gain access to JHE through the Hatch building.

8.2. Handwashing
  • There are two handwashing stations in the MSL, one at the bay door entrance and one at the JHE entrance (Figure 2: Example of an COVID-19 MSL Floor Plan).
  • Individuals must wash their hands upon every entry and exit to the MSL, whenever individuals leave their assigned workstations and after sneezing or touching one’s face.
  • Individuals must wash their hands with warm water and soap for a minimum of 20 seconds.
  • A hand washing instructional poster will be provided above the sinks (Figure 4).

8.3. PPE Requirements
  • Safety glasses
    ➢ Must be worn at all times in the MSL unless an individual is in the office space.
    ➢ The MSL has some safety glasses, however; once given a pair, individuals are expected to take them to and from the lab.
  • Nonmedical facemasks
    ➢ Must be worn at all times in the MSL.
    ➢ It is recommended individuals bring their own facemask.
    ➢ The MSL has some nonmedical facemasks if individuals do not have their own.
    ➢ Reusable masks must be taken home and cleaned appropriately before reuse.
  • CSA certified footwear
    ➢ Only required during machining experiments and when lifting heavy objects although it is recommended they be worn at all times while working in the MSL.

8.4. Checking In
  • After washing one’s hands the individual will check in with the “lab supervisor”.
➢ Individuals will ensure all required PPE is put on before checking in with the “lab supervisor”.
• The “lab supervisor” will check the individual’s temperature using a touchless thermometer and ensure that he/she has filled out and passed the MMRI Pre-screening Questionnaire.
  ➢ Social distancing will be in effect aside from checking the individual’s temperature, however; nonmedical masks will be worn to reduce exposure.
  ➢ The “lab supervisor” will ensure the thermometer is disinfected after each use.
• If an individual has not completed the online questionnaire or has been found to have been dishonest in their responses, the individual will not be allowed to work on that day and further disciplinary actions may be taken.

8.5. Social Distancing
• 2m (6ft) will be maintained between individuals working in the MSL.
  ➢ The MSL requires a facemask to be worn at all times to accommodate for cases when social distancing cannot be maintained.
• Workstations will be set up to accommodate 2m (6ft) for social distancing (Figure 2).

8.6. Food and Drink Policy
• Eating and/or drinking is not permitted in the lab space.

8.7. Headphone Policy
• Wearing headphones for entertainment is not permitted in the lab space.
  ➢ In the case of excessive noise in the MSL due to an approved activity/experiment, individuals will be allowed to wear hearing protection.

8.8. Lab Hours
• The MSL will be open for scheduled student/staff work from 9:00am – 4:00pm.
• All work must stop at 3:30pm so cleaning can commence for the last 30 minutes of work.
• If urgent, evening work will be permitted.
  ➢ An MSL staff member must be present for evening work to take place unless that evening work is to be performed by a staff member.
  ➢ When possible, evening work will be scheduled so that there is more than one individual working in the MSL.
    o If a staff member is working alone, McMaster’s work alone policy applies.
    o If an individual is working alone, they are responsible for abiding by MSL COVID-19 protocols.

8.9. Signage
• Throughout the MSL, McMaster approved signage and MSL specific signage will be strategically placed to remind individuals to continue to adhere to COVID-19 procedures. Examples can be seen in section 12.

8.10. Machine Workstations
• After checking in with the “lab supervisor” individuals will proceed to their assigned workstation/workspace. This will usually contain the CNC machine the individual has been scheduled to use and a microscope.
  ➢ See Figure 2 for an example of an MSL floor plan considering social distancing.
There are several arrangements of this plan which will be implemented depending on tests and equipment required for an individual’s work. Each variation will allow for 2m (6ft) to be maintained between individual as they work.

- Individuals will proceed to set up collapsible tables and chairs within their workspace to work from.
- Individuals must disinfect any personal items they will be using at their workstation (laptops, notebook covers etc.).
- Individuals are expected to gather all tooling required for their testing before said testing begins.
- Individuals are expected to remain in their workspace unless they require a tool or another piece of equipment that they do not have access to in their workspace.
- If an individual needs to leave the workspace for any reason social distancing rules must be obeyed.
  - If an individual needs to leave their workspace they must wash their hands immediately before getting a tool, another piece of equipment or leaving the lab.
  - Office and desk spaces are off limits to students. If a student requires something from these areas they must ask the “lab supervisor”.
- **Individuals are responsible for ensuring their workstation is completely cleaned and everything put away at the end of the day regardless of if the individual is scheduled to work the following day.**

8.11. Workbench Work:
- Only one individual will be permitted to work in the workbench area at a time.
- Once the required work is complete the individual is responsible for cleaning the tools and worksurfaces with the provided cleaning supplies.

