Massachusetts Institute of Technology

Interim Progress Report for Year Five

Instructions and Template

November 30, 2020

Contents

1. INSTRUCTIONS AND TEMPLATE GUIDELINES

Purpose

Continuing accreditation is subject to the submission of interim progress reports at defined intervals of 2 years and 5 years after an eight-year term of continuing accreditation is approved.

This narrative report, supported by documentation, covers four areas:
1. The program's progress in addressing not-met Conditions and Student Performance Criteria (SPC) from the Interim Progress Report Year 2 review.
2. Progress in Addressing Causes for Concern.
3. Changes or Planned Changes in the Program.
4. Summary of Preparations for Adapting to 2020 NAAB Conditions.

Supporting Documentation

1. The narrative should describe in detail all changes in the program made in response to not-met Conditions and Student Performance Criteria, including detailed descriptions of changes to the curriculum that have been made in response to not-met SPC that were identified in the review of the Interim Progress Report Year 2. Identify any specific outcomes expected to student performance. Attach new or revised annotated syllabi identifying changes for required courses that address unmet SPC.
2. Evidence of student work is only required to address deficiencies in the following cases: (1) If there are any SPCs that have not been met for two consecutive visits; (2) If there are three not-met SPCs in the same realm in the last visit.

   - Provide three examples of minimum-pass work for each deficiency and submit student work evidence to the NAAB in electronic format. (Refer to the "Guidelines for Submitting Digital Content in IPRs" for the required format and file organization.)

   - All student work evidence must be labeled and clearly annotated so that each example cross-references the specific SPC being evaluated and shows compliance with that SPC.

3. Provide information regarding changes in leadership or faculty membership. Identify the anticipated contribution to the program for new hires and include either a narrative biography or one-page CV.
4. Provide additional information that may be of interest to the NAAB team at the next accreditation visit.

Outcomes

IPRs are reviewed by a panel of three: one current NAAB director, one former NAAB director, and one experienced team chair.[1] The panel may make one of three recommendations to the Board regarding the interim report:
1. Accept the interim report as having demonstrated satisfactory progress toward addressing deficiencies identified in the report of the Interim Progress Report Year 2.
2. Accept the interim report as having demonstrated progress toward addressing deficiencies but require the program to provide additional information (e.g., actions taken to address deficiencies). This report shall be due within six weeks of the receipt of this outcome report.
3. Reject the interim report as having not demonstrated sufficient progress toward addressing deficiencies and advance the next accreditation sequence by at least one calendar year, thereby shortening the term of accreditation. In such cases, the chief academic officer of the institution will be notified and a copy of the decision sent to the program administrator. A schedule will be determined so that the program has at least six months to prepare an Architecture Program Report. The annual statistical report (see Section 9 of the 2014 Conditions) is still required.

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[1] The team chair will not have participated in a team during the year in which the original decision on a term of accreditation was made.

Deadline and Contacts

IPRs are due on November 30. They shall be submitted through the NAAB's Annual Report System (ARS). As described in Section 10 of the 2015 NAAB Procedures for Accreditation "…the program will be assessed a fine of $100.00 per calendar day until the IPR is submitted." If the IPR is not received by January 15 the program will automatically receive Outcome 3 described above. Email questions to forum@naab.org.

Instructions

1. Reports shall be succinct and are limited to 40 pages/20 MBs, including supporting documentation.
2. Type all responses in the designated text areas.
3. Reports must be submitted as a single PDF following the template format. Pages should be numbered.
4. Supporting documentation should be included in the body of the report.
5. Remove the #4 "Requirements for the Use of Digital Content in Interim Progress Reports" pages before submitting the interim progress report.

2. EXECUTIVE SUMMARY OF THE TWO MOST RECENT NAAB VISITS: 2015 and 2009

CONDITIONS NOT MET

2015 VTR	2009 VTR
None	5. Studio Culture

STUDENT PERFORMANCE CRITERIA NOT MET

2015 VTR	2009 VTR
B.4 Site Design	13.12 Human Behavior
B.6 Comprehensive Design	13.22 Building Service Systems
	13.23 Building Systems Integration
	13.25 Construction Cost Control
	13.28 Comprehensive Design

CAUSES OF CONCERN

2015 VTR	2009 VTR
Human Resources & Human Resources Development–Students	Unfinished Quality
Physical Resources	Learning Objectives

3. TEMPLATE

Interim Progress Report Year 5
Massachusetts Institute of Technology
Department of Architecture
M. Arch. [pre-professional undergraduate degree + 80 graduate credit hours]
M. Arch. [undergraduate degree + 114 graduate credit hours]

Year of the previous visit: 2015

Please update contact information as necessary since the last APR was submitted.

Chief administrator for the academic unit in which the program is located:

Name: Hashim Sarkis
Title: Dean, School of Architecture and Planning
Email Address: hsarkis@mit.edu
Physical Address: 77 Massachusetts Avenue, 7-231, Cambridge MA 02139

Any questions pertaining to this submission will be directed to the chief administrator for the academic unit in which the program is located.

Chief academic officer for the Institution:

Name: Nicholas de Monchaux
Title: Head, Department of Architecture
Email Address: ndm@mit.edu
Physical Address: 77 Massachusetts Avenue, 7-337, Cambridge MA 02139

Text from the previous VTR and IPR Year 2 Review is in the gray text boxes. Type your response in the designated text boxes.

I. Progress in Addressing Not-Met Conditions and Student Performance Criteria

a. Progress in Addressing Not-Met Conditions

N/A

b. Progress in Addressing Not-Met Student Performance Criteria

Massachusetts Institute of Technology, 2020 Response: Narrative satisfied by Two-Year IPR.

II. Progress in Addressing Causes of Concern

Status of Diversity Programs: I.2.1 Human Resources and Human Resource Development

2015 Visiting Team Assessment: The team acknowledges the concerted effort made by the program to recruit and enroll underrepresented minorities, particularly individuals of African-American descent. Other ethnic groups are represented among the faculty and students; however, the team did not see any African Americans in the department during the visit, a group that represents over 14% of the U.S. Population.

