

Team 2020 planning work

Background Materials

May 4, 2020

Role

Define all the switches that need to be turned-off to scale-back operations, or turned-on to return to different increased density operational states, and some sensible order for doing so, under different scenarios.

Objectives

Enable MIT to respond in a nimble manner to support our mission, values and the needs of the moment during this rapidly changing crisis.

To look ahead/forecast the key decisions that need to be made, by whom and when, and to bring these to the senior team, academic council, and members of the MIT community more broadly.

Members

Anthony Sharon (Lead)	Interim Deputy Executive Vice President
Dahlia Fetouh	Office of the General Counsel
Doreen Morris	Assistant Provost
Ian Waitz (Lead)	Vice Chancellor for Undergraduate and Graduate Education
Joe Higgins	Vice President for Campus Services and Stewardship
John Dozier	Institute Community and Equity Officer
Kate Trimble	Senior Associate Dean & Director, Office of Experiential Learning
Krishna Rajagopal	Dean for Digital Learning, Open Learning
Mark Silis	Vice President, IS&T
Ramona Allen	Vice President, Human Resources
Rick Danheiser	Chair of the Faculty
Ron Hasseltine	Assistant Provost for Research Administration
Sanjay Sarma (<i>ex officio</i> as Team 2021 lead)	Vice President for Open Learning
Stu Schmill	Dean of Undergraduate Admissions & Student Financial Services
Suzanne Blake	Director of Emergency Management
Suzy Nelson	Vice President and Dean for Student Life

Continuity working groups

- *COVID-19 Planning Team (Lead: Suzanne Blake)*
- Academic Continuity (Lead: Ian Waitz)
- Research Continuity (Lead: Ron Hasseltine)
- Business Continuity (Lead: Robin Elices)
- Medical Response (Lead: Cecilia Stuopis)
- Student and Res Life Continuity (Lead: Suzy Nelson)
- Communications (Lead: Alfred Ironside)
- Community (Lead: Tim Jamison)
- Space Planning (Lead: Krystyn Van Vliet)
- PPE (Leads: Joe Higgins, Elazer Edelman)
- Community Continuity (Leads: John Dozier, Maryanne Kirkbride, Tim Jamison)

Team 2020

- An “advanced planning squad” for the Continuity Working Groups
- And interface to Senior Team, Academic Council, and the MIT community

+ Task Force 2021 led by Rick Danheiser and Sanjay Sarma

- Opportunities and challenges for the post-COVID MIT

Each continuity working group has dozens of dedicated people within it

For example: [Academic and Student Life Continuity](#) includes the following teams, each with many members:

- OVC Business and Staff Continuity (Mary Markel Murphy lead)
- Academic Policies and Regulations (Rick Danheiser lead)
- Supporting Remote Teaching and Learning (Krishna Rajagopal lead)
- Experiential Learning in a Virtual Environment (Kate Trimble lead)
- Responding to Academic Exceptions and Dislocations (Kris Prather lead)
- Internal and External Engagement and Communications (Michael Rutter and Alfred Ironside leads)
- Student Success Team (Lauren Pouchak, Elizabeth Cogliano-Young and Gus Burkett leads)
- Redesigning Important Programs and Events for a Virtual World (Judy Robinson and Stu Schmill leads)
- Student Support Services (David Randall and Suraiya Baluch leads)
- Building Residential Community and Providing Housing and Dining Services (David Freidrich and Judy Robinson leads)
- Other Spaces and Buildings in DSL (David Freidrich, Anthony Grant, and Gus Burkett leads)
- Business and Staff Continuity for DSL (Peter Cummings and Liz Green leads)

High level summary of Team 2020 work

Started by addressing some big picture questions

- Guiding principles
- Campus capacity
- Key decision triggers

Framing and analyzing different scenarios

Identifying near term needs and decisions

Campus capacity

ASSIGNABLE Space on Campus Draft for Discussion April 1, 2020			Worst-case scenario			Current conditions (limited access)			Some increase in campus density permitted OR decrease in density needed			Many students on campus/able to return to campus but some still restricted/remote			Best-case scenario		
Use	Spaces	Usable Area ft ²	People	SF per Person	Density	People	SF per Person	Density	People	SF per Person	Density	People	SF per Person	Density	People	SF per Person	Density
Residence Graduates Residents	3,300	1,200,000	1,000	1,200	37%	1,300	923	48%	1,600	750	59%	2,400	500	89%	2,700	444	100%
Undergraduates	6,800	1,350,000	220	6,136	7%	220	6,136	7%	1,700	794	52%	2,300	587	70%	3,300	409	100%
FSILG	1,200	400,000	25	16,000	2%	25	16,000	2%	300	1333	27%	600	667	55%	1,100	364	100%
Research Labs	4,900	1,700,000	800	2,125	20%	1000	1,700	25%	2,000	850	50%	3,000	567	75%	4,000	425	100%
Teaching Labs	480	200,000				10	20,000	1%	500	400	67%	600	333	80%	750	267	100%
Classrooms	500	270,000				10	27,000	0%	650	415	26%	1,700	159	68%	2,500	108	100%
Offices	14,000	2,400,000	250	9,600	4%	800	3,000	14%	1,800	1333	31%	5,000	480	87%	5,750	417	100%
Health Care	190	29,000	55	527	25%	135	215	68%	180	161	90%	200	145	100%	200	145	100%
Campus Support	625	200,000	650	308	26%	500	400	63%	600	333	75%	700	286	88%	800	250	100%
Study Areas - Library	250	190,000							200	950	29%	500	380	71%	700	271	100%
General Use - Lounges	900	450,000							300	1500	60%	600	750	120%	500	900	100%
Student Center	250	115,000							250	460	31%	700	164	88%	800	144	100%
Athletics	275	320,000							300	1067	33%	800	400	89%	900	356	100%
	33,670	8,824,000	3,000	2,941	13%	4,000	2,206	17%	10,380	850	43%	19,100	462	80%	24,000	368	100%

Assumptions:

Housing includes New Vassar, and Site 4 Graduate Residence

Eastgate E55 is closed.

Burton Connor is used as a medical support facility

Key decision triggers

- **State and local government actions**
- **Medical/scientific and technological progress**
 1. PCR testing (now), antibody testing (~1-2 mo.)
 2. Privacy-preserving contact monitoring and tracking: (~1 mo.)
 3. Therapeutics (~2-6 mo.)
 4. Vaccines (~9-18 mo.)
- **Social/cultural/ethical standards**
 - ***Returning to campus:*** a) health risks returning to campus are no worse than in other parts of one's life, and b) campus activities don't have a large impact on health of broader community.
 - ***What will be socially-accepted limits on behavior if they allow us to get back to work?*** (e.g., masks, high-risk populations work remotely; socially-distanced classrooms; labs work in shifts; less dense living environments; stepped-up cleaning)

COVID teaching and learning

How do we best prepare our teaching and learning enterprise for a range of scenarios?

In *all scenarios*, our goal is that this Fall we will deliver learning experiences for our students at a level of excellence that befits MIT's mission.

EXAMPLES:

- Fully in-person teaching in the fall
- Fully remote teaching in the fall
- Starting semesters at different times and other “big block” options
- Some students are remote, others in-person
- Socially-distanced education “on-campus”
- Half the UG students on campus, half the time
- Three “full” semesters, students invited to campus for 2 of 3
- Moving from “managing” to “thriving”
 - What can we do that is special?

Quick facts on curriculum

- **250 programs (majors, minors, concentrations, grad, undergrad)**
 - 1250 subjects taught per semester
- **All have complex pre-requisite chains, double majors, minors, etc.**
 - Must run optimization just to test student satisfaction of degree requirements
- **We have first-year UGs taking grad classes, grad students taking UG intro to programming classes**
- **About 30% of the curriculum requires the physical campus**
 - Labs, project classes, performance-based classes, design studios
- **Very likely that we will have to be two-way remote-capable for all**
 - Some high-risk faculty; international students w/o visas + some high-risk students
- **Universities are based on the flow of people, significant disruptions to progression to degrees, deferrals, etc. cause a traffic jam**
- **Difficult to rewire, but will apply optimization approaches to help address**

Socially-distanced education on-campus?