8.12. Chemical Handling
- For any chemicals required please follow SOP’s for material handling.
- Ensure containers are disinfected with the provided solution after use.

8.13. Cleaning
- At the beginning and end of every day the acting “lab supervisor” will clean commonly touched surfaces. Surfaces will include lab sinks, door handles, light switches, telephones etc.
- Individuals must sanitize/disinfect any personal items they will be using at their workstation (laptops, notebook covers etc.).
- Individuals are responsible for cleaning their own workspace at the end of every day or when they are finished their work.
- Each workstation will be supplied with cleaning solution in a spray bottle and a bottle of coating oil if required.
  - The MSL is using On The Mark cleaning solution for hard surface cleaning.
- To clean surfaces and other equipment, spray the cleaning solution onto some paper towel/shop rag then lightly wipe down the equipment.
- For metal surfaces that are prone to oxidation, a thin film of oil must be applied after cleaning the surface.
- Dispose of used cleaning supplies in the garbage cans provided.
General Workstation Clean-up Instructions:
1. At the end of the day or after completing the machining experiment, individuals must sanitize/disinfect and tidy away their personal devices into their backpack/briefcase to take home. 
   ➢ Personal items may not be left in the lab overnight.
2. Once finished working, individuals must clean all hand tools and cutting tools and put them away. 
   ➢ Tools may not be left out overnight. 
   ➢ Tools can be cleaned with the cleaning solution then coated in a thin film of oil. 
   ➢ Oil will be provided at each workstation.
3. The inside of the machine will be cleaned as usual by ensuring all chips are swept into the chip bin and the machine looks clean inside. 
   ➢ DO NOT use the cleaning solution inside the machines as this can damage the machine.
4. After all personal items, tools and machine insides are cleaned and put away, all frequently touched work surfaces must be cleaned with the cleaning solution. This includes but is not limited to machine keypads, handles and doors, monitors, collapsible desks and chairs and any toolboxes used.
5. Individuals are responsible for putting away collapsible tables and chairs at the end of every day or when their work is finished for the day regardless of if the individual is returning to the MSL the following day.
6. For additional instructions on cleaning tools, machines and workstations refer to COVID-19 SOPs in Microsoft Teams. 
   ➢ MMRI – McMaster Manufacturing Research Institute > General > Files > COVID-19 SOPs

Microscopy Clean-up Information:
• Individuals will be assigned a microscope to coincide with their machining experiment.
• If an individual uses the microscope as a part of their machining test, when the test is finished or at the end of the day, the individual is responsible for cleaning the microscope and accompanying work surface with the provided cleaning solution.
• KIMTECH wipes will be used on the microscope equipment instead of paper towels.
• When cleaning the microscope area ensure that you spray the KIMTECH wipes with the cleaning solution and then wipe down the required surfaces. 
  ➢ DO NOT spray the cleaning solution directly on any microscope equipment. 
• When cleaning the microscopes only clean the plastic platform and adjustment knobs. 
  ➢ DO NOT clean the microscope optics or electrical wires.

8.14. Checkout
• After an individual has cleaned their workstation and put everything away they must checkout with the “lab supervisor”.
• The “lab supervisor” will ensure cleaning guidelines were followed before allowing an individual to leave.
• In the case where individuals finish work at the same time, social distancing rules will be followed and the “lab supervisor” will instruct each individual as to when it is safe for them to leave the lab.
• Individual will wash their hands upon exiting the MSL.
• At the end of every workday the acting “lab supervisor” will complete the Supervisor Checkout Form in Microsoft Teams.
  ➢ This form will document that COVID-19 protocol has been followed and that the MSL is clean and ready for work the next day.
  ➢ MMRI – McMaster Manufacturing Research Institute > General > MSL Supervisor Checkout Form

9. Feeling Ill at Work

9.1. If at any point an individual starts feeling ill at work, they must inform their “supervisor” and immediately go home to self-isolate. The “lab supervisor” will inform all other students working in the lab that said individual has left because they started to feel ill. Everyone is expected to leave the lab and begin monitoring their condition. The “lab supervisor” will determine the best course of action to disinfect the lab. Work may continue once the lab is deemed safe to use.