Massachusetts Institute of Technology, 2017 Response: MIT School of Architecture and Planning Statement on community well-being, diversity, and inclusion:

The fields of architecture, city planning, media, design, real estate, and art are first and foremost dedicated to improving the human condition and quality of life for all people. This credo applies in all the varied communities in which we are engaged, including our own here at MIT. We value each member of our community – students, faculty, postdocs, staff, and visitors – as human beings, with all our wonderful differences. These differences in culture, life experience, and opinion, fuel creative ideas and actions, which are the core of our school's educational mission.

We have therefore taken steps over the past decade to create a diverse and inclusive community within the school and its various departments, centers, and laboratories. The school maintains a standing Diversity Committee that reviews all faculty hires to see that underrepresented minorities (URM) and women receive equal opportunities to become a part of SA+P. Individual units of the school have instituted their own procedures to meet this goal, and we have hired two staff members dedicated to diversity recruitment and inclusion activities.

We fully support the 2004 MIT goal of doubling the percentage of underrepresented minority faculty, and tripling the percentage of underrepresented minority graduate students. Over the past decade, we have made significant progress in this direction. With regard to URM faculty, SA+P tripled the number from 3% in 2004 to 9% in 2014, exceeding the goal. With regard to URM student admissions, SA+P increased the number from 7% in 2004 to 11% in 2014, which is short of the goal. Consequently, we are redoubling our efforts to attract URM applicants, and to increase the number of students who choose to attend MIT after they are admitted. Critical to this, is our dedication to the physical and emotional well-being of every member of the SA+P community, and to promoting an environment of equity, mutual respect, caring, and support for each other.

Massachusetts Institute of Technology, 2020 Response: Click here to enter text.

On June 9, 2020 the MIT Department of Architecture convened a Town Hall, which followed the murder of George Floyd—and took place during the first week of our new Department Head Nicholas de Monchaux's tenure. The MIT Department of Architecture's Town Hall was a focused conversation on a list of action items conceived and agreed upon by our student community to ensure a more just, equitable, and anti-racist Department. Twenty-nine action items were proposed in total.

Feedback related to our student communities twenty-nine action items was received from current students, faculty, and staff. In April of this year, Professor Terry Knight agreed to step into a position as Associate Department Head for Strategy and Equity. Professor Knight formed a team of student and staff representatives to move forward — not just on the student body's twenty-nine action items, but on even more structural questions around hiring, tenure, merit, community, content and scholarship. This was and has been an ongoing collaborative conversation in faculty meetings over the summer and in Cabinet meetings this fall.

Work towards twenty of these initial action items is substantially underway, eight action items are completed, we've made substantial progress on 17 items, and 4 items are awaiting work by the faculty. This is thanks to the collaboration of the Cabinet in particular, and many others involved in admissions and other service roles. NOMAS and ASC (Architecture Student Council) representatives have been updated on this work throughout the summer and fall semester.

Work on several remaining items will take collaboration and conversation amongst all of us as a student body, faculty, and staff. This includes work on our curriculum — increasing inclusion while ensuring student intellectual agency and leadership — and work on inclusion and quality of discussion in the life of our community itself: from reviews to the complex conversations and retreats we are scheduling around questions of race and inclusion.

Actions taken towards building an actively anti-racist department include but are not limited to: department, school, and Institute-wide tenure criteria and mentorship, curriculum reform (beyond the creation of planned new classes), new approaches to career development and support, and shifting our overall culture towards active engagement with communities, cities & society.

Specific actions that have been taken, that are currently being discussed, and/or we are working to address in the near future include:

Regarding BIPOC representation in staff and faulty: We are currently in the middle of one hire. We are proceeding with two searches next year that reflect two different, essential approaches to BIPOC hiring -- a wide search with strong diversity criteria in the selection process, and then a focused search in HTC on non-western subject areas. We have begun to look at how to involve students in searches, which increases inclusivity and diversity of outcomes. As recommended by the Institute, we will work this year on a 5- and 10-year plan for achieving parity in tenure-track faculty; this involves essential work in (a) hiring (b) mentoring and support and (c) criteria for promotions and tenure. Student involvement on searches and a discussion of tenure criteria, existing and proposed, will be discussed and acted on by the Department Cabinet.

Regarding Option Studio contracts for BIPOC: We are already proceeding with two strategies to increase diversity in option studios; one is to target diversity in semester-long hires; the second is part of a larger strategy to increase both diversity and support of our non-tenured faculty through open searches for Professor of Practice positions. Option studios are being taught by core faculty in F2020 for budget reasons. Targeted hires are a part of our Spring 2021 Option Studio planning. Due to current budget restrictions, we cannot start open searches for POP (with diversity criteria) until F2021, but will do so then.

Regarding a fellowship specifically for BIPOC practitioners: We have a fellowship for BIPOC practitioners in alternating years with DUSP (Department of Urban Studies and Planning). We are hiring this fall. We would like to increase this fellowship to exist every year

Regarding underrepresented minority (URM) representation in the student body and need-blind financial aid and other funding for BIPOC: We already do this with 3.5 URM focused scholarships from OGE, 3 from the Dean's Office, and the Robert Taylor Fellowship. Working with the Dean's office to expand these programs, which come from Institute-level resources.

Regarding a more inclusive and transparent application process: We have already committed to re-focusing our M.Arch admissions process on potential and not on historic / standard metrics of previous achievement. As discussed with ASC and NOMAS leadership, we have been working on a multi-point plan to make M.Arch admissions more accessible and inclusive. This involves, for example, removing fees, eliminating GREs and writing samples, changing the role of professional recommendations (which favor well-connected students) as well as training all in the process to look for potential not just existing achievement. There are some complex steps involved in working with the Institute on our online admissions process, but we have good reasons for doing so. Having students involved improves admissions and we are committed to it. This will be put to the Department cabinet for discussion this summer. We will also extend a discussion to other program admissions procedures, focusing on the study and collective discussion of best practices around inclusive admissions.

