Academic Research Infrastructure Plan during COVID-19

This template is for use by academic department chairs/institute directors, working closely with academic managers and, where applicable building managers, to submit a re-opening plan for review and final approval by the Office of the Dean for Research. It is intended to facilitate planning and communication with faculty and researchers regarding operations that have a material impact on research. This Academic Research Infrastructure Plan should be consistent with and augment the information that is detailed in the unit's Continuity of Operations Plan (COOP). This template is specific to academic units with on-campus laboratory research. It assumes that all work that can be done remotely must continue to be done remotely.

Department/Institute	Mechanical & Aerospace	Mechanical & Aerospace Engineering				
Chair/Director	Howard A. Stone					
	Academic Manager	Last Revised Date				
	Jennifer Widdis	8JUN20, 19AUG20,				
		11MAR21, 5MAY21				

		-
Dean for Research Approval	DFR	6.2.2021

PURPOSE

This Academic Research Infrastructure Plan will document how the department/institute will operate research core facilities and research-related services during the COVID-19 pandemic. Planned operation levels, from fully operational to completely shut down, will be documented here to facilitate decision-making and communications with PIs and facility directors as research operation are modified. This planning is needed to support research and ensure the health and safety of our community.

While there is ongoing community transmission of COVID-19, departments must prepare for unanticipated situations, such as an individual who tests positive for the virus and must self-isolate without returning to work, and whose close contacts are required to self-quarantine for two weeks. These possibilities require careful planning and readiness to shift from one level of research operations to another. Academic units must plan ways to minimize the impact of disruption to their research programs overall, such as separating research personnel in space and time. PIs have been advised in the Research Lab Operations Plan template that these issues, which apply to their research personnel, also apply to core facilities and research services upon which a laboratory depends.

A copy of the plan uploaded by the academic manager or designee into SHIELD, the research health and safety management system (<u>https://princeton.bioraft.com/</u>), for final review and approval by the Dean for Research. The approved plan should be shared with members of the department or institute who need to be aware of its contents.

Items for consideration in your plan:

- Which personnel can work remotely, and therefore are expected to work remotely?
- Which core facilities/services have Research Lab Operations Plans separate from this document? (E.g., clean room, NMR facility, Imaging and Analysis Center, etc.)

- Which core facilities/services are covered by this Research Infrastructure Plan? (E.g., loading dock, stock room, glass washing facility, machine shop, etc.)
- What resources are a priority to get up and running on campus first, and how long does it take to ramp up these services?
- What spaces within the building will require occupancy or space utilization plans?
- What spaces may be available to facilitate physical distancing for shared/joint office situations (admins, postdocs, grad students, etc.)?
- What policies need to be put in place for shared areas (kitchen, copy room, mail room, etc.)?
- What personal protective equipment or face covering will personnel need to utilize while oncampus?
- How will you maintain a schedule for all department or institute members to know who among the staff should be on site on each day and during which hours?
- How will the operational status and hours of operation for core facilities and services be communicated to researchers now and if changes are made in the future? (Reminder an individual's health information is never to be disclosed in any communication.)

A. Research-related Operations

The following information resources and guidelines should be consulted in preparing this plan:

- Description of the Levels of Research Operations (excerpt below, <u>full version online</u>)
- EHS Guidelines for Safe Research During COVID-19 Pandemic
- EHS Building Guidance
- COVID-19: Guidance for Staff Who Must Be on Campus
- Ordering Personal Protective Equipment and Supplies
- <u>Procurement Services Guidance for Resumption of Research</u>
- <u>Guidance on the Use of Face Coverings</u>
- <u>The Right Mask a Primer</u>
- <u>Guidance for Disinfection of Lab Surfaces</u>
- Information for University Contractors and Vendors

Level	Normal Operations	Normal research operations resume within prescribed hygiene, health
1		and safety protocols.
Level	Phased Resumption	Department chairs must submit a Research Infrastructure Plan, which
2		must be approved by the Office of the Dean for Research. PIs must
		submit a Research Lab Operations Plan detailing how each lab will
		enact strict social distancing and comply with Environmental Health
		and Safety (EHS)-prescribed density and hygiene metrics and
		practices. Use of PPE and cleaning protocols are strictly enforced. All
		work that can be done remotely continues to be done remotely.
		Changes in University-wide requirements (e.g., area per researcher)
		can result in adjustments to department-level or laboratory-level plans.
Level	Essential	Only a limited number of essential research and COVID-19 projects is
3	Operations (current	allowed. Authorized researchers can also access laboratories for
	level)	maintenance operations. Access to laboratories requires authorization

		by the Office of the Dean for Research following submission of a Research Lab Operations Plan by the Principal Investigator (PI).					
Level 4	Operations Suspended	All experiments are stopped, except for COVID-19 research specifically approved by the Office of the Dean for Research. Only designated critical staff are granted access to buildings.					

List the department/institute functions below with details about the operational status at different levels of research operations (on-campus vs. remote, how many personnel are on site, hours of operation, etc.). The table below should be customized as needed by each unit; examples of staff and services are listed in the first column; sample entries in the row listed for academic manager are shown as an example only.