10. In the Case of An Emergency

10.1. In the case of a fire alarm or another type of emergency on campus, McMaster University’s SOPs will apply. Please try to adhere to social distancing guidelines if an evacuation is necessary.

11. Failure to Comply with COVID-19 SOP

11.1. Failure to comply with the above procedures may result in a loss of lab privileges.
12. Figures

Figure 1: MMRI – MSL – JHE 109a – COVID-19 SOP Flow Chart
Figure 2: Example of an COVID-19 MSL Floor Plan

- Workstation 1: Makino + Microscope 1
- Workstation 2: Fx-5 + Microscope 2
- Workstation 3: Nakamura + Microscope 3
- Supervisor Area
- Walkway = Potential Breach of Social Distancing
STOP
COVID-19 PRECAUTIONS

Maximum occupancy must not exceed 5 persons

You may only enter the lab if:

- You are scheduled to work in the MSL today
- You have successfully completed the MMRI Pre-Screening Questionnaire today

Check-in with the lab supervisor at the table by the door to get temperature taken and answer pre-screening questions.

Safety glasses must be worn at all times in the lab.
CSA certified footwear must be worn when operating machinery and when lifting heavy objects. They are NOT provided.

A face mask must be worn at all times in the lab. One will be provided if necessary.

Upon entry, immediately wash your hands with water and soap for 20 seconds in the sink by the door.

Figure 3: MMRI – MSL – JHE 109a – COVID-19 Entrance Poster
Hand Hygiene

Follow the procedure below to ensure adequate hand washing.

1. Wet hands with warm water
2. Apply soap
3. Wash hands for at least 20 seconds (palms and back of hands, between fingers, under nails and around the thumbs)
4. Rinse well
5. Dry hands with paper towel
6. Turn off tap with paper towel

Avoid touching your face.

Wash hands upon entering and exiting the lab, whenever you leave your workstation, after touching your face and after sneezing or coughing.

It is recommended that hands be washed frequently.

Figure 4: MMRI – MSL – JHE 109a – COVID-19 Handwashing Poster
Tool Cleaning SOP

Before cleaning tools:
→ Wash hands and put away personal items.

Cleaning the tools:
→ All shared tools must be cleaned with the disinfectant spray and paper towel after use.
→ Disinfectant spray should be sprayed onto paper towel which should then be used to wipe all touched surfaces of the tool (handle, grip, buttons, surfaces, etc.)
→ Tools with metal surfaces prone to oxidization must be coated with a thin layer of oil following cleaning.

After cleaning tools:
→ Store tools in corresponding location.
→ Use disinfectant spray to clean surface on which tools were cleaned.
→ Wash hands.
→ Follow the CNC Machine & Microscope Cleaning SOPs.

Figure 5: MMRI – MSL – JHE 109a - COVID-19 Tool Cleaning Poster
COVID-19 PRECAUTIONS

CNC Machine Cleaning SOP

When you're done working and before cleaning the machine:

→ Wash hands and store away personal items.
→ Follow the Tool Cleaning SOP to clean and store tools.

Cleaning the machine:

→ Remove workpiece and cutting tool(s) from machine and store away in corresponding location.
→ Clean inside of machine as usual. Ensure all chips are swept into chip bin and machine looks clean inside.

Do not clean inside of machine with disinfectant spray.

→ Power down machine. Use disinfectant spray to clean touched lock boxes, switches and key(s) before storing away.
→ Clean machine door and handle with disinfectant spray and paper towel.
→ Spray the disinfectant onto paper towel and wipe down machine hand control, keypad, dials and screen.
→ Spray the disinfectant onto KIMTECH wipes to clean the workstation's monitor(s). Paper towel can be used on the keyboard and mouse.
→ Use disinfectant spray and paper towel to clean your workstation's table tops, tool chest tops and chairs.
→ Clean any other frequently touched surfaces or objects.

After cleaning:

→ Wash hands.
→ Follow the Microscope Cleaning SOP if not done so yet.

Figure 6: MMRI – MSL – JHE 109a – COVID-19 Machine Cleaning Poster
Figure 7: McMaster COVID-19 Posters