Regarding more expansive outreach: We already do some outreach in fairs etc., and have some faculty involved in MITES, MOSTEC, and MSRP. We commit to expanding this program to HBCUs, high schools, and other venues, hopefully with support from the Dean and Institute where appropriate for travel etc. We will work to expand our participation in MITES, MOSTEC, and MSRP

Regarding a PASS program (i.e. an Architecture program analogous to DUSP's Peer Application Support Service program): We will pilot in 2020-2021 academic year. In addition, we will explore the creation of a pilot summer program for potential BIPOC applications in Summer 2021

Regarding curriculum reform: DH is working with DUSP and the Dean to create a more robust space for collaboration between Architecture and DUSP on Design, Justice, and the City, involving funding and shared coursework and research. We would like to expand these efforts to MAS and DesignX

Regarding town hall and future meetings to discuss future course offerings: To support the new ADH for Equity/Strategy, we have planned to include a student representative in a core team working on these issues in the department. We propose that this representative act as a continuous part of a larger participative planning process, supported by regularly scheduled meetings with student representatives. These meetings in turn will help us plan appropriate moments to involve the whole community through Town Halls.

Regarding early availability of syllabus and review: Currently, syllabi should be ready for department review by the end of the first week of classes. We will make syllabi from current and previous semesters public and accessible on the department website. We will organize and make available resources for faculty to expand existing syllabi to include diverse perspectives.

Regarding racial bias & cultural sensitivity training for students, faculty, and staff student involvement in the decision of the organization (of training): Before COVID, we were in conversations with MindHandHeart and IDHR (Institute Discrimination & Harassment Response Office) at MIT to do workshops in the department in AY 2020-2021. We are currently figuring out how to do this over zoom as these offices adapt to current circumstances. This current strategy is

designed to buy us time to secure resources and planning for regular training, which will proceed in collaboration with the Institute Office of Equity and Inclusion, and be coordinated by the ADH for Strategy/Equity and her Student/Staff Team. This training will be based on established best practices and measured effectiveness.

Regarding funding for student initiatives (NOMAS): NOMAS is an essential partner and collaborator in this process. We are looking forward to matching the budget with this in mind. We have set an important precedent by spending $12k this summer supporting students on issues of race in the curriculum and library, and also employing students involved in the fall planning process. We will review time and scale of effort with NOMAS and develop funding strategies. We also commit to finding non-reimbursement solutions for events and outreach.

Regarding representation in reviews and the discriminatory practice of not inviting reviewers in good time before reviews and considering the make-up of reviews: We are instituting two responses for the fall: First, staff will coordinate with faculty to draft final studio review panels in the first four weeks of the semester, which can allow their composition both to be better planned and a subject of discussion. Second, we are developing a database of diverse reviewers to support faculty in securing robust panels. Finally, while we cannot legislate review composition directly, we will make clear to faculty that this is our goal, and will review with them when it is not achieved, as both measured by us and reported by community members. Work with NOMAS to chart effectiveness of this strategy, and also work with them and our community to identify specific reviews or situations where further discussion with faculty is necessary.

Regarding developing a research fund to fund faculty and student work that engages with BIPOC communities: This is under discussion in the context of cross-department collaboration as noted in 3(a). We are in current conversations with the Dean about fundraising in these areas. We aim to target long-term collaborations with specific communities and not single-studio interactions. Work with SA+P Development

Regarding an endowed lecture series around the topic of equity and the built environment: We have already committed to combining the NOMAS lecture with an existing endowed lecture to allow greater impact and prestige, until such time as we can endow the NOMAS lecture itself. Our larger lecture series is also an essential opportunity for diverse voices, especially to bring a dispersed community together in reflection and action. Work with SA+P Development

Regarding procurement strategies: As a department, we use MIT-wide procurement systems. We commit to pushing this issue up to the Dean and Provost level, to help these systems become more inclusive and impactful in their choice of vendors. We welcome student collaboration in these conversations.

The above are the "Town Hall" checklist. Additionally, we are partnering with Courageous Conversation as a step in our efforts to build an anti-racist and inclusive department – in the climate we create in our labs, offices, classrooms and studios, in our hiring and admissions practices, in our HR processes, and in our teaching and research missions. The meetings associated with this work will begin with the Spring semester. Courageous Conversation is a San Francisco-based consultancy with deep experience and success in training and working with diverse educational and professional organizations, including higher-education institutions, to help these organizations address racial disparities and create change. We vetted several consultancies before settling on Courageous Conversation. Their level of expertise, style of engagement, and flexibility to tailor their training for our department's culture and goals were the best among the firms we considered.

We are working directly with the vice president of the consultancy, Brooke Gregory, who has a long and impressive history of activism and advocacy for underrepresented minorities and women in education. Brooke will engage our whole staff, student, and faculty community over multiple

group training sessions. She will begin with small sessions involving department leadership, equity and HR teams, and BIPOC community members, and follow with sessions for our larger community. Participation will be voluntary, but we will be encouraging everyone to attend sessions as they are able, so that we can all join in the work needed to create and sustain an anti-racist and inclusive department.

Recently and additionally, our Strategy and Equity Task Force has identified multiple additional goals around recruitment, admissions, reporting incidents of bias and developing long-term career support. We are looking to hire an additional full-time staff member starting in 2021-2022 to assist a permanent ADH for equity in working towards these long-term goals.

Diversity Programs & Initiatives: (December 1, 2017 – November 30, 2020)

In addition to the twenty-nine action items identified by our student community, the MIT Department has been actively engaged both prior to our most recent NAAB accreditation and since our most recent NAAB accreditation in activities related to making our department diverse, equitable, and inclusive.

Current Job Posting: MIT School of Architecture and Planning Assistant Dean for Diversity, Equity, Belonging and Student Support

ASSISTANT DEAN FOR DIVERSITY, EQUITY, BELONGING AND STUDENT SUPPORT, *School of Architecture & Planning (SA+P),* to lead efforts to further a respectful, caring culture that embraces diversity and enables everyone in SA+P's departments, labs, and centers (DLCs) to learn and work at their best, with particular focus on improving the representation and experience of women and underrepresented minority students. Responsibilities include supporting DLCs in their continued development and implementation of strategic plans for diversity, equity, and belonging; serving as a DLC resource for building skills and capacity, problem-solving, training, facilitation, mediation, and consultation; working with the dean, faculty, and other administrators/offices to address individual student issues and policy matters; acting as liaison to the Institute community and equity officer and Office of the Vice Chancellor; representing the school on relevant committees; budget development/management; analyzing data to identify trends/opportunities and assess progress; championing programming that strengthens community, increases knowledge/skills, and supports the development of underrepresented groups.