	Research Level 2	Research Level 3	Research Level 4
Senior Manager, Finance & Administration	Remote 70% or more, on campus as needed to conduct department business not able to be handled remotely	Remote 100%, occasionally on campus to conduct department business not able to be handled remotely	Remote 100%
Chair Assistant	Remote 80% or more; occasionally on campus to conduct department business not able to be conducted remotely	Remote 100%, occasionally on campus to conduct department business not able to be conducted remotely	Remote 100%
Purchasing Staff	Remote 80% or more; 1-2 staff on campus to conduct department business not able to be conducted remotely such as distribute mail and packages	Remote 90% or more, one staff on campus 1/week or more to distribute mail and packages	Remote 100%
Business/Grants Staff	Remote 80% or more; 1-2 staff on campus to conduct department business not able to be conducted remotely	Remote 100%, occasionally on campus to conduct department research related business not able to be conducted remotely	Remote 100%
Faculty Assistants	Remote 80% or more; occasionally on campus to conduct department business not able to be conducted remotely	Remote 100%, occasionally on campus to conduct department business not able to be conducted remotely	Remote 100%
Research Lab Staff (list job titles)	Department Safety Manager: Remote 60% or more, on	Department Safety Manager: Remote 100%, on campus as	Department Safety Manager: Remote 100%,

	campus as needed in safety manager role	needed in safety manager role	on campus as needed in safety manager role
Technical Staff (list job titles)	N/A	N/A	N/A
Loading Dock/Delivery Services	SEAS service; deliver directly to department designated drop location	SEAS service; deliver directly to department designated drop location	SEAS service; deliver directly to department designated drop location
Core Facilities/Services (list services)	SEAS service	SEAS service	SEAS service
Building Operations	SEAS service	SEAS service	SEAS service
IT Operations	Technical support staff (SCAD): Remote 60% or more, occasionally on campus to conduct business not able to be conducted remotely	Technical support staff (SCAD): Remote 80% or more, occasionally on campus to conduct business not able to be conducted remotely	Technical support staff (SCAD): Remote 100%, occasionally on campus to conduct business not able to be conducted remotely
Undergraduate Teaching Lab Staff	Remote 60% or more, occasionally on campus to conduct business not able to be conducted remotely	Remote 100%, occasionally on campus to conduct business not able to be conducted remotely	Remote 100%, occasionally on campus to conduct business not able to be conducted remotely
Student Services Staff (Undergrad/Grad Administrator)	Remote 80% or more; occasionally on campus to conduct department business not able to be conducted remotely	Remote 100%	Remote 100%
Staff	N/A	N/A	N/A
Shared areas (kitchen, copy room, mail room, vending machine area, etc.)	Closed, no access to shared areas or equipment including mailroom, copier, coffee machines except by request for essential or critical operations	Closed, no access to shared areas or equipment including mailroom, copier, coffee machines except by request for essential or critical operations	Closed

Please describe any exceptions or additional comments/notes below:

Staff will be informed that work that can be conducted remotely must continue to be done remotely and those who are conducting on-campus work must return home as soon as the on-campus work is completed, they may not stay in the building to conduct work that could otherwise be done remotely nor linger on campus to conduct meetings that can be conducted remotely. Convenience of conducting work on campus vs. remotely is not sufficient to grant permission to be on-campus. Staff must familiarize themselves with University guidance, such as:

- All personnel must adhere to hygiene, health and safety protocols, including protective equipment, established by EHS to ensure safety.
- Undergraduate students are not allowed in laboratories until further notification by the University.
- All research buildings are set to card access "weekend" schedule.
- If approved, you will be required to complete online training, complete a risk assessment with UHS and await response, download the TigerSafe App and self-evaluate and self-report symptoms every day prior to going to campus using the self-screening tool in the App. Entering any University building with a TigerCard, represents an attestation that the individual is symptom-free. More information will follow on these topics.

Our expectation is that most staff will continue to work remotely, many continuing at 100% remote. As research begins to ramp up, we anticipate that some staff may be needed to support on-campus activities such as package distribution or activities that cannot be anticipated at this time.

How will the academic unit maintain and disseminate up-to-date information on the operational status of the facilities and research services?

Senior Manager or designee will maintain information related to plan and update.

- 1. List of faculty and staff home phone numbers, cell numbers, Princeton and alternate email address if available.
- 2. Contact information and COOP to be located on MAE google drive. MAE Emergency Docs https://drive.google.com/open?id=0B71Xr90KAs4JZU1GeHJZbVNMa0U Staff will be provided a hard copy to be stored in a safe location at home.
- 3. Send reminder to department faculty, staff and researchers to update their contact information via Self Service.

Senior Manager or successor is responsible for communicating to staff if University communication methods are unavailable or specific department/SEAS messages are required. Senior Manager or successor serves as point of contact for communication between staff and internal units. When possible, alternate methods for disseminating information to members of the department are: post to the department website, send to department listservs or, hang signs throughout MAE locations within the EQUAD.

B. Resumption of Research Activities

In this section, detail how the department/institute will enact strict social distancing requirements and comply with EHS-prescribed density and hygiene metrics and practices within core facilities, research services, and areas that are commonly utilized. All work that can be done remotely must continue to be done remotely. When devising the plans, consider the common spaces that people utilize when taking a break from work.

Occupancy Plans: Describe how staffing and scheduling will be organized to meet the occupancy metrics. A variety of models can be considered such as daily shifts, rotations of days on and off, or cohorts. List the parameters for the number of people in particular rooms at any one time. If a staffing rotation is necessary, describe the nature of the rotation and how the schedule will be maintained.

Space Utilization: Describe how the facilities and work spaces will be managed to support physical distancing. What work areas will be designated for use or restricted (e.g., marked on floor, desk, or chair). Describe any minor adaptations (e.g. directional signs, barriers) that must be in place prior to working in a space.

