

Guiding Principles for Reopening University of Arizona's Operations

Updated: May 1, 2020

Purpose: Our objective is to articulate guiding principles and key public health domains for reopening University of Arizona campuses safely. **This document is a work in progress and will be updated as new information becomes available.** At present, several interdisciplinary working groups are developing, revising, and vetting protocols to resume in-person activities on University of Arizona's main campus in Tucson, on our Phoenix and Sierra Vista campuses, and at our Cooperative Extension and Distance sites. We welcome input from the University of Arizona community, and will proactively solicit that input throughout the planning and re-entry process, including via an online feedback portal (located [here](#)). We will update this living document regularly to reflect new knowledge of the epidemiology of COVID-19, developments in biotechnology, changes in healthcare and public health capacity, and evolving social and economic considerations associated with re-entry.

Mission: University of Arizona is an institution of higher education dedicated to research, discovery, and innovation. Our plans to reopen in-person campus activities will integrate our core values: integrity, compassion, exploration, adaptation, inclusion, and determination.

Premise: Current social distancing restrictions and stay-at-home orders appear to have prevented an initial COVID-19 surge sizable enough to exceed hospital capacity in most parts of Arizona, but active viral transmission persists and is projected to continue through the fall.^{1,2} While there are tremendous social and economic benefits associated with opening campuses for research, in-person classes and events in August 2020, doing so without proper safeguards could result in a wave of new COVID-19 cases.^{3,4} In the likely absence of a vaccine before the end of the year, the university will need to follow an intentional plan, coordinated with state and local public health officials, to contain the spread of COVID-19 in and beyond the University of Arizona community. This is critically important because a large resurgence in cases could quickly overwhelm local healthcare and public health capacity.⁵ Thus, measured, flexible, and creative approaches are needed to minimize risk and maximize opportunities for participation in campus life and in-person activities for lower-risk individuals who choose to do so.

The CDC recommends loosening restrictive measures, including reopening post-secondary institutions, based on epidemiologic, healthcare, and public health criteria. The agency references [criteria for reopening society](#) put forth by PreventEpidemics.org,⁶ which includes consideration of reopening universities 4-8 weeks after multiple criteria are met, including: a decline in deaths for 14 days (epidemiologic), sufficient PPE for all local healthcare workers even if cases double (healthcare), and timely contact tracing within 24 hours of an identified case (public health). Likewise, there are [criteria for when to tighten restrictions](#) due to subsequent surges in COVID-19 that require implementation of strict mitigation measures.⁷ On 4/21/20 the Pima County Board of Supervisors announced [criteria](#) for Phase 1 of a phased reduction of physical distancing, which could begin once criteria are met.⁸ While Phase 1 does not include reopening schools or universities, it would begin the process of relaxing

restrictions, which this work group will follow closely. ***University of Arizona will coordinate all plans for reopening campuses with the relevant County health departments as well as the Arizona Department of Health Services.***

Guiding Principles: The following principles have guided our prioritization of approaches for safely reopening campus to University of Arizona students, staff, and faculty:

1. Equitable outcomes for all students, staff, and faculty regardless of race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, or their need to refrain from in-person activities due to concerns about COVID-19;
2. Rapid identification and containment of COVID-19 case clusters in the University of Arizona communities;
3. On-campus and off-campus isolation options and wrap-around wellness services for students, staff, and faculty with confirmed COVID-19 infection;
4. Protection of individuals in our University of Arizona community, and their family members, who are vulnerable to severe COVID-19 disease, or to harassment or discrimination;
5. Commitment to transparent and participatory decision making with regard to reopening University of Arizona campuses with clear and consistent communication protocols; and
6. Vigilance in regular review and updating of approaches according to a rapidly emerging evidence base with active monitoring by key advisors from across University of Arizona colleges and support units.

Summary of relevant public health domains: Here we define eight domains, each of which includes multiple approaches to be fleshed out by implementation teams. To the extent possible, we will offer broad suggestions that will maximize voluntary compliance from our University of Arizona community, with the caveat that non-University of Arizona public health authorities may enforce compliance as they deem appropriate.