Job Requirements
REQUIRED: ten years' experience with recruiting and retaining women and underrepresented minority talent; in strategic program design, delivery, and evaluation around issues of community/climate; and working with students directly and with faculty to support students. Also required are a bachelor's degree; discretion with confidential information; experience with budget management, planning events, mediation, and facilitating discussion of challenging topics; facility with standard office and database software; sensitivity to organizational dynamics; and excellent written and verbal communication and presentation skills. Must be able to function autonomously in a highly visible position; build and foster relationships; anticipate issues, analyze data, and solve problems creatively and effectively; and handle varied tasks concurrently in a fast-paced setting. *PREFERRED*: graduate degree and experience working in higher education.

MIT NOMAS:

The members of the Massachusetts Institute of Technology chapter of the National Organization for Minority Architecture Students, are committed to the idea that their community can be strengthened by the active practice of diversity, equity, and inclusion within the Department of Architecture. MIT NOMAS champions diversity in design by calling for equality and fairness in

their education, celebrating excellence in their discipline, and providing community members with resources to develop personally and professionally.

As minority students and allies, MIT NOMAS aims to provide a source of support and camaraderie through communal gathering, open discourse, and lasting mentorship. MIT NOMAS challenges misconceptions surrounding minority representation and emphasizes the importance of diverse communities through dialogues with the MIT community, a lecture series highlighting minority designers and researchers, open letters and advocacy. MIT NOMAS are in support of systemic change to an exclusive profession that for centuries has created barriers for those outside of the canon, but they also choose to exist as a space for dialogue, change and care.

In addition to monthly meetings, MIT NOMAS organizes both formal and informal events. The MIT NOMAS website currently lists the following recent events:

BIPOC Design in the Built Environment Wikipedia Edit-a-thon. In this week-long virtual event participants will build community while creating new and edit existing Wikipedia pages of BIPOC designers whose work is connected to the built environment.

MIT NOMAS Mixers. Kick back with MIT NOMAS (National Organization of Minority Architecture Students) to meet our members, and find out about our projects. Sign up for informal mentoring or a leadership position, join our NOMAS Conference design competition team, or grab some food and drink!

Bryan Lee Lecture/Presentation, "Design as Protest: Building Power." Design as Protest explores the privilege and power structures that have defined injustice from America's inception. Like all institutions, Design imposes its power through policies, procedures, and practice and is subject to its own inherited biases. We look at the history of the design justice movement and how the theory of practice continually advocates for the dismantling of power ecosystems that use architecture and design to create injustice throughout the built environment. The lasting permanence of our professional decisions requires us to pay particular attention to the residual impact of our work in and to seek Design Justice wherever possible. Architecture has the power to speak to the language of the people it serves, we as designers, are at our best when we are willing to serve the people denied power. Bryan Lee is an architect and design justice advocate as well as founder/director of Colloqate Design a nonprofit multidisciplinary design practice. Along with this is he the founding organizer of the Design Justice Platform and organized the Design As Protest National Day of Action. Bryan has led two award-winning architecture + design programs for high school students and has received multiple national awards and fellowships most recently noted as one of the 2018 Fast Company Most Creative People in Business. Colloqate was named one of the 2019 Emerging Voices by The Architectural League of New York. Read more about their work via Architect Magazine.

Summer Outreach Programs:

MIT Summer Research Program (MSRP) is an important pipeline program for introducing underrepresented students into MIT graduate programs. It seeks to promote the value of graduate education; to improve research enterprise through increased diversity; and to prepare and recruit the best and brightest for graduate education at MIT.

Minority Introduction to Engineering & Science (MITES) Program addresses the low numbers of minority students pursuing advanced technical degrees. This national program is a six-week residential, academic enrichment summer program for talented high school students and gives participants a taste of the MIT freshmen year experience. Although admission to MIT is not the focus of MITES, for its graduates, there is a strong record of successful admission to MIT and to other engineering and science universities. SA+P has offered an elective architecture course for the last three years. Projects change from year to year/summer to summer. Summer 2018 "Tiny

House" 9 BIPOC high school students between their junior and senior year of high school participated in and completed tiny house designs. Students received letters of recommendation and portfolio quality images of their project drawings and models which they were then able to use as part of their college applications. Summer 2019 "Micro Homes" 15 BIPOC high school students between their junior and senior year of high school participated in and completed micro home designs. Students received letters of recommendation and portfolio quality images of their project drawings and models which they were then able to use as part of their college applications. Summer 2020 The program was cancelled due to COVID-19.

(M)IT (O)nline (S)cience, (T)echnology, and (E)ngineering (C)ommunity (MOSTEC) Is a six-month program that serves rising high school seniors from across the country – many of whom come from underrepresented or underserved communities – Participating students demonstrated having a strong academic record and interest in science and engineering. During the Academic Phase (June through August), students complete online coursework and projects in science, engineering, and science writing. At the end of the Academic Phase, students attend the 5-day MOSTEC Conference on campus of MIT. During the 5-day MOSTEC Conference, students have the option of attending various workshops including an Architecture workshop. Both summer of 2018 and summer of 2019 50+ rising high school seniors participated in two 3 hour workshops where we asked and answered the question…Is it possible to "Teach Architecture" in 3 hours? Summer of 2020 The program was cancelled due to COVID-19.

Fall/Winter/Spring Prospective Student Outreach Activities:

Previously MIT Architecture attended architecture & design college fairs in Boston and as part of the NOMA Conference each year. Architecture & design college fairs have proved to be an effective method for reaching out to, meeting, and talking with BIPOC students interested in studying architecture and/or design at MIT. In 2018 Chicago was added to our list of architecture & design college fairs. In 2019 New York was added to our list of architecture & design college fairs, and in 2020 Philadelphia and Dallas were added bringing the total number of architecture & design college fairs that we attend each year to six. These six architecture & design college fairs each year put us in touch with over 1200 high school and undergraduate students potentially interested in stuying architecture at MIT. The majority of students we've met, talked to, and corresponded with identify as BIPOC and/or are currently under represented in architecture programs at MIT.

