

NC State Nanofabrication Facility (NNF)

Phased Re-Opening Overview

- Over the next few weeks, NNF will be transitioning from its CoVID-19 operating protocol towards its standard schedule/structure
- **NNF will prioritize health and safety, and operate with an abundance of caution**
 - All decisions regarding lab access and operation will be predicated on safety, not individual research needs
- All users and staff must follow safety protocol. Failure to do so will result in an immediate suspension from using the NNF.
- All policies herein will apply to the main cleanroom (MRC 2nd floor), MRC 226, MRC 127, and MRC 106.

NC State Nanofabrication Facility (NNF) Phased Re-Opening Overview (cont.)

- This will be the first Phase of reopening the NNF beyond critical research exceptions
 - The NNF will be available for processing starting Tuesday May 19th, 2020 pending the following:
 - NNF and University Required Approvals for your project
 - Reservations for all equipment made by noon Monday May 18th, 2020
 - Graduate-Students are expected to **not exceed** 20 hours of onsite NCSU lab hours per week
 - It's the responsibility of the PI and Grad Student that those rules are followed
- *Please note that all procedures are subject to change, due to the innate unpredictability of the pandemic.*
 - We expect the situation to evolve over time.
 - As general CoVID-19 restrictions ease, we anticipate the lab rules will follow suit

Phase I: Overall Protocol

- Same as existing NNF CoVID-19 rules, with some changes due to larger number of lab users.
- Lab will be open for University-approved projects only.
 - As part of University approval process, NNF sign off on all projects
Departmental and College approvals can be initiated
 - NNF approval application can be found here:
<https://forms.gle/jTsHTRjNvDV3aSgy7>
- Lab hours will be 8:30am – 5pm M-F. No weekend or evening access will be granted.
- Tool training is on hold indefinitely
- There will be a limit of ten total people (staff + users) allowed at one time in the clean room
 - This will be consistent with the University's guideline of one person per 250 ft²
- There will be a limit of one entrance to the clean room per user per day (for PPE conservation purposes)
 - Additional entrances will require pre-approval from NNF staff

Phase I: Overall Protocol (cont.)

- During NNF operation, there will always be at least one staff member each in the clean room, and out of the clean room.
 - If there is NNF insufficient staff on-site, the facility will close until we can get the proper coverage in place.
- Tool and surface wipe downs (with IPA) will be a shared responsibility between NNF staff and users
 - Microscopes are to be wiped down by users before and after every use
- Gowns and masks to be maintained by NNF staff.
- Users are to bring their own safety glasses
 - Please contact NNF staff if you do not have your own safety glasses

Second Level PPE in the NNF

- Consistent with the NNF Safety Plan, Second level PPE is still required at specific tools
 - Chemical Apron
 - User will be given an apron, which will be labeled with their name, the issue date, and chemical type
 - User will be responsible to ensure that apron is clean after tool operation. Apron will be stored in a NNF supplied bag labeled with their name and hung on storage rack.
 - Chemical Gloves
 - User will be given a pair of gloves, which will be labeled with their name, the issue date, and chemical type
 - User will be responsible to ensure that gloves clean and dry after tool operation. Gloves will be stored in a NNF supplied bag labeled with their name and hung on storage rack.
 - Faceshield
 - User will wipe down faceshield with IPA/Water mixture before and after tool operation

Phase I: Scheduling

- Only one user will be allowed per bay at a given time.
- Users must reserve all tools on Mendix by **noon on the day before their use** (*including microscopes, spin dryer, etc*).
- Based upon Mendix reservations NNF Staff will review and determine the final schedule and notify users by 5pm the day before use.
 - Reservation times may need to be adjusted or usage rescheduled to maintain social distancing.
 - If you are late for your time slot, you will not be allowed into the facility.
 - If emergency scheduling is needed outside this time frame it needs to be raised to the NNF Operations Director.
- The main lab change room (MRC 240) and 106 lab change room (MRC 107) will have their own Mendix scheduling, which must also be reserved in order to gain lab entry.
 - Go to: Schedule Time/NNF/Change room Access and select a 15 minute window for either 240 Change room or 107 Change room

Phase I: MRC Building Protocol

- The Monteith Research Center (MRC) doors will remain locked during Phase I.
- Users who have been approved to work that day should coordinate with NNF Staff for building entry.
 - The single building entry for the NNF will be the 2nd Floor South Door closest to the NNF 240 Lab Entrance
 - This entry will be based on your Mendix Changeroom Access reservation
- Wearing a surgical/cleanroom facemask is mandatory at all times in MRC.
 - Surgical/cleanroom facemasks will be supplied at the building entrance as well as a bag to store your street facemask on your person
- Use MRC only for lab work – computer activities, reading, etc. should be done at home
- NNF Landing Space will be closed to NCSU users
 - Lockers will remain open, but will be assigned to individual users
 - However, we recommend users minimize the items they bring to MRC

Phase I: Main Lab Entry

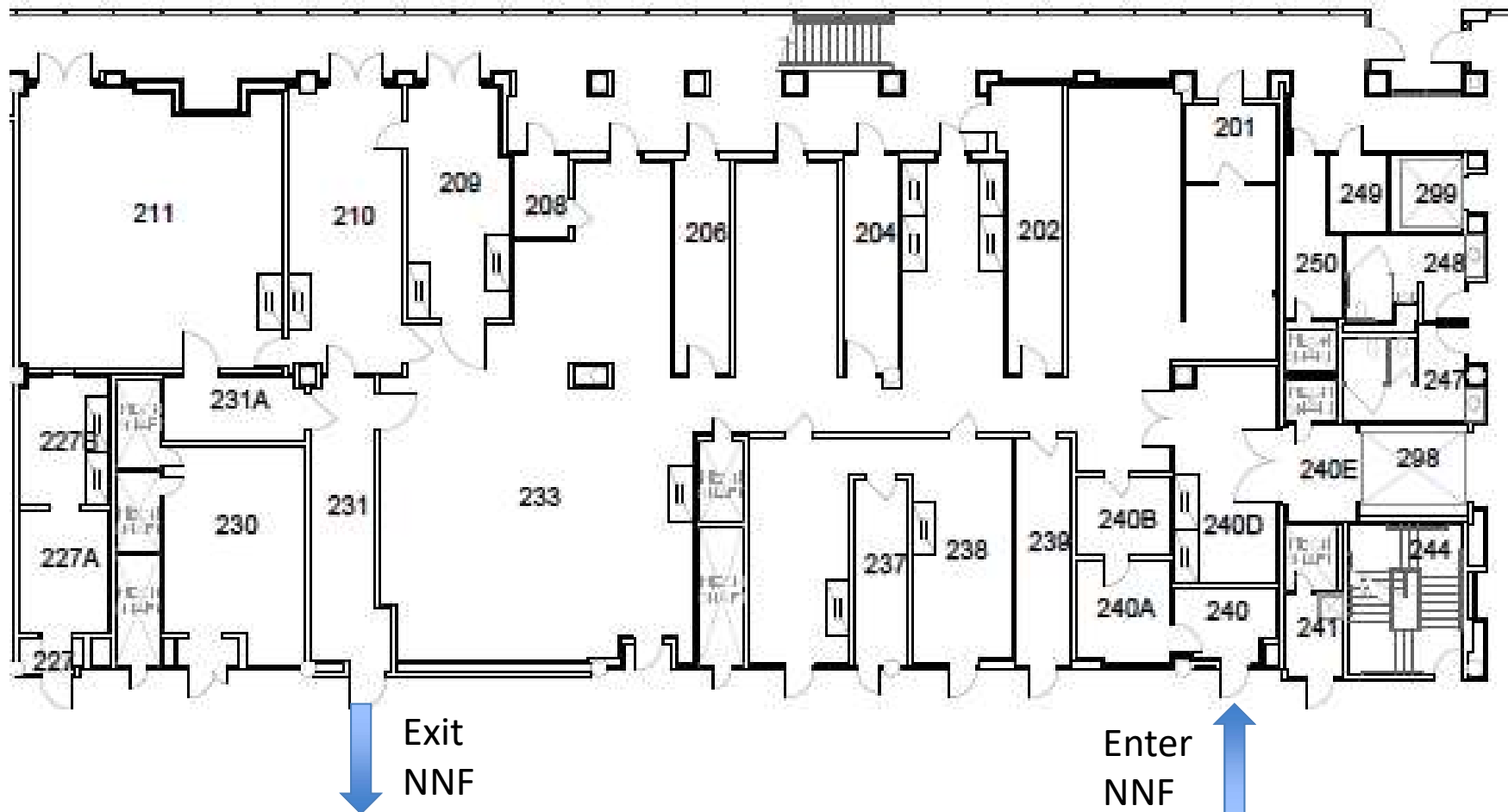
- All user access cards will remain deactivated. Access to the lab will be granted by the on-site NNF Staff members
- **Pre change-room entry protocols for users:**
 1. Put on nitrile gloves outside of change room at NNF Entry station
 2. Sign into NNF by acknowledging that you are not suffering any of the symptoms listed on NNF's User Wellness Checklist.
 3. Enter change room one person at a time.
- **Change room Protocols**
 1. Put on 2nd set of nitrile gloves.
 2. Note that surgical/cleanroom facemask provided at the MRC entrance will be used throughout the NNF
 3. Put on bouffant cap, then cleanroom hood, then gown, then boots.

Phase I: Main Lab Exit

- **Change Room Exit Protocol**

1. Exit through the main gas chase (MRC 231), located behind the DRIE tool, where the green CVD tool was located
2. Do not remove any gowning materials until you enter the MRC hallway
3. Surgical/cleanroom mask will be worn at all times within MRC
4. After use, each disposable gown / suit will be individually bagged before placing in waste bin (disposables) or laundry bin (launderables) in the hallway
5. Only one person at a time in the gas chase.

Phase I: Lab Entry and Exit Floorplan



Phase I: Building Evacuation

- In the event of a building evacuation alarm, standard NNF safety policy is in effect
 - Leave the lab and the building by the nearest possible exits
 - Do not stop to change out of your cleanroom gown
- However, continue to practice 6-foot distancing whenever possible during exit and once you have reached a safe location without putting yourself or others in harms way.

Phase I: Personal belongings

- Thoroughly wipe down any personal belongings before bringing them into the cleanroom
 - Laptops
 - Cell phone
 - Samples boxes
 - Lab notebooks
- Do not break PPE to take out/put away personal items while in the lab
 - E.g., do not open up clean room suit to get out cell phone

Phase I: MRC 226 and 127

- Due to their reduced size, the non-cleanroom labs in MRC 226 and 127 will be designated as single occupancy.
 - Signs will be placed outside the lab door indicated whether or not the lab is in use.
 - Users will be monitored via safety camera in lieu of “buddy system”
- Entry into these labs will be granted through the standard pre change-room entry protocol described previously.
 - Sign in and be let in the lab by NNF staff
- The tools in these labs also must be reserved on Mendix by **noon on the day before their use.**
- Cleanroom facemasks and double-gloves will be required in these rooms.
- Gloves will be bagged and disposed of in the hallway outside of the lab.
 - Surgical/cleanroom mask will be worn at all times within MRC

Phase I: MRC 106

- MRC 106 will also be designated as a single occupancy lab.
 - Signs will be placed outside the lab door indicated whether or not the lab is in use.
 - Users will be monitored via safety camera in lieu of “buddy system”
- Entry into 106 will be granted through the standard pre change-room entry protocol described previously.
 - Sign in and be let in the lab by NNF staff
- The tools in these labs also must be reserved on Mendix by **noon on the day before their use**.
- The MRC 106 changeroom (MRC 107) will also be single occupancy
- MRC 106 users will wear a facemask, disposable lab coat, pair of booties, and bouffant
 - Surgical/cleanroom mask will be worn at all times within MRC
 - PPE will be bagged and disposed of after a single use.