1. **Test:** Offer prompt and readily accessible **viral (PCR) testing** to all symptomatic individuals, as well as strategic sampling of asymptomatic individuals, and offer prompt and readily accessible **antibody testing** to members of the University of Arizona community.
2. **Trace:** Actively **trace contacts** of all individuals who test positive for COVID-19 and offer information and testing to close contacts.
3. **Treat:** Provide **health care support, affordable housing and wrap-around wellness services** for individuals with COVID-19.
4. **Offer flexible participation:** Offer **remote and hybrid learning, working, and teaching** options for students, staff, and faculty to protect individuals vulnerable to COVID-19 and reduce crowding.
5. **Minimize contact and reduce crowding:** Reduce instances of close physical contact among students, faculty, staff, and visitors during on campus activities.
6. **Minimize transmission:** Reduce the probability of transmission of SARS-CoV-2 during in-person campus activities.
7. **Communicate:** Maintain an active COVID-19 Reopening Campus **communication plan**.

Background: Incidence of SARS-CoV-2 infection, and its associated disease state (COVID-19), have been increasing around the globe since the first detailed report emerged from China in early January.⁹ The subsequent pandemic precipitated an unprecedented international public health response to control disease spread and preserve healthcare capacity.¹⁰ In the United States, the first individual with COVID-19 was identified in late January,¹¹ but suboptimal testing capacity led to the rapid and exponential spread of the virus by March.¹² By April, all 50 governors had declared public health emergencies and implemented various forms of mitigation, including cancellation of mass gatherings, physical distancing, stay-at-home orders, travel restrictions, and closing of schools, universities, and non-essential businesses.¹³ The result has been a slowing of the rate of new cases, but at a tremendous economic and social cost. Seroprevalence studies to date have been limited, but early results indicate that, even in COVID-19 hotspots, levels of immunity are low (e.g., 15% in an outbreak region of Germany, around 21% in the US epicenter of New York City, and <5% in a convenience sample of two communities in California).^{14-16,17} Low population-level immunity raises concerns that loosening restrictions will lead to subsequent waves of new COVID-19.¹⁸ ***Current plans for relaunching in-person activities must assume that a nominal proportion of the University of Arizona community will be immune to infection*** and therefore must include strategies for identifying and containing clusters of new infections, caring for those who do become infected, and minimizing risk of transmission, particularly for those with comorbidities that put them at high risk for severe outcomes.¹⁹ Widespread antibody testing at UArizona will provide information on the extent of previous COVID-19 exposure,²⁰ and provide a tool for measuring changes in this metric over time.

The COVID-19 pandemic has also precipitated racialized and discriminatory social responses, operating within specific social, historical, and political contexts and disproportionately affecting marginalized groups. Likewise, the pandemic and associated policy responses have had disproportionate negative effects on migrants, people and communities of color and people of lower socioeconomic status.²¹ Factors such as crowded housing which prohibits self-isolation, comorbidities, precarious employment, and lack of access to healthcare, hospitals, and testing have increased health risks for members of these groups. Conscientious efforts must be made to ensure that policies implemented to guide populations and behaviors and to allocate resources do not increase societal divisions or exacerbate individual and structural inequalities and injustices but instead promote social inclusion, justice, and solidarity.

#1. Test: Offer prompt and readily accessible viral (PCR) testing to all symptomatic individuals, individuals who test positive on antibody testing, and strategic samples of asymptomatic individuals, and offer antibody testing to members of the University of Arizona community. Containing outbreaks requires that we aggressively track viral transmission in our community. For students living on campus, it is important that the symptom list for testing is extensive as COVID-19 is likely to be milder in the student population, which is generally comprised of young healthy adults. The University of Arizona can help the public health community quickly identify new case by:

- Actively tracking of symptomatic illness in all residential facilities on campus and support for off-campus resident students, staff and faculty to participate in check-ins for health status. Those with symptoms will be encouraged to undergo PCR testing.
- Promoting self-monitoring of fevers through validated thermometry application and through daily self-checks.

- Considering repeat PCR testing of asymptomatic high-contact individuals at regular intervals (e.g., athletes, students and staff with jobs that require face-to-face interaction or direct contact).
- Lowering the barrier to testing by designating on-campus PCR testing locations through Campus Health and other local contract labs.
- Collecting and processing of samples for the University of Arizona community on campus or through local contract labs
- Encouraging voluntary baseline and repeat antibody testing to monitor the aggregate immune status of the University of Arizona community.

Importantly, our commitment to provide voluntary serological testing for past COVID-19 infection provides unique opportunities to inform our University of Arizona re-entry plans and processes following re-entry. Repeat voluntary testing at regular intervals will likely also provide useful data on the percent of individuals who may have developed at least short-term immunity to re-infection. Results should be carefully communicated to individuals regarding their levels of protection and possible infectiousness following a positive result.