09/29/18, Boston Society of Architects (BSA) College Fair: The 2018 BSA Architecture/Design College Fair was held at BSA Space on Saturday, September 29, 2018. Over 187 prospective high school and undergraduate students visited with nearly 50 representatives from national and international schools of architecture and design discussing portfolios, admissions, scholarships, curricula, and more. Students attending the BSA College fair provided their names and email addresses indicating an interest in undergraduate and/or graduate architecture & planning programs at MIT. Many of the students we met with and talked to identify as underrepresented minorities. All students expressing an interest in graduate architecture programs at MIT were contacted individually via email to invite them to our online Graduate Open House. Many of these students were then corresponded with individually to answer questions they might have about our architecture & planning programs.

10/19/18, NOMA Conference & College Fair, Chicago, Illinois: 31 students attending the NOMA College Fair provided their names and email addresses indicating an interest in graduate architecture & planning programs at MIT. All of the students who indicated an interest in graduate architecture studies at MIT were contacted individually via email to invite them to our online Graduate Open House. Many of these students were then corresponded with individually to answer questions they might have had about our architecture & planning programs.

10/20/18, Chicago Architecture + Design College Day: The 2018 Chicago Architecture + Design College Day was held at the Chicago Cultural Center in Downtown Chicago. Over 228 prospective high school and undergraduate students visited with nearly 50 representatives from national and international schools of architecture and design discussing portfolios, admissions, scholarships, curricula, and more. Students attending the Chicago Architecture + Design College Day provided their names and email addresses indicating an interest in undergraduate and/or graduate architecture & planning programs at MIT. Many of the students we met with and talked to identify as underrepresented minorities. All students expressing an interest in graduate architecture programs at MIT were contacted individually via email to invite them to our online Graduate Open House. Many of these students were then corresponded with individually to answer questions they might have about our architecture & planning programs.

09/28/19, Boston Society of Architects (BSA) College Fair: The 2019 BSA Architecture/Design College Fair was held at BSA Space on Saturday, September 28, 2019. Over 175 prospective high school and undergraduate students virtually attended with nearly 50 representatives from national and international schools of architecture and design discussing portfolios, admissions, scholarships, curricula, and more. Students virtually attending the BSA College fair provided their names and email addresses indicating an interest in undergraduate and/or graduate architecture & planning programs at MIT. Many of the students we met with and talked to identify as underrepresented minorities. All students expressing an interest in graduate architecture programs at MIT were contacted individually via email to invite them to our online Graduate Open House. Many of these students were then corresponded with individually to answer questions they might have about our architecture & planning programs.

10/05/19, Chicago Architecture + Design College Day: The 2019 Chicago Architecture + Design College Day was held at the Illinois Institute of Technology on Chicago's near South Side. Over 118 prospective high school and undergraduate students visited with nearly 50 representatives from national and international schools of architecture and design discussing portfolios, admissions, scholarships, curricula, and more. Students attending the Chicago Architecture + Design College Day provided their names and email addresses indicating an interest in undergraduate and/or graduate architecture & planning programs at MIT. Many of the students we met with and talked to identify as underrepresented minorities. All students expressing an interest in graduate architecture programs at MIT were contacted individually via email to invite them to our online Graduate Open House. Many of these students were then corresponded with individually to answer questions they might have about our architecture & planning programs.

10/18/19, NOMA Conference & College Fair, Brooklyn, New York: Students attending the NOMA College Fair participants provided their names and email addresses indicating an interest in graduate architecture & planning programs at MIT. All of the students who indicated an interest in graduate architecture studies at MIT were contacted individually via email to invite them to our online Graduate Open House. Many of these students were then corresponded with individually to answer questions they might have had about our architecture & planning programs.

11/02/19, New York Architecture & Design College Fair, New York, New York: The 2019 New York Architecture & Design College Fair was held at the AIA New York Center for Architecture. Over 294 prospective high school and undergraduate students visited with nearly 50 representatives from national and international schools of architecture and design discussing portfolios, admissions, scholarships, curricula, and more. Students attending the New York Architecture & Design College Fair provided their names and email addresses indicating an interest in undergraduate and/or graduate architecture & planning programs at MIT. Many of the students we met with and talked to identify as underrepresented minorities. All students expressing an interest in graduate architecture programs at MIT were contacted individually via email to invite them to our online Graduate Open House. Many of these students were then corresponded with individually to answer questions they might have about our architecture & planning programs.

09/26/20, Boston Society of Architects (BSA) College Fair: The 2020 BSA Architecture/Design College Fair was held virtually on Saturday, September 26, 2020. Over 195 prospective high school and undergraduate students virtually attended with nearly 50 representatives from national and international schools of architecture and design discussing portfolios, admissions, scholarships, curricula, and more. Students virtually attending the BSA College fair provided their names and email addresses indicating an interest in undergraduate and/or graduate architecture & planning programs at MIT. Many of the students we met with and talked to identify as underrepresented minorities. All students expressing an interest in graduate architecture programs at MIT were contacted individually via email to invite them to our online Graduate Open House. Many of these students were then corresponded with individually to answer questions they might have about our architecture & planning programs.

10/03/20, Chicago Architecture + Design College Day: The 2020 Chicago Architecture + Design College Day was held virtually. Over 210 prospective high school and undergraduate students registered for the event with the possibility of meeting with nearly 50 representatives from national and international schools of architecture and design discussing portfolios, admissions, scholarships, curricula, and more. Students attending the Chicago Architecture + Design College Day provided their names and email addresses indicating an interest in undergraduate and/or graduate architecture & planning programs at MIT. Many of the students we met with and talked to identify as underrepresented minorities. All students expressing an interest in graduate architecture programs at MIT were contacted individually via email to invite them to our online Graduate Open House. Many of these students were then corresponded with individually to answer questions they might have about our architecture & planning programs.

10/10/20, Philadelphia Architecture & Design College Fair: The 2020 Philadelphia Architecture & Design College Fair was sponsored by the Tyler School of Art & Architecture. Over 115 prospective high school and undergraduate students virtually visited with nearly 50 representatives from national and international schools of architecture and design discussing portfolios, admissions, scholarships, curricula, and more. Students virtually attending the Philadelphia Architecture & Design College Fair provided their names and email addresses indicating an interest in undergraduate and/or graduate architecture & planning programs at MIT. Many of the students we met with and talked to identify as underrepresented minorities. All students expressing an interest in graduate architecture programs at MIT were contacted individually via email to invite them to our online Graduate Open House. Many of these students were then corresponded with individually to answer questions they might have about our architecture & planning programs.

10/16/20, NOMA Conference & College Fair, Oakland, California: Students virtually attending the NOMA College Fair provided their names and email addresses indicating an interest in graduate architecture & planning programs at MIT. All of the students who indicated an interest in graduate architecture studies at MIT were contacted individually via email to invite them to our online Graduate Open House. Many of these students were then corresponded with individually to answer questions they might have had about our architecture & planning programs.

10/17/20, Dallas Architecture & Design College Fair: The 2020 Dallas Architecture & Design College Fair was sponsored by the AIA Dallas. Over 100 prospective high school and undergraduate students virtually visited with nearly 50 representatives from national and international schools of architecture and design discussing portfolios, admissions, scholarships, curricula, and more. Students virtually attending the Dallas Architecture & Design College Fair provided their names and email addresses indicating an interest in undergraduate and/or graduate architecture & planning programs at MIT. Many of the students we met with and talked to identify as underrepresented minorities. All students expressing an interest in graduate architecture programs at MIT were contacted individually via email to invite them to our online Graduate Open House. Many of these students were then corresponded with individually to answer questions they might have about our architecture & planning programs.

11/07/20, New York Architecture & Design College Fair, New York, New York: The 2019 New York Architecture & Design College Fair was sponsored by the AIA New York Center for Architecture. Prospective high school and undergraduate students virtually visited with nearly 50 representatives from national and international schools of architecture and design discussing portfolios, admissions, scholarships, curricula, and more. Students virtually attending the New York Architecture & Design College Fair provided their names and email addresses indicating an interest in undergraduate and/or graduate architecture & planning programs at MIT. Many of the students we met with and talked to identify as underrepresented minorities. All students expressing an interest in graduate architecture programs at MIT were contacted individually via email to invite them to our online Graduate Open House. Many of these students were then corresponded with individually to answer questions they might have about our architecture & planning programs.

III. Changes or Planned Changes in the Program

Please report such changes as the following: faculty retirement/succession planning; administration changes (dean, department chair, provost); changes in enrollment (increases, decreases, new external pressures); new opportunities for collaboration; changes in financial resources (increases, decreases, external pressures); significant changes in educational approach or philosophy; changes in physical resources (e.g., deferred maintenance, new building planned, cancellation of plans for new building).

Massachusetts Institute of Technology, 2020 Response: Click here to enter text.

New Department Head:

February 10, 2020 the MIT School of Architecture and Planning announced that Nicholas de Monchaux would be appointed Head of the Department of Architecture beginning July 2020. Nicholas joined the department at that time as Professor of Architecture and Urbanism.

An internationally renowned scholar, educator, designer, architect, urbanist, and public intellectual, Nicholas de Monchaux brings extensive experience and a broad perspective to leading the department at a time of rapid technological change, enormous environmental challenges, and equally sweeping social shifts.

Nicholas joined the department from UC Berkeley, where he had taught since 2006, most recently as Professor of Architecture and Urban Design, and the Craigslist Distinguished Professor of New Media; from 2016 to 2019 Nicholas was Director of the Berkeley Center for New Media. With Kathryn Moll, Nicholas is principal of modem, a practice that emphasizes social and ecological concerns and whose cultural and community-focused work has been exhibited widely.

Nicholas holds a BA with Distinction in Architecture from Yale and an MArch from Princeton, and is a Fellow of the American Academy in Rome. His publications include *Local Code: 3,659 Proposals about Data, Design, and the Nature of Cities*(Princeton Architectural Press, 2016)

New Building Planned:

We are currently engaged in an adaptive reuse of the Metropolitan Storage Warehouse on the west side of MIT's campus as a new home for all units of the Department of Architecture. Designed by Peabody & Stearns and built in 1895, the Metropolitan Storage Warehouse is one of the oldest buildings in the neighborhood and is listed on the National Register of Historic Places.

MIT is proposing to redevelop the Metropolitan Warehouse building as a center of interdisciplinary design research and education as well as a new home for the School of Architecture and Planning (SA+P). Elements under consideration include new classroom and design studio space that would significantly increase MIT's exhibition capacity for arts and design programming, new faculty offices, and new areas for meetings and collaborative activities, retail space, and a theater might also be included on the ground floor. The building might also feature a new center for the arts and an independent community makerspace, Project Manus, that would expand the design and fabrication facilities available to the campus. The proposed redevelopment of the structure would endeavor to preserve the historic architecture while creating spaces that enhance the interdisciplinary interactions between SA+P and other schools at MIT.

"The renovation of the Metropolitan Storage Warehouse is intended to generate new opportunities for research, teaching, and innovation at the Institute," says Provost Martin A.

Schmidt. "I look forward to seeing faculty and students, across many disciplines, use the new space to push their fields into the future.

The design architect for the project is Diller Scofidio + Renfro and the architect of record will be Leers Weinzapfel Associates. Pending MIT leadership approvals, construction is currently scheduled to begin in 2022 with occupancy in early 2025. Plans are currently evolving. Many spaces are expected/intended to be shared spaces, growth in available classroom, lecture, exhibition, studio, shop, administrative, and office space is anticipated to be anywhere from 20% to 50%. Current project scope includes 217,000 gsf.

IV. Summary of Preparations for Adapting to [2020 NAAB Conditions](#)
Please provide a brief description of actions taken or plans for adapting your curriculum/ classes to engage the 2020 Conditions.

Massachusetts Institute of Technology, 2020 Response: Click here to enter text.

September 2018, then MIT Architecture Department Head Meejin Yoon was announced as the new Dean of the College of Architecture, Art and Planning of Cornell University. Between September of 2018 and June of 2020, Andrew Scott held the position of Interim Department Head. February 10, 2020 the MIT School of Architecture and Planning announced that Nicholas de Monchaux would be appointed Head of the Department of Architecture beginning July 2020. Nicholas joined the department at that time as Professor of Architecture and Urbanism.

On March 13th MIT students, faculty, and staff switched from an in-person on-campus Spring 2020 semester to a remote/virtual off-campus Spring 20202 semester. Students asked to leave campus and university housing, and unable to return to their homes and/or home countries, were allowed to remain on campus in university provided housing with special permission from the university. Late November 2020, Associate Professor Brandon Clifford, agreed to assuming the roles of M.Arch Director and Architecture +Urbanism Discipline Group Head.

Between COVID-19, a new Department Head, and a new Master of Architecture Director, the necessary time and attention has not yet been available to translate the NAAB 2020 Procedures for Accreditation and the NAAB Conditions for Accreditation into proposed changes to the current Master of Architecture degree curriculum.

That said, discussions and planning have begun to more closely align the relationship between design and research within the Department of Architecture, building upon and/or reinforcing the relationhip between education and research as a significant driver of the Massachusetts Institute of Technologie's primary mission.

The mission of MIT is to advance knowledge and educate students in science, technology, and areas of scholarship that will best serve the nation and the world in the 21st century. The Institute is committed to generating, disseminating and preserving knowledge, and to working with others to bring this knowledge to bear on the world's great challenges. MIT is dedicated to providing its students with an education that combines rigorous academic study and the excitement of discovery with the support and intellectual stimulation of a diverse campus community. MIT seeks to develop in each member of the MIT community the ability and passion for working wisely, creatively, and effectively for the betterment of humankind.

At MIT, pushing the boundaries of knowledge and possibility is our joyful obsession, and we celebrate fundamental discoveries and practical applications alike. As educators, we also value research as a potent form of learning by doing.

Research flourishes in 30 departments across five schools and one college, as well as in dozens of centers, labs, and programs that convene experts across disciplines to explore new intellectual frontiers and attack important societal problems. Our on-campus research capabilities are enhanced through the work of MIT Media Lab, MIT CSAIL, MIT Lincoln Laboratory, the Woods Hole Oceanographic Institution, active research relationships with industry, and a wide range of global collaborations.

In addition to teaching, MIT Architecture faculty are actively engaged in research, practice, and/or a combination of research and practice. Currently, Master of Architecture students work through a collection of "Core" classes during their first 3 semesters of study including: studio, building technologies, history/theory/criticism, professional practice, and computation. With these three semesters of core classes as a foundation, Master of Architecture students spend their remaining semesters pursuing their preferred individual directions, including elective studios, elective

classes in building technology, HTC, and computation, culminating in thesis preparation, and a thesis.

The NAAB 2020 Conditions for Accreditation describes the shared foundational values of Design, Environmental Stewardship, Professional Responsibility, Equity, Diversity, Inclusion, Knowledge and Innovation, Leadership, Collaboration, Community Engagement, and Lifelong Learning.

The NAAB 2020 Conditions for Accreditation describe program criteria as Career Paths, Design, Ecological Knowledge and Responsibility, History and Theory, Research and Innovation, Leadership and Collaboration, Learning and Teaching Culture, and Social Equity and Inclusion. Additionally the

NAAB 2020 Conditions for Accreditation describe student criteria as Health, Safety and Welfare in the Built Environment, Professional Practice, Regulatory Context, and Technical Knowledge, Design Synthesis, and Building Integration.

The MIT Department of Architeture's current thinking, and intial discussions, are exploring the details of building the NAAB's proposed shared foundational values, program criteria, and student criteria, into the intial semesters, in a similar manner to how MIT Architecture currently introduces foundational values, program criteria, and student criteria into their first three semesters. Introducing the NAAB's recommended foundatioal values, program criteria, and student criteria into our MArch student's initial semesters, is an opportunity for students to design their remaining semesters in such a way as to connect their foundational knowledge with the expertise of our faculty. Connecting foundational knowledge with faculty expertise would not only be by way of electives, elective studios, and a thesis, but by way of research that pushes the boundaries of current architectural knowledge and possibility, encouraging students to convene experts across disciplines to explore new intellectual frontiers and attack important societal problems.

V. Appendix *(include revised curricula, syllabi, and one-page CVs or bios of new administrators and faculty members; syllabi should reference which NAAB SPC a course addresses. Provide three examples of low-pass student work for SPCs in the following cases--if there are any SPCs that have not been met for two consecutive visits, or If there are three not-met SPCs in the same realm in the last visit--as required in the Instructions.)*

Massachusetts Institute of Technology, 2020 Update: Must include student work evidence for B.6 Comprehensive Design: Click here to enter text and graphics.

Appendix:

Table of Contents

B.6 Comprehensive Design (See Uploaded Folder)

1_4.153_Design_Studio_3

2_4.153_Design_Studio_3

3_4.153_Design_Studio_3

4.153
Architecture Design Core Studio III

Instructors

Sheila Kennedy
Rami el-Samahy
Cristina Parreño Alonso

Teaching Assistants

Sarah Wagner
Alexandre Beaudouin-Mackay
Cristina Solis

Semester

Fall 2019

Credits

0-12-9 G

Schedule

TRF 1-5

Location

3-415 (Studio)

Prerequisites

4.152 Architecture Design Core Studio II

Open Only To

2nd-year MArch

Requirement of MArch

Interdisciplinary approach to design through studio design problems that engage the domains of building technology, computation, and the cultural/historical geographies of energy. Uses different modalities of thought to examine architectural agendas for 'sustainability'; students position their work with respect to a broader understanding of the environment and its relationship to society and technology. Students develop a project with a comprehensive approach to programmatic organization, energy load considerations, building material assemblies, exterior envelope and structure systems.

4.153
Architecture Design Core Studio III

Syllabus Fall 2019

Sept 7: Launch studio design problem 1 RESOURCE, Introduce & Discuss Core 3 Safety Access Fire Egress Handbook

Sept 8: Introduction to landscape: Conditions of drought, lecture by Prof James Wescoat (Use as a description Jim's notes

Sept 14: Climate Design Workshop by Pratik Raval, Transsolar Climate Engineers (See Pratik's Notes)

Sept 1: Studio design crit of climate design passive building orientation, energy load reduction, site design

Sept 21 and Sept 22: Review team's work in RESOURCE problem

Sept 26 to October 1: Travel to visit site in Valle de Guadaloupe

1 Late afternoon visit to site

4 morning visits to sites: Site field work includes using levels, string and tape measures to create transects taken along the site slope every 20 meters. students work in teams to measure and record topographic changes, note types of local vegitation, be attentive to arroyos and water paths and to shade, wind and solar orientation. large granite boulders are also measured and confirmed against google earth imagery of the site.

8 visits to local wineries: Students speak with local wine makers to understand the challenges of sutinabe wine making and water conservation strategies. students tour wineries and understand how the process works and how climate control is utilized. This includes observations and presentations by technical staff on both passive and active (mechanical) systems for cooling and heating.

Oct 3: Launch Problem 2: Structural Statics taught w./BT faculty Caitlin Mueller and her group of structural/civil engineering students

Oct 13: Climate Design studio crit (P. Raval)

Oct 26: Climate design lecture and studio crit (P. Raval)

Oct 27: Climate design studio crit (P. Raval),
Pin Up, Discuss problem 2 with structural engineers, BT faculty and guests

Nov 7: Review Problem 2

Nov 9: Launch Problem 3 Pushing the Envelope

Nov 16: Climate Design lecture 3 (P. Raval)

Nov 17: Climate Design studio crits (P. Raval)

Nov 21: Problem 3 Pin UP

Nov 28: Pre-Final Review

Dec 13: Final Review

Comprehensive Design: Core 3 Studio + Building Structural Systems II Course Integration Spreadsheet

4.463: Building Technology Systems: Structures and Envelopes // Fall 2019
Instructors: Caitlin Mueller // TA: Chad Loh

Week	Month	Lecture: Monday, 1-150, 9:30-11 AM	Lecture: Wednesday, 1-150, 9:30-11 AM	Lab: Wednesday, 3-133, 10-12 PM	Assigned	Due
01	September		04 Introduction	06 Reading Building Details	HW1	
02		09 Materials & Site I	11 Materials: Concrete & Site II	13 Materials and Carbon Tools	HW2	HW1
03		16 Materials: Concrete II	18 Materials: Timber	20 No Class	HW3	HW2
04		23 Materials: Metallics	25 Visualizing Climate Analysis	27 Design for Climate	HW4	HW3
05	October	30 Construction Methods	02 Design for Multi Objectives	04 Tools for Multi-Objective Design		
06		07 Thermal Mass	09 Structures Review I	11 Project Intro (Non-Core 3)	HW5	HW4
07		14 No Class	16 Structures Review II	18 Tools for Structural Modeling I	HW6	HW5
08		21 Spanning Systems	23 Floor Systems	25 Connections Case Study	HW7	HW6
09	November	28 Lateral Systems	30 Foundations	01 Tools for Structural Modeling II	HW8	HW7
10		04 Materialization Case Study	06 Intro to Envelopes	08 Construction Site Visit	HW9	HW8
11		11 No Class	13 Heat Flow	15 Precedent Presentations	HW10	HW9
12		18 HVAC Systems	20 Glazing Systems	22 Tools for Passive Design		HW10
13		25 Pin-Up	27 Semester Summary	29 No Class	Project Draft I	Project Draft I
14	December	02 Desk Crits	04 Desk Crits	06 Desk Crits		
15		09 Desk Crits (Optional)	11 Desk Crits (Optional)	13 Desk Crits (Optional)		
Final Exam Week		Final Project Review (Date TBD)				Final Project Due

4.153: Architecture Design Core 3 Studio - Baja Winery, Architecture in the Time of Drought
Instructors: Sheila Kennedy, Mariana Ibenez, Rami el Samahy // TA: Sarah Wagner, Alexandre Beaudouin-Mackay, Cristina Solis

Week	Month	Tuesday, 3-415, 1:00 - 5:00 PM	Thursday, 3-415, 1:00 - 5:00 PM	Friday, 3-415, 1:00 - 5:00 PM
01	September		05 Launch studio design problem 1 RESOURCE Introduce & Discuss Core 3 **Life Safety, Fire Egress, Accessibility**, distribution & discussion of *Code Primer Handbook* (B.2, B.5)	06 Introduction to **landscape**: Conditions of **Drought**, Lecture by Prof James Wescoat (B.4)
02		10	12 **Climate Design** Workshop by Pratik Raval, Transsolar Climate Engineers	13 Studio design crit of **climate design passive building orientation, energy load reduction, site design** (B.4, B.8)
03		17	19 Review team's work in RESOURCE problem (B.2, B.5)	20 Review team's work in RESOURCE problem
04		24 Travel to visit site in Valle de Guadaloupe	26 **site** field work includes using levels, string and tape measures to create transects taken along the site slope every 20 meters. students work in teams to measure and record **topographic changes**, note types of local **vegitation**, be attentive to arroys and **water paths** and to **shade, wind** and **solar orientation**. large granite boulders are also measured and confirmed against google earth imagery of the site. (B.4)	27 student speak with local wine makers to understand the challenges of sustinabe wine making and **water conservation strategies**. students tour wineries and understand how the process works and how **climate control** is utilized. This includes observations and presentations by techncial staff on both **passive** and **active (mechanical) systems** for **cooling** and **heating**. (B.8)
05	October	01 Launch Problem 2: **Structural Statics** taught with BT Faculty Caitlin Mueller and her group of structural and civil engineering students	03 Launch Problem 2: **Structural Statics** taught with BT Faculty Caitlin Mueller and her group of structural and civil engineering students	04 Launch Problem 2: **Structural Statics** taught with BT Faculty Caitlin Mueller and her group of structural and civil engineering students
06		08	10	11 Climate Design studio crit (P. Raval)
07		15	17	18
08		22	24 Climate design lecture and studio crit (P. Raval) (B.8)	25 climate design studio crit (P. Raval) (B.8)
09	November	29 Pin-up: Discuss problem 2 with structural engineers, BