

This guide specifically addresses the needs and PPE recommendations imposed to reduce the spread of COVID-19 while UD employees and students conduct in-person research work. Guidelines offered here are in addition, and not to replace, PPE requirements associated with specific lab work (e.g., chemical, laser, radiation, and biosafety protection as applicable). Individuals requesting an exception to these guidelines for medical reasons should contact Disability Support Services.

FACE COVERINGS

1. Face coverings must be worn whenever there will be more than one person in a room or research space. Face-to-face interactions are to be carried out practicing physical distancing whenever feasible (i.e., separation of at least 3 ft between individuals and avoiding/minimizing close interaction longer than 15 minutes.) The type of facial covering to wear should be selected according to the type of activity and in-person interaction needs:

	Bench-top lab work*	Work with animals	Non-biomedical procedures with humans	Biomedical procedures with Humans (e.g., biospecimen collection, sensors placement, etc.)	Procedures involving generation of aerosols (e.g., exercise testing, invasive nasal/oral procedures, etc.)
 CLOTH MASK	✓	✗	✓	✗	✗
 SURGICAL MASK	✓	✓	✓	✓	✗
 N95 RESPIRATOR	✗	✗	✗	✗	✓
 MASK & FACE SHIELD	✓	✗	✓#	✓	✓

*Bench-Top lab work: refers to research and teaching activities normally carried in a laboratory environment. Additional PPE is to be used according to the safety requirements imposed by the type of work (e.g. work in the fume hood, lab coat, eye protection, etc.)

#For close contact interactions (less than 3 feet lasting for more than 10 minutes) a surgical mask and eye coverings (goggles or face shield) should be worn.

Research participants must wear face coverings during in-person interactions. Research participants may wear their own cloth or surgical mask or one provided by the researchers. If research procedures require exceptions to research subjects wearing masks additional safety measures (i.e., physical barrier between researcher(s) and subjects) must be implemented as feasible.

- a. **Bench-top lab work:** Use of a cloth mask is acceptable and sufficient. Disposable surgical masks can be worn if preferred. For biosafety level 2 and higher work, a disposable surgical mask should be used. For chemical work involving volatile and/or pyrophoric chemicals (in fume hood), chemically resistant masks or disposable surgical masks, plus appropriate eye protection (i.e. goggles and/or face shield) should be used (check with EHS for additional guidance).
 - b. **Work with animals:** Disposable surgical masks are required. Respirators may be required for the protection of animal care workers as prescribed.
 - c. **Non-biomedical interactions with humans, i.e. close contact interactions:** Use of cloth masks is acceptable and sufficient when physical distancing (> 3 ft) can be maintained. Use of disposable surgical masks and either goggles or a face shield to protect the eyes is expected for close interactions longer than 10 minutes.
 - d. **Biomedical procedures with humans:** Use a surgical mask (a cloth mask is not sufficient but may be used over a surgical mask). A face shield may be worn in conjunction with a face mask if physical distancing (> 3 ft) cannot be maintained and/or intermittent face-to-face contact is needed beyond 10 minutes. For Clinical/Health procedures with human subjects, all clinicians must wear a surgical mask covered with a cloth mask, and the patient/participant should also wear a mask unless it is contraindicated (if the patient/participant cannot wear a mask, then the clinician should also wear a face shield over their own mask).
 - e. **Procedures involving generation of aerosols:** An N95 respirator **and** face shield must be used (additional information on N95 respirators and face shields can be found below).
2. **Cloth Face Coverings** are recommended as a simple barrier to help prevent respiratory droplets from traveling into the air and onto other people when the person wearing the cloth face covering coughs, sneezes, talks, or raises their voice. Face coverings can be UD-issued masks (surgical or cloth) or your own personal cloth masks provided they meet [CDC guidelines](#). You are responsible for washing cloth masks at home daily (machine wash warm water/mild agitation). Do not use cloth masks for work in situations in which mask will collect environmental toxins, such as animal dander, pathogens, or chemicals. If cloth masks get noxious chemicals on them, dispose of them in a chemical waste container. Do not bring home.
 3. **Surgical masks** are fluid-resistant, disposable, and loose-fitting devices that create a physical barrier between the mouth and nose of the wearer and the immediate environment. They provide the wearer some protection against large droplets, splashes, or sprays of bodily or other hazardous fluids and protects those in proximity from the wearer's respiratory emissions. Disposable surgical masks (3-ply) can be ordered from the Fisher storeroom. Catalog number 12-888-001 is the recommended item. UD is currently limiting the purchase of these to 10 packs (1 pack = 50 masks). Pinch the wire around nose to reduce air escape upwards that leads to goggle or glasses fogging. You could also consider using anti-fog spray for glasses and goggles. While surgical masks are often disposed of after each use, in some settings they can be reused to preserve PPE. For example, a cloth mask can be worn over the surgical mask, allowing reuse of the surgical mask for up to 10 days (in this case, the cloth mask must be cleaned daily).
 4. **Face shields**, are items of personal protective equipment intended to protect the wearer's entire face from hazards such as flying objects, chemical splashes, or potentially infectious materials. It is not known if face shields provide any benefit as source control to protect others from the spray

of respiratory particles. CDC does not recommend use of face shields for normal everyday activities or as a substitute for cloth face coverings. Researchers may choose to use a face shield when sustained close contact with other people is expected. If face shields are used without a mask, they should wrap around the sides of the wearer's face and extend to below the chin. Disposable face shields should only be worn for a single use. Reusable face shields should be cleaned and disinfected after each use. When face shields are added as PPE, they should preferably be worn in conjunction with another appropriate face covering. Face shield should be made available in labs and disinfected with 70% ethanol between uses. Face shields must not be shared. These are available through the Fisher Store Room.

5. **N95 FFR (filtering facepiece respirators)** are PPE designed to remove particles from the air that is breathed through it. Respirators with exhalation valves are not recommended, especially in sterile environments. These respirators filter out at least 95% of very small (0.3 micron) particles. N95 FFRs are capable of filtering out all types of particles, including bacteria and viruses. The use of N95 respirators and a face shield is only recommended for personnel who may be exposed to hazardous aerosols (e.g., airborne particles including infectious agents, liquid droplets, and/or gases) during various procedures (e.g., sputum induction, bronchoscopy, open suctioning, CPR).
 - a. Not everyone is able to wear a respirator due to medical conditions that may be made worse when breathing through a respirator. Before using a respirator or getting fit-tested, workers must have a medical evaluation to make sure that they are able to wear a respirator safely. Individuals needing to use a N95 respirator must be medically cleared to wear one first, and then fit-tested to ensure a proper fit (N95 effectiveness is highly dependent on proper fit and use). Contact EHS at dehsafety@udel.edu to arrange for a medical screening with the Nurse Managed Primary Care Center. Once medically cleared, schedule a fit-test with EHS. Note that a fit-test for a N95 produced by one manufacturer is only valid for that manufacturer. The fit-test must be repeated for an N95 obtained from a different manufacturer. If you are cleared, EHS will be notified to perform another fit-test.
 - b. If required, N95 respirators will be acquired from a CDC/[NIOSH-approved supplier](#) by EHS and then purchased by individual labs and/or Core Facilities.
 - c. Use of N95 respirators should follow careful donning and doffing steps <https://www.cdc.gov/coronavirus/2019-ncov/downloads/hcp/fs-respirator-on-off.pdf>
 - d. N95 respirators are recommended for one-time use only. They should be discarded after each patient encounter and after each aerosol generating procedures. The N95 should also be discarded when it becomes damaged or deformed (e.g., no longer forms an effective seal to the face, becomes wet or visibly dirty, breathing becomes difficult, or if it becomes contaminated with blood, respiratory or nasal secretions, or other bodily fluids from patients).
 - e. A survey will be sent to research laboratories and Core Facilities periodically to provide information to EHS with an estimate of the number of personnel and training procedures anticipated to require use of N95s during summer 2020, fall 2020, and spring 2021. This information will be used to procure batches of N95 masks.

6. Feasibility and Adaptations

Wearing face coverings may not be possible in every situation or for some people. In some situations, wearing a cloth face covering may exacerbate a physical or mental health condition, lead to a medical emergency, or introduce significant safety concerns. Adaptations and alternatives should be considered whenever possible to increase the feasibility of wearing a cloth face covering or to reduce the risk of COVID-19 spreading if it is not possible to wear one.

For example:

- Face coverings may interfere with communication for people who are deaf or hard of hearing—or those who care for or interact with a person who is hearing impaired—may be unable to wear cloth face coverings if they rely on lipreading to communicate. This may also be case in research observing communication and language development in children for example. In these situations, consider using a clear face covering. If a clear face covering isn't available or feasible, consider whether you can use written communication or remote recording of research interactions.
- Younger children (e.g., preschool or early elementary aged) may be unable to wear a cloth face covering properly, particularly for an extended period of time. Wearing of cloth face coverings may be prioritized at times when it is difficult to maintain a distance of 3 feet from others. No masks should be worn by children under 2 years of age.
- Some people, such as those with intellectual and developmental disabilities, mental health conditions or other sensory sensitivities, may have challenges wearing a cloth face covering. They should consult with their healthcare provider for advice about wearing cloth face coverings.
- People should not wear cloth face coverings while engaged in activities that may cause the cloth face covering to become wet, like when swimming at the beach or pool. A wet cloth face covering may make it difficult to breathe.
- People who are engaged in high intensity activities, like running or exercise testing, may not be able to wear a cloth face covering if it causes difficulty breathing. If unable to wear a cloth face covering, consider conducting the activity in a location with greater ventilation and air exchange (for instance, outdoors versus indoors) and where it is possible to maintain physical distance from others.
- People who work or are in in a setting where cloth face coverings may increase the risk of [heat-related illness](#), or cause safety concerns due to introduction of a hazard (for instance, straps getting caught in machinery) may consult with EHS to determine the appropriate face covering for their setting. Outdoor workers may prioritize use of cloth face coverings when in close contact with other people, like during group travel or shift meetings, and remove face coverings when physical distancing is possible.
- Cloth face coverings are a critical preventive measure and are most essential in times when social distancing is difficult. If cloth face coverings cannot be used, make sure to take other measures to reduce the risk of COVID-19 spread, including physical distancing, frequent hand washing, and cleaning and disinfecting frequently touched surfaces.

7. GLOVES

According to [CDC guidance](#), wearing gloves is not necessary in most situations. The CDC recommends wearing gloves when you are cleaning or caring for someone who is sick. Gloves must be worn as PPE in accordance with the chemical hygiene plan. Chemically or biologically contaminated gloves cannot be used to touch door handles or light switches or worn in common areas such as elevators or stairwells. Wear gloves as you normally would for the requirements of your research. It is recommended to wear gloves when touching all common equipment. You may need to change gloves more frequently as you use your common equipment. Gloves should be ordered from the Fisher storeroom. The Fisher storeroom is currently limiting purchases to 2 boxes of each size of gloves, every two weeks. Groups can also purchase gloves from Amazon or other sources until the UD shortage is over.

8. ORDERING PPE ITEMS

Email Fisher Scientific (karen.black1@thermofisher.com) to place glove and surgical mask orders. No one is permitted to enter the storeroom or place orders in person. Once the order is ready, a return email will be sent, and the order can be picked up at the loading dock door on the ground floor of Brown Lab (nearest the bulk liquid nitrogen tank).

- Lab Coats: Do not share lab coats. Store these individually in your work area. Do not store in an area where other lab coats are stored. Cintas is a UD-approved vendor for lab coat supply and cleaning service. Note, this service is not required, but is strongly recommended.
- Disposal: Gloves should be disposed of in your lab trash box or infectious waste boxes in accordance with the chemical hygiene plan. Disposable masks can be placed into the lab trash box, infectious waste boxes, or any regular municipal trash can.