#2. Trace: Actively communicate with contacts of all individuals who test positive for COVID-19 and offer close contacts testing. By the time each campus or University of Arizona site reopens for in-person activity, the county should have robust contact tracing. University of Arizona can likely enhance this capacity by:

- Providing manual contact tracing as needed to supplement the relevant county health department's efforts, supported by the University of Arizona Zuckerman College of Public Health SAFER program, which has already established a relationship with multiple counties for COVID-19 response activities. Individuals identified through contact tracing should be offered prompt PCR testing.
 - For reference, a working definition of contact includes those with the following relationship to the confirmed case from 3-days before, to 14-days after, onset of symptoms:^{22,23}
 - Household or intimate contacts.
 - Those with face-to-face contact within 6 feet for 15 minutes
 - Those with direct physical contact (any amount of time)
- Offering a privacy-preserving mobile application to automatically track contacts and encourage uptake by a large proportion of the University of Arizona community. Contacts identified by the mobile app could be automatically notified of the exposure and have a test ordered for them.^{24,25} The success of this type of application would be dependent on broad uptake and would require supplemental manual contact tracing, even with broad uptake.
 - Mobile applications could be used to push general educational messages as well as specific guidance to those who are exposed to an individual with COVID-19.
 - The University of Arizona community could be surveyed about their acceptance of this type of technology, and their ideas about reasonable implementation. Use of a contact tracing app would be *completely voluntary*.

#3. Treat: Provide **healthcare support, affordable housing and wrap-around wellness services** for individuals with COVID-19. Campus Health should continue to serve as the primary University of Arizona healthcare provider for our students, and as an essential component of our overall plans for the treatment and care of infected individuals. It may be appropriate to re-establish an infirmary on campus (perhaps in a dorm space) during the pandemic, to provide excellent care for those who are unwell, but not in need of hospital care. We note that a key containment approach in China and South Korea was the ability to place individuals in safe housing for the duration of their isolation or quarantine. At University of Arizona, this could mean offering individuals housing appropriate for their disease status and/or utilizing local hotels or a University of Arizona dorm for this purpose. The University of Arizona community could be surveyed about their receptivity to quarantine or isolation in these situations. Given the current potential for a reduced census of on-campus students, it is suggested that there be a dormitory reserved for University of Arizona community members who test positive for COVID-19 during their duration of infectiousness. This will maximize the efficiency of delivery of services. Possible support services include;²⁶

- Daily check-in with text, phone, or video contact.
- Instructions on how to keep space disinfected.
- Hotline for counselling and information.
- Mental health wrap-around services including wellness support groups and individual crisis counselling.
- Thermometers and systematic symptoms monitoring.
- Health education materials.
- Hand sanitizer and EPA-approved cleaners.
- Food, laundry, pharmacy services.
- Trash removal.

It is important that the individuals who provide services to the individuals in isolation be provided with PPE to minimize their exposure. It would be optimal that these individuals have had prior infection with SARS-CoV-2, established through serological or RNA testing, to minimize their risk.

#4. Offer flexible participation: Our campus plan likely needs to offer options for **remote, online and hybrid learning modes** for students and faculty, as well as **remote work options** for students, staff and faculty. Examples of possible approaches include:

- Designing in-person classes as “hybrid” courses with options for remote teaching and attendance.
 - Hybrid options could include remote faculty with in-person preceptors.
 - Instructors and students with vulnerability to severe infection outcomes should be advised to work and learn remotely
 - Neither students nor faculty should be penalized for online attendance or instruction – this includes modified TCE to ensure that vulnerable faculty do not face indirect pressure to attend in person when it could jeopardize their health.
 - All syllabi should continue to include flexibility to accommodate absences for illnesses.
 - Continued support from OIA for faculty to “hybridize” their classes.

- Consider polycarbonate barriers (as seen in grocery stores) to protect faculty as they present in classrooms
- Online programs should proceed as planned
- Continuing with flexible sick-time practices for staff whose jobs require them to work onsite and/or attend to work activities or duties in-person
- Developing flexible work arrangements or reassign duties to support remote work for staff and faculty who are concerned about themselves or their family members' health and safety.
- Extending traditional work day hours for staff who remain onsite and adopt shift-like schedules to reduce the number of individuals within offices and buildings at one time.
- Increasing capacity for filming lectures (e.g., through Panopto).

#5. Minimize contact and reduce crowding: Flows of **foot traffic on campus should be carefully reviewed** to reduce the density of people moving through tight spaces at certain times of the day. Keeping the infection curve flat requires everyone to reduce the number of in-person contacts – defined as face-to-face contact, within 6 feet of another person. Approaches might include;

- Enabling distancing within classrooms where possible.
 - Increase the number of offerings of very large classes (i.e. general education courses) as needed to ensure there is at least one chair space between students in the classroom.
 - Increase the hours that campus is open to allow additional offerings during early and late hours to decrease crowding in large classrooms
 - Move very large classes into hybrid formats, whereby students attend classes in-person on some days, and attend remotely on other days.
- Disinfecting spaces between classes, or provide students with supplies to wipe down their own chairs/ desks when coming into classrooms.
- Holding some classes and activities outside, weather and accessibility permitting.
- Restricting movement through and around buildings on campus, e.g.,
 - Engineer one-way entrances and exits and walkways to maximize physical distancing
 - Redesign large congregation areas – like the student union – to promote physical distancing to the degree possible (grocery store models may be useful here).
 - Offer an extended daily schedule for in-person activities so that fewer students are on campus at the same time
- Re-conceptualizing student placements in campus housing to maximize physical distancing
- Establishing restrictions on visitors to campus (e.g., maximum # allowed in spaces like the museums or planetarium to maintain physical distancing)
- Restricting mass gatherings or meetings of more than X people²⁷
 - Includes sporting events, community events, and other events on campus
 - Size of gatherings, including sporting events, will depend on sufficient space to enable physical distancing

#6. Minimize transmission: We assume that individuals will sometimes “mix,” or be within 6 feet of each other, during the course of their day but that we can minimize the probability of transmission even with this form of mixing. Some suggested approaches are:

- Consider recommending cloth facemasks while on campus. As facemasks are recommended for “source control” by CDC, these masks would help contain respiratory droplets released by asymptomatic individuals who may be capable of transmitting infection.
 - The University of Arizona community could be queried about their willingness to mask.
 - Surgical masks are in short supply and should be prioritized for healthcare workers.
- Consider recommending the use of face shields while on campus. Face shields could be cheaply manufactured for every member of our University of Arizona community. There are several advantages of shields, although they may not contain respiratory droplets as efficiently as well-structured face masks, including visibility of faces, coverage of nose and eyes, and ability to disinfect after use.²⁸
 - University of Arizona “Makers” coalition has already mass-produced face shields for donation to healthcare settings.²⁹
 - University of Arizona “Makers” coalition can produce >200 in one hour and is expected to manufacture >100,000 for Pima County healthcare workers.
 - Face shields allow lip reading for University of Arizona community members who cannot hear
- Enhance frequency of hand disinfection by including alcohol-based hand sanitizer stations at all entry and exit points of buildings and classrooms, and throughout residence halls, laboratories, and administrative buildings.
- Enhance disinfection of fomites with EPA-registered disinfectants.
 - Continue modified custodial schedules to ensure enhanced cleaning of common spaces.
 - Provide students with resources to self-clean their classroom spaces with disinfecting wipes.
 - Make disinfecting wipes available in labs, administrative spaces, and residence halls.



#7: Communicate: The reopening of campus will require a robust Communication Plan to address the concerns of students, staff and faculty, to promote positive changes to mitigate the COVID-19 threat and to educate the University of Arizona community on the process when we do have a positive case on campus. Student-centric modes of communication (e.g., on relevant social media platforms, with graphic design elements that are eye catching) will be important to consider if we hope to secure excellent public health outcomes.

DRAFT – DRAFT – DRAFT – DRAFT – DRAFT – DRAFT – DRAFT – DRAFT

REFERENCES

1. Arizona Department of Health Services COVID-19 Dashboard for Pima County Cases. URL: <https://www.azdhs.gov/preparedness/epidemiology-disease-control/infectious-disease-epidemiology/covid-19/dashboards/#summarydashboard>. Accessed 4/26/2020.
2. The University of Texas at Austin COVID-19 Modeling Consortium: Mortality Projections for Arizona. URL: <https://covid-19.tacc.utexas.edu/projections/>. Accessed 4/26/2020. <https://covid-19.tacc.utexas.edu/projections/>.
3. Wang X, Du Z, Huang G, Fox S, Meyers L. COVID-19 in Austin, Texas: Relaxing Social Distancing Measures. *PREPRINT*. 2020.
4. Murray. Institute for Health Metrics and Evaluation Forecasting Models: <http://www.healthdata.org/covid/updates>. 2020.
5. Gottlieb S, Rivers C, McClellan M, Silvis L, Watson C. *A National Coronavirus Response: A Road Map to Reopening*. American Enterprise Institute;2020.
6. RESOLVE. *When and How to Reopen After COVID-19*. 2020.
7. RESOLVE. *When and How to Close due to COVID-19 Spread*. 2020.
8. Pima County Board of Supervisors (presented by County Administrator Chuck Huckleberry on 4/21/20). Criteria for beginning of phased reduction of COVID-19 physical distancing restrictions. URL: https://webcms.pima.gov/UserFiles/Servers/Server_6/File/Health/Education%20and%20Outreach/COVID19-EmployeeResources/COVID-19-criteria-4-phased-reduction-of-physical-distancing.pdf. Accessed 4/25/2020.
9. Zhu N, Zhang D, Wang W, et al. A Novel Coronavirus from Patients with Pneumonia in China, 2019. *The New England journal of medicine*. 2020;382(8):727-733.
10. Velavan TP, Meyer CG. The COVID-19 epidemic. *Tropical medicine & international health : TM & IH*. 2020;25(3):278-280.
11. Holshue ML, DeBolt C, Lindquist S, et al. First Case of 2019 Novel Coronavirus in the United States. *The New England journal of medicine*. 2020;382(10):929-936.
12. Yong E. Our Pandemic Summer. In. *The Atlantic*2020.
13. Gostin LO, Wiley LF. Governmental Public Health Powers During the COVID-19 Pandemic: Stay-at-home Orders, Business Closures, and Travel Restrictions. *Jama*. 2020.
14. *First Lessons from the Heinsberg Study*: <https://www.bccourier.com/these-are-the-first-lessons-of-the-heinsberg-study/>.
15. CNBC, April 23, 2020 "New York antibody study estimates 13.9% of residents have had the coronavirus, Gov. Cuomo says" <https://www.cnbc.com/2020/04/23/new-york-antibody-study-estimates-13point9percent-of-residents-have-had-the-coronavirus-cuomo-says.html> Accessed April 25, 2020.
16. Bendavid E, Mulaney B, Sood N. COVID-19 Antibody Seroprevalence in Santa Clara County, California. *PREPRINT*: <https://www.medrxiv.org/content/10.1101/2020.04.14.20062463v1.full.pdf>. Accessed 4/25/20. 2020.
17. Abbasi J. The Promise and Peril of Antibody Testing for COVID-19. *Jama*. 2020.
18. Xu S, Li Y. Beware of the second wave of COVID-19. *Lancet (London, England)*. 2020.
19. Guan WJ, Liang WH, Zhao Y, et al. Comorbidity and its impact on 1590 patients with Covid-19 in China: A Nationwide Analysis. *The European respiratory journal*. 2020.
20. UA News. University of Arizona Partnership with State Begins COVID-19 Antibody Testing. <https://uanews.arizona.edu/story/University-of-Arizona-partnership-state-begins-covid19-antibody-testing>. Accessed 4/29/2020.
21. Devakumar D, Shannon G, Bhopal SS, Abubakar I. Racism and discrimination in COVID-19 responses. *Lancet (London, England)*. 2020;395(10231):1194.

22. WHO Unity Studies: Early Investigation Protocols. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/early-investigations>.
23. He X, Lau EHY, Wu P, et al. Temporal dynamics in viral shedding and transmissibility of COVID-19. *Nature medicine*. 2020.
24. MIT. Private Automated Contact Tracing (PACT): An Open, Privacy-Preserving Protocol. 2020; <https://pact.mit.edu/>.
25. Ferretti L, Wymant C, Kendall M, et al. Quantifying SARS-CoV-2 transmission suggests epidemic control with digital contact tracing. *Science (New York, NY)*. 2020.
26. Resolve Strategies. COVID-19 Contact Tracing, Workforce, and Social Support Strategies. 2020.
27. WHO. *Key Planning Recommendations for Mass Gatherings in the context of COVID-19*. 2020.
28. Perencevich EN, Diekema DJ, Edmond MB. Moving Personal Protective Equipment Into the Community: Face Shields and Containment of COVID-19. *Jama*. 2020.
29. Mace M. University of Arizona Makers Race to Provide Personal Protective Equipment. 2020.
30. Theel ES, Slev P, Wheeler S, Couturier MR, Wong SJ, Kadkhoda K. The Role of Antibody Testing for SARS-CoV-2: Is There One? *Journal of clinical microbiology*. 2020.
31. Vogel G. First antibody surveys draw fire for quality, bias. *Science (New York, NY)*. 2020;368(6489):350-351.