Occupancy and space utilization are interconnected. Appropriate signage will be provided for department conference rooms, lounges and staff offices.

Staff offices throughout EQUAD. Offices with two occupants will be designated as single occupancy on a rotating schedule as staff are comfortable with coming to campus and, as needed to support research operations. Staff will return home to work remotely whenever possible. The office with four occupants (D209) will be designated maximum two occupants at a time and only those two whose desks are diagonally positioned may occupy at the same time. D209 is 490 sq. ft. and each cube has fabric barrier walls. The distance between two diagonal occupants is greater than six feet when facing one another. All occupancy will be on a rotating schedule as staff are comfortable with coming to campus. Work that can continue to be accomplished remotely will continue. A weekly schedule will be set. Changes to the schedule must be approved in advance of personnel coming to campus.

Faculty and Staff mailboxes located in D226 office (shared faculty assistant office) – Accessible only when a faculty assistant is present and the office is open. Staff schedules will be distributed via email. May request in advance, mail to be left in J223 for pickup after the next regular day staff are on-campus. All other requests must wait until staff are available during regular hours. May not request other staff who are present to unlock and access the room.

Until guidance is provided by the State of NJ and/or the University and depending upon staff support needed once research restarts, we are considering multiple staffing scenarios based on the need for staff to be present on campus. We will evaluate need on a weekly basis and adjust as necessary. Scenarios under consideration are (1) continuing minimal on-campus presence and having staff on-campus only to support business that cannot continue to be conducted remotely such as package distribution or inperson activities required to support research, (2) 50% of staff rotating on-campus and remote each day, (3) 30% of staff rotating on-campus and 70% remote each day and (4) dividing staff into 3 consistent cohorts with each cohort comprised of one-third of the staff; each cohort working on campus 4 days in a row then working remote for 11 work days; rotating each cohort on three week rotating schedules. Cohort 1 works on-campus week 1 and remote weeks 2-3, cohort 2 works on-campus week 2 and remote weeks 3-4, cohort 3 works on-campus week 3 and remote weeks 4-5, cohort 1 works on-campus week 4

and remote weeks 5-6 and so on. Cohort composition will take into consideration, staff comfort with coming to campus, coverage needs to support research and maintaining single occupancy or limited occupancy within offices.

We have noted staffing levels on-campus and remote to enable as much flexibility as possible to adjust operations as needed. Our expectation remains that staff will continue to work remotely whenever possible and only be on-campus to conduct work that cannot be done remotely. In many cases, staff will continue to work 100% remotely. The chart above indicates the maximum time that staff may be on campus in a given week.

Teaching support for undergraduate labs

MAE maintains several undergraduate teaching labs. Under normal circumstances, faculty and teaching support staff access lab spaces over the summer to prepare and plan for lab based teaching for the upcoming year. This year, with the possibility of remote teaching, faculty and staff who teach lab courses need occasional access to the labs over the summer months to prepare and plan for remote lab courses. The labs included in this request are:

- Thermodynamics and Fluids, rooms J209 and J215, total sq. ft. 2805
 - Faculty and staff: Marcus Hultmark, Lamyaa El-Gabry, Mike Vocaturo, Jon Prevost
- Microprocessor and Controls, rooms G101 and G105, total sq. ft. 1501
 - \circ $\,$ Faculty and staff: Mike Littman, Clancy Rowley, Ani Majumdar, Jon Prevost $\,$
- MAE Machine Shop, rooms C119, C119A, C131C, C130A, C130, C134, total sq. ft. 3445
 - Faculty and staff: Gigi Martinelli, Dan Nosenchuck, Glenn Northey, Al Gaillard Cubesat, room J216, total sq. ft. 395
 - Staff: Mike Galvin
- Composite lab, room J215, total sq. ft. 558
 - Faculty and staff: Gigi Martinelli, Al Gaillard
- Independent work spaces, rooms C131COR, C131E and J209A, total sq. ft. 883
 - Shared among all faculty and staff.

UPDATED OCCUPANCY LIMITS (per Meagan Fitzpatrick)

Space Type	Building	Room Number	Square Footage	Maximum Occupancy
Microprocessor & Controls	E-Quad	G101	649	5
Microprocessor & Controls	E-Quad	G105	852	6
Thermodynamics & Fluids	E-Quad	J209	1332	10
Independent Work Spaces	E-Quad	J209A	404	3
Thermodynamics & Fluids	E-Quad	J209B	100	1
Thermodynamics & Fluids	E-Quad	J215	1473	11
Composite Lab	E-Quad	J215A	558	4
MAE Machine Shop	E-Quad	C119	2,103	16
MAE Machine Shop	E-Quad	C119A	220	1
MAE Machine Shop	E-Quad	C131C	113	1

MAE Machine Shop	E-Quad	C130A	82	1
MAE Machine Shop	E-Quad	C130	282	2
MAE Machine Shop	E-Quad	C134	645	5
Cubestat	E-Quad	J216	395	3
Independent Work Spaces	E-Quad	C131COR	151	1
Independent Work Spaces	E-Quad	C131E	328	2
Independent Work Spaces	E-Quad	J209A	404	3

Spaces with more then one entrance will have designated entrance and exits to establish a traffic flow pattern and minimize close proximity with others during entry and exit. Personnel will access each space based on the guidance that maintains at least 6 feet from others allowing for physical distancing and, maintains a least 160 sq. ft. per person at all times, including circulation around benches and equipment. Access to MAE undergraduate teaching labs is managed through SALTO. We have updated SALTO access for this partition to include only MAE teaching and administrative staff, the relevant faculty members and, retained EQUAD ALL DOORS and Janitorial staff access to the spaces.

Four of the five teaching support staff share an office and one has their own office, D229A (276 sq. ft.) occupied by Mike Galvin. The shared offices are J209C (180 sq. ft) shared by Jon Prevost and Mike Vocaturo and C130B (164 sq. ft.) shared by Glenn Northey and Al Gaillard. The staff who share offices will alternate days on campus or utilize open areas in the lab as office drop spaces when they are on-campus at the same time. No two will occupy the office at the same time.

Professor Gigi Martinelli requires access to a shared cubicle space, D309 (shared with Professor Luc Deike). He will coordinate with Professor Deike to ensure that his access is consistent with the guidelines in place for Professor Deike's group.

The staff provided examples of things that cannot be conducted remotely and require presence oncampus to prepare for fall teaching.

- Recording instructional videos
- Maintenance of existing equipment in the lab
- Testing lessons that may be assigned to students for remote instruction
- Installation of equipment that was purchased prior to the stay home order and needed for fall instruction
- Conduct experiments using on-campus equipment that is too large for, nor practical for home/remote use
- Installing and configuring software upgrades
- Acquiring and installing new equipment for fall courses
- Accessing equipment to manufacture parts for student kits to be sent home

Staff will access the labs on an occassional basis under a set weekly schedule. Work that can be conducted remotely must continue to be done remotely and those who are conducting on-campus work must return home as soon as the on-campus work is completed, they may not stay on campus to conduct work that could otherwise be done remotely nor linger on campus to conduct meetings that can be conducted remotely.

No undergraduates will be granted access to on-campus labs and all personnel must adhere to hygiene, health and safety protocols, including protective equipment, established by EHS to ensure safety.

The following faculty intend to teach from their on-campus offices for Fall 2020. Justifications from each faculty member are below.

Craig Arnold – decided not to teach from his office.

Daniel Cohen -

- 1. He must already work from campus 8+ hrs/week to help run his experimental research lab, so commuting back and forth between home and the campus is difficult.
- 2. He is planning a number of video demonstrations requiring large table surfaces, hardware from his laboratory, vacuum lines, and whiteboards. This would not be feasible from home.
- 3. Campus internet is both more stable/higher bandwidth than his home internet connection; this is particularly important since his class relies heavily on videos data and he noted problems sharing this content from home when he taught in Spr. 2020.
- 4. Some students have indicated that they take classes more seriously if filmed in a professional setting
- 5. His campus office is the only office in a cul-de-sac in Hoyt right next to the first-floor doorway making it relatively safe and a minimally exposed area.

<u>Luc Deike</u> - we are 3 at home (one child, my wife), all working on computers for school / work purpose. High speed internet at the University is better quality so having access to office could allow better teaching. In the spring, we had bandwidth issue.

Having a child, being able to teach without interruption and with better internet connection might be an asset for teaching quality.

<u>Mikko Haataja</u> - I have two reasons for teaching from my office this fall: (1) my internet connection at home is somewhat unreliable and caused issues with several Zoom teaching sessions in the spring; and (2) my middle-school aged daughter is attending school remotely and my partner is working from home, making it challenging to teach effectively without distractions.

Marcus Hultmark - decided not to teach from his office.

<u>Jesse Jenkins</u> - I would like the ability to work from my office to record or deliver live lectures or seminars or have important meetings with project sponsors or stakeholders on infrequent occasions when my home office environment is too loud or otherwise unacceptable for teaching or meetings. That's really all I'm envisioning. Backup for when my household is too crazy to work from here, which is rare.

<u>Michael Littman</u> - I am running laboratory experiments for my courses that have laboratory components (MAE 433, CEE 102B, and EGR 25x/35x/45x). These courses meet in rooms E115, G101/G105, and H219 in the E-Quad. I will be having students using the remote control features of Zoom to carry out experiments. The remote operation of laboratory experiments requires at least two people being in each of these laboratories - the support staff helping to carry this out includes technicians, and graduate AI's.

<u>Luigi Martinelli</u> - I am the recipient of a 250th grant to enhance MAE 331/332. As a part of the proposed work I will need to acquire and outfit a computer server with the necessary software for use in the course sequence. While I could deliver the lectures from home, this work can only be accomplished with my presence on campus.

<u>Julia Mikhailova</u> - I have an infant and a toddler, who are at home at all times. There is no "office" room in my apartment. I will teach in my bedroom, and children may enter and interrupt me during scheduled classes. Therefore, it may be useful to occasionally use my office for teaching purposes.

The following graduate student Assistants in Instruction may occasionally need to access MAE undergraduate teaching labs to support remote teaching of lab based courses for Fall 2020. SALTO access will only be granted for the specific teaching lab that they support.

Rory Conlin (MAE433), Daniel Dudt (MAE221), Mathew New-Tolley (MAE221), Sam Otto (MAE433), Alberto Padovan (MAE433), Alex Pique (MAE221), Amlan Sinha (MAE433), Josiah Wai (MAE433), Zirui Liu (MAE221)

Those who have indicated that they will be on campus for greater than 8 hours per week across a combination of teaching and/or research activities were included on the August 5, 2020 list provided to the EVP office.

Common spaces

The SEAS Dean's office is coordinating circulation, barriers and signage within the EQUAD complex. MAE will collaborate with the Dean's office for department spaces once guidance is provided by the University. All conference rooms and lounges will be closed except as indicated for use below. Chairs will not be made available for use except when requested for overflow use related to research lab operations that cannot be accommodated within the lab.

Level 4

No access to common spaces or offices.

Level 3

Limited access to J223 and offices. As needed and only to conduct essential operations. No access to other common/conference rooms – D404, D321, D215, D212.

J223 EQUAD – Temporarily used as package delivery and pickup location. Access via keypad. Access only permitted when individual has a package to pickup. May only stay long enough to obtain package and leave.

Level 2

J223 EQUAD (844 sq. ft.) – Temporarily used as package delivery and pickup location. Access via keypad. Access only permitted when individual has a package to pickup. May only stay long enough to obtain package and leave. Maintain physical distancing if others present and wear face covering at all times in space. Individuals advised to wear gloves when entering the room or bring sanitizing supplies to wipe down surfaces after use. The room has two doors, one will be designated entrance and the other exit. Maximum 4 ocupants at a time permitted. Initially provided sanitizing supplies to this room in March 2020 and they were stolen within a few days. Will attempt to source sanitizing station/solutions that are not easily removed. Otherwise, researchers and staff must bring sanitizing supplies to wipe down after use.

D212 EQUAD conference room is being used for storage of items relocated from the mailroom for the classroom renovation/expansion therefore not available for use.

D215 EQUAD student lounge (501 sq. ft.) – this room provides access to department specific software used with the MAE curriculum and occasionally for research purposes. All software is available via remote access therefore researchers will be directed to contact the department SCAD for remote access to software. Professor Luigi Martinelli requires access to install and maintain workstations used for independent work. He will access the space occasionally, after hours and only when unoccupied. The space may be used as a drop down location for researchers who do not otherwise have sufficient lab space, while waiting for experiments to finish. Maximum 3 occupants at a time permitted.

D321 EQUAD conference room (490 sq. ft.) – maximum 3 occupants at a time permitted. Non-usable spaces will be marked off with tape. The space may be used as a drop down location for researchers who do not otherwise have sufficient lab space, while waiting for experiments to finish.

D404 EQUAD conference room (125 sq. ft) – one occupant at a time permitted. The space may be used as a drop down location for researchers who do not otherwise have sufficient lab space, while waiting for experiments to finish.

D404 EQUAD common area (416 sq. ft.) – maximum two occupants at a time permitted. This area is a common area/waiting room supporting a suite with three faculty offices. No one should be occupying the offices however should there be a need to occupy in between experiments occupany signage will be provided.

Sanitizing Plan: Describe any specific items that will require regular sanitizing, along with the appropriate sanitizing agents, frequency, and responsible individuals. When on campus all personnel must adhere to hygiene, health and safety protocols, including protective equipment, established by EHS to ensure safety.

Inidividual sanitizing supplies will be provided for each staff member. Will attempt to source sanitizing station/solution for J223 per above description. Individuals are responsible for sanitizing areas after occupied.

C. Roles and Responsibilities

Department chair/ institute director

- Review PI Research Lab Operations Plans to ensure that plans are complete, adhere to the levels of research operations and adequately protect the health and safety of Princeton personnel.
- Communicate to faculty, staff, researchers and graduate students regarding the unit's plan to monitor compliance with remote work, social distancing, hygiene, health and safety.
- Coordinate with the Office of the Dean for Research to communicate instructions to PIs, facility directors, staff and researchers on the hygiene, health and safety requirements to resume research, or changes to those requirements that may occur in future.

Department/institute staff

- Ensure that critical research facilities and services are staffed and operational prior to their first use by researchers returning to campus.
- Ensure staff are available to resume delivery of supplies to labs.
- Coordinate with EHS on the provision of PPE to the academic unit for the resumption of research.
- Check eyewash and safety showers to ensure they are accessible and working properly.
- Communicate with Building Services to ensure all sinks have soap and disposable towels available, and that hand sanitizer is available throughout the building.
- Coordinate with facilities to install signage or other indicators for how personnel should move through the building and use common spaces (entrances/exits, bathrooms, stairwells, etc.) when it becomes available.
- Work with supervisors and PIs and Human Resources, The Office of the Dean of the Faculty, and the Graduate School on the appropriate application of policies regarding return to campus,

work schedules and accommodations.

• Start ordering or inquiring about orders. Communicate with procurement regarding any purchases that need central coordination or support.

PI/facility director Responsibilities

- Prepare and submit a Research Lab Operations Plan for review and approval by department chair/institute director, and subsequently to the Office of the Dean for Research through SHIELD.
- Ensure laboratory information in SHIELD is up to date with all personnel, and add incoming personnel in a timely manner.
- Ensure that each member of the lab completes "Safe Practices for Resumption of Research" training available in the Employee Learning Center.
- Communicate with lab members about the requirements for remote work, social distancing, hygiene, health and safety.
- Communicate new procedures for researchers to use shared equipment within your lab.

Appendix:

DRAFT staffing schedule scenarios. Depends upon staff comfort with coming to campus and need for on-campus research support from staff.

Initial schedule set. Will review weekly or bi-weekly and adjust as needed.

31AUG20: Administrative staff schedules remain as below. Teaching staff schedules will fluctuate throughout the fall as needed to support remote teaching. Those who plan to be on-campus for >8 hours per week were reported to the EVP on August 5, 2020.

31MAR21: Administrative staff schedules are as below. Teaching support staff schedule fluctuate through the spring as needed to support remote teaching.

		MAE Administrative S	taff remote work schede	ile (through June 1, 202	1)		
	Monday	Tuesday	Wednesday	Thursday	Friday	Email	Phone
Danielle	one day per week TBD				-	dtartagl	5909
Diane	on leave	on leave	on leave	on leave	on leave	dianelo	0315
Howard						hastone	9493
lake	remote	remote	remote	remote	remote	j rizo	4741
Jeff ¹	remote	on-campus/remote	on-campus/remote	remote	remote	jaddo	6490
Jenn ²	remote	on-campus/remote	on-campus/remote	remote	remote	jwiddis	5168
Jo Ann	remote	remote	remote	remote	remote	jolove	5169
Katerina	one day per week TBD					kzara	4671
Mala	remote	remote	remote	remote	co-campon when water instead	mvora	5139
Melissa	one day per week TBD		mail/packages/remote			mn15	2034
Sharon	remote	mail/packages/remote	remote	remote	remote	samccann	2359
Theresa	aff	remote	remote	remote	remote	tar3	7972
Tam	on-campus	remote	remote	remote	remote	tomwing	8375
Vacant GM	TBD	TBD	TBD	TBD	TBD	TBD	4612

¹ Participates in campus testing protocol

² Does not participate in campus testing protocol

M	AE Administ	rative and Teac	hing Staff rem	ote work schee	dule (through J	anuary 15, 20	21)
	Monday	Tuesday	Wednesday	Thursday	Friday	Email	Phone
Al	remote	on-campus	remote	on-campus	remote	ag22	0104
Danielle	remote	remote	remote	remote	remote	dtartagl	5909
Diane	remote	remote	remote	remote	remote	dianelo	0315
Glenn	remote	on-campus	remote	on-campus	remote	northey	4758
Jake	remote	on-campus	remote	remote	remote	j.rizzo	4741
Jeff	on-campus	remote	on-campus	remote	remote	jaddo	6490
Jenn	remote	remote	remote	remote	on-campus	jwiddis	5168
Jill	remote	remote	remote	remote	remote	jfray	4683
Jo Ann	remote	remote	remote	remote	remote	jolove	5169
Jon	remote	on-campus	remote	on-campus	remote	jprevost	5567
Karina	remote	remote	remote	remote	remote	karinac	4671
Mala	remote	remote	remote	remote	remote	mvora	5139
Mike Galvin	on-campus	remote	on-campus	remote	remote	mgalvin	
Mike Vocaturo	on-campus	remote	on-campus	remote	remote	mikevoca	5236
Melissa	remote	remote	remote	on-campus	remote	mn15	2034
Sharon	remote	remote	on-campus	on-campus	remote	samccann	2359
Theresa	OFF	remote	remote	remote	remote	tar3	7972
Tom	on-campus	remote	remote	remote	remote	tomwing	8375

M	AE Administr	ative and Teac	hing Staff rem	ote work schee	iule (through A	August 31, 202	20)
	Monday	Tuesday	Wednesday	Thursday	Friday	Email	Phone
Al	remote	on-campus	remote	on-campus	remote	ag22	0104
Danielle	remote	remote	remote	remote	remote	dtartagl	5909
Diane	remote	remote	remote	remote	remote	dianelo	0315
Glenn	remote	on-campus	remote	on-campus	remote	northey	4758
Jake	remote	on-campus	remote	remote	remote	j.rizzo	4741
Jeff	on-campus	remote	on-campus	remote	remote	jaddo	6490
Jenn	remote	remote	remote	remote	on-campus	jwiddis	5168
Jill	remote	remote	remote	remote	remote	jfray	4683
Jo Ann	remote	remote	remote	remote	remote	jolove	5169
Jon	remote	on-campus	remote	on-campus	remote	jprevost	5567
Karina	remote	remote	remote	remote	remote	karinac	4671
Mala	remote	remote	remote	remote	remote	mvora	5139
Mike Galvin	on-campus	remote	on-campus	remote	remote	mgalvin	
Mike Vocaturo	on-campus	remote	on-campus	remote	remote	mikevoca	5236
Melissa	remote	remote	remote	on-campus	remote	mn15	2034
Sharon	remote	remote	on-campus	on-campus	remote	samccann	2359
Theresa	OFF	remote	remote	remote	remote	tar3	7972
Tom	on-campus	remote	remote	remote	remote	tomwing	8375

MAE Administrative Staff remote work schedule								
	Monday	Tuesday	Wednesday	Thursday	Friday	Email	Phone	
Danielle	remote	on-campus	remote	on-campus	rotation 1	dtartagl	5909	
Diane	on-campus	on-campus	remote	remote	rotation 2	dianelo	0315	
Jake	on-campus	remote	on-campus	remote	rotation 2	j.rizzo	4741	
Jeff	on-campus	on-campus	remote	on-campus	rotation 1	jaddo	6490	
Jenn	remote	remote	on-campus	on-campus	rotation 1	jwiddis	5168	
Jill	remote	remote	on-campus	on-campus	rotation 2	jfray	4683	
Jo Ann	on-campus	on-campus	remote	remote	rotation 2	jolove	5169	
Karina	on-campus	remote	on-campus	remote	rotation 2	karinac	4671	
Mala	remote	remote	on-campus	on-campus	rotation 1	mvora	5139	
Melissa	remote	remote	on-campus	on-campus	rotation 2	mn15	2034	
Sharon	remote	on-campus	remote	on-campus	rotation 1	samccann	2359	
Theresa	OFF	remote	rotate: remot	rotate: remote/on-campus		tar3	7972	
Tom	on-campus	on-campus	remote	remote	rotation 1	tomwing	8375	

Fifty/Fifty on-campus and remote. Rotating on campus Fridays.

30 % on campus and 70% remote. Rotating on campus Fridays.

MAE Administrative Staff remote work schedule							
	Monday	Tuesday	Wednesday	Thursday	Friday	Email	Phone
Danielle	remote	on-campus	remote	remote	week 1	dtartagl	5909
Diane	on-campus	on-campus	remote	remote	week 2	dianelo	0315
Jake	on-campus	remote	on-campus	remote	week 3	j.rizzo	4741
Jeff	remote	on-campus	remote	on-campus	week 1	jaddo	6490
Jenn	remote	remote	on-campus	on-campus	week 3	jwiddis	5168
Jill	remote	remote	on-campus	remote	week 2	jfray	4683
Jo Ann	on-campus	remote	remote	remote	week 2	jolove	5169
Karina	on-campus	remote	remote	remote	week 2	karinac	4671
Mala	remote	remote	remote	on-campus	week 3	mvora	5139
Melissa	remote	remote	on-campus	remote	week 3	mn15	2034
Sharon	remote	on-campus	remote	on-campus	week 1	samccann	2359
Theresa	OFF	remote	rotate: remote	on-campus/	week 2	tar3	7972
Tom	remote	on-campus	remote	remote	week 1	tomwing	8375

Cohort based three week rotations as described above.

		MAE Ad	Iministrative S	taff remote wo	rk schedule		
	Monday	Tuesday	Wednesday	Thursday	Friday	Email	Phone
WEEK 1: on	campus, remo	te Fridays					
Danielle	on-campus	on-campus	on-campus	on-campus	week 1	dtartagl	5909
Diane	remote	remote	remote	remote	week 2	dianelo	0315
Jake	remote	remote	remote	remote	week 3	j.rizzo	4741
Jeff	on-campus	on-campus	on-campus	on-campus	week 1	jaddo	6490
Jenn	remote	remote	remote	remote	week 3	jwiddis	5168
Jill	remote	remote	remote	remote	week 2	jfray	4683
Jo Ann	remote	remote	remote	remote	week 2	jolove	5169
Karina	remote	remote	remote	remote	week 2	karinac	4671
Mala	remote	remote	remote	remote	week 3	mvora	5139
Melissa	remote	remote	remote	remote	week 3	mn15	2034
Sharon	on-campus	on-campus	on-campus	on-campus	week 1	samccann	2359
Theresa	OFF	remote	remote	remote	week 2	tar3	7972
Tom	on-campus	on-campus	on-campus	on-campus	week 1	tomwing	8375
	Monday	Tuesday	Wednesday	Thursday	Friday	Email	Phone
WEEK 2: on	campus. remo	te Fridays					
Danielle	remote	remote	remote	remote	week 1	dtartagl	5909
Diane	on-campus	on-campus	on-campus	on-campus	week 2	dianelo	0315
Jake	remote	remote	remote	remote	week 3	j.rizzo	4741
Jeff	remote	remote	remote	remote	week 1	jaddo	6490
Jenn	remote	remote	remote	remote	week 3	jwiddis	5168
Jill	on-campus	on-campus	on-campus	on-campus	week 2	jfray	4683
Jo Ann	on-campus	on-campus	on-campus	on-campus	week 2	jolove	5169
Karina	on-campus	on-campus	on-campus	on-campus	week 2	karinac	4671
Mala	remote	remote	remote	remote	week 3	mvora	5139
Melissa	remote	remote	remote	remote	week 3	mn15	2034
Sharon	remote	remote	remote	remote	week 1	samccann	2359
Theresa	OFF	on-campus	on-campus	on-campus	week 2	tar3	7972
Tom	remote	remote	remote	remote	week 1	tomwing	8375
	Monday	Tuesday	Wednesday	Thursday	Friday	Email	Phone
WEEK 3: on	campus. remo	te Fridays					
Danielle	remote	remote	remote	remote	week 1	dtartagl	5909
Diane	remote	remote	remote	remote	week 2	dianelo	0315
Jake	on-campus	on-campus	on-campus	on-campus	week 3	j.rizzo	4741
Jeff	remote	remote	remote	remote	week 1	jaddo	6490
Jenn	on-campus	on-campus	on-campus	on-campus	week 3	jwiddis	5168
Jill	remote	remote	remote	remote	week 2	jfray	4683
Jo Ann	remote	remote	remote	remote	week 2	jolove	5169
Karina	remote	remote	remote	remote	week 2	karinac	4671
Mala	on-campus	on-campus	on-campus	on-campus	week 3	mvora	5139
Melissa	on-campus	on-campus	on-campus	on-campus	week 3	mn15	2034
Sharon	remote	remote	remote	remote	week 1	samccann	2359
Theresa	OFF	remote	remote	remote	week 2	tar3	7972
Tom	remote	remote	remote	remote	week 1	tomwing	8375

D. Research Non-lab Operations Plans

In this section, detail how researchers will enact strict social distancing requirements and comply with EHS-prescribed density and hygiene metrics and practices. When devising the plan, include spaces managed by the person proposing the plan (PI/director/chair). Because groups differ with regard to the types of space, researchers and staff, plans will need to be customized to particular situations. Describe the plan in sufficient detail for for the review team to conduct a meaningful evaluation of your proposal. Review health, safety, and hygiene requirements in the <u>Plan for the Phased Resumption of On Campus Research</u> and the <u>Princeton Playbook</u>.

Occupancy and Space Utilization Plans: List the room numbers within the control of the proposer and parameters for the number of people in each room at any one time: grad student desk areas, postdoc/researcher offices, and meeting rooms. (Add or delete rows as needed.)

Building	Room #	Square Footage	Proposed occupancy (# people at one time and throughout the course of a day, e.g., rotations)	Pertinent room characteristics (e.g., single-occupancy office, shared work space, meeting room, open area)
J-wing EQUAD	2 nd floor Atrium; cubes 240- 8, 240-13 through 30, 240-33-36	1,102	Max occupancy at a time: 2 per 4 person cube, 1 per 2 person cube; Max occupancy at a time across all cubes: 12 Usage limited to maximum 4 hours per day per person	Shared study space; open cubicles.
J-wing EQUAD	2 nd floor Atrium; cubes 240- 31, 32, 37	96	Max occupancy at a time: 1; Usage limited to maximum 7.25 hours per week; No student use	Staff cubicle
J-wing EQUAD	240 Open Office		The open office conference table has been closed and will remain closed.	

Other spaces: List the rooms/spaces managed at the departmental/institute level that you would use if available. The purpose of including a space on this list is to facilitate conversations within the department/institute.

Building	Room #	Proposed usage (# people at one time and activity)	Pertinent room characteristics (e.g., single occupancy office, shared work space, meeting room open area)		
			room, open area)		
NONE					

Describe how staffing and scheduling will be organized to meet the occupancy metrics and space utilization guidelines. A variety of models can be considered, such as daily shifts, rotations of days on and off, or cohorts. If a staffing rotation is necessary, describe the nature of the rotation and how the schedule will be maintained and communicated to all researchers. Describe how the work spaces will be managed to support physical distancing and which work areas will be designated for use or restricted.

Floor plan shown below. Through July 2021, usage will be on first-come basis. The space is normally restricted to first year MAE graduate student use. Students are normally assigned a specific desk. Reopening the space for study use will continue to be restricted to first year MAE graduate students. The number of available spaces (11) currently exceeds the number of students (9) who may access the space therefore space will be made available on first-come basis with a limit of 4 hours per student per day. We will not initiate a scheduling system unless it becomes necessary. For example, students are observed exceeding the time or occupancy limits.

Extra office chairs have been removed from each cubicle as well as the stack chairs around the conference table. They are currently stored in a locked room on the 4th floor. The conference table has been closed and will remain closed. Desks not in use are marked with a red X on the floor plan and will be marked off within the space. Existing furniture may not be moved or reconfigured. Signage with occupancy limits and sanitizing requirements will be posted. Students must wear a face covering at all times and maintain physical distance.

Beginning August 2021, we anticipate that the number of first year graduate students will exceed available space. If a scheduling system has not already been established, we will begin using google calendar sign-up for reservations (or similar calendar) at this time. Students will be required to reserve a space in advance, for a maximum of 4 hours per day. Signage directing students to reserve space will be posted near the cubicles.

Space use will be communicated to the first year students via email, signage will be posted and this plan will be posted on the MAE website. Faculty will be notified that the space is restricted and non-first year students may not use the space and, 2nd -5th year students should follow plans for their individual faculty group spaces/labs.

Sanitizing Plan: Building services will sanitize common areas within buildings, but researchers will be responsible for sanitizing desk space, computer equipment, and other high-touch surfaces within their spaces. Describe the specific items that will require regular sanitizing, along with the appropriate sanitizing agents, frequency, and responsible individuals.

All touchable surfaces (desks, chairs, handles, drawers, etc.) must be wiped down before and after each reserved time/use. Sanitizing supplies will be provided – a station will be added near the conference table and extra supplies will be available in a nearby cabinet. Spaces will not be assigned therefore students must remove all personal items after use, clean the area and leave the space available for the next occupant.

There is one shared printer available. Students must wipe down the printer after each use using the supplies provided.

Monitoring Plan: What monitoring/oversight will occur to ensure compliance with distancing, hygiene and safety requirements by all researchers resuming on campus operations?

Messaging via email and signs will be posted. Occupants will be encouraged to report observed violations to health and safety protocols to <u>maedept@princeton.edu</u>. Corrective communications will be sent, the DGS will be notified and if applicable, the student's faculty advisor or the chair will be contacted. Occupancy and sanitizing signs will be posted in each cubicle and around the area.

Occupants are expected to assume personal responsibility for following health and safety protocols and respecting others. Individuals are responsible for sanitizing before and after use, wearing a face covering at all times, maintaining physical distancing at all times and reserving space in advance (when required). Notify <u>maedept@princeton.edu</u> of any observed violations or low quantities of sanitizing supplies.

MAE staff will conduct periodic unscheduled walk-throughs of the space, at least once per week. SEAS/EHS staff will also conduct periodic walk-throughs. Concerns or violations of any health and safety protocols or details outlined in this plan will be reported to the senior manager, the chair, the DGS or may be reported anonymously via EthicsPoint.



Mechanical & Aerospace Engineering Research Infrastructure Plan (COVID-19) Last revised [insert date] Page 20