- What fraction of the curriculum can be delivered on the physical campus while maintaining social distancing?
 - Labs, project spaces, performance spaces, design studios, classrooms
- What are the appropriate practices for the experiential and residential education components?
 - UROPs, clubs, athletics, etc.
- **Analysis of different teaching spaces is underway**

Quick facts on housing (approximate)

- **7000 Grads**

- Typically 40% in MIT facilities & 60% living off campus
- Most in apartment-style housing (on- and off-campus)
- Currently on-campus facilities have 1300 tenants (~60% density)
- We don't know how many off-campus students still in the area (most probably are); running surveys
- Can add another ~300-600 to on-campus facilities (~70-85% density) while maintaining social distancing

- **4500 UGs**

- 90% typically housed in campus facilities or in FSILGs
- Mostly dorm style (doubles, triples, quads, some quints in FSILGs); shared bathroom facilities; some with dining halls, some with small group shared cook-for-yourself facilities
- 200 on campus now, socially-distanced one per room in three dorms
- Burton Conner offline for renovation; being used as support/care facility

- **500 others in on-campus housing**

- Heads of house and their families, au pairs, graduate residence tutors, etc.

Key considerations for residential living

- How do we account for risks to individuals and overall population, so we can ***ethically and safely live within the emerging new normal?***
- How do we take a creative path, defining **proactive measures that will allow for *special, meaningful college experience?***
- How will our **assumptions about social distancing** measure up when put to the test? What is the **probability of success?**
- **Person + Environment = Behavior:** How do we increase the likelihood people will **comply with new norms** and behaviors?

Many things to consider

- **Quality of educational offerings** (all remote, part remote)
- **Student academic progression** (numbers of potential schedule dislocations?)
- **Impact on test, trace and treat thresholds for MIT community**
- **Impact on test, trace and treat thresholds for broader community around campus**
- **Financial sustainability** (paired down to only UG options, tuition, housing, instructional costs, PPE costs, etc.)
- **Equity** (to what degree does the option support this?)
- **Robustness to uncertain future** (e.g. preparing for remote teaching is a robust strategy)
- **Ease of implementation technically**
- **Ease of implementation behaviorally**
- **Impact on faculty** (health, teaching loads, etc.)
- **Impacts on staff** (health, different working hours, etc.)
- **Impacts on students** (health, costs, equity, etc.)
- **Impacts on student life goals** (desire to be with friends, experience the campus, distributional impacts)
- **Experiential learning and residential education** (UROPs, clubs, organizations, athletics, FSILGs, etc)
- **Interactions with other continuity challenges** (e.g. residential, research, business)
- **Confidence in planning estimates** (well understood or no)
- **Reputational impacts** (in or out of step with peers)
- **How well does option enable us to “dance”?** (rapidly reverse course and hunker down)
- **Longer term impacts** (e.g. deferrals)
- **Community economic impact**

Summary

- **Up-scaling physical research on campus as soon as feasible**
 - Largely separable, can run on its own timeline
 - Includes bringing back grad students (but does not imply regular access to campus)
- **Up-scaling residential education and academics**
 - Depends on a complex relationship among housing + curriculum + remote/non-remote education + behavior + costs
 - How many UGs can we bring back and when?
 - Will likely be applying social distancing protocols for all campus instructional and residential spaces
 - Very likely that we will need to be two-way remote-capable for all classes
 - High-risk faculty and students, international students without visas
- **Staff will be increased to enable the path ahead, while ensuring overall staff well-being**
- **All of the above is conditioned on meeting test, trace, and treat requirements which are a function of the population on campus (and off), and are uncertain due to both evolving understanding of the disease and rapid advances in testing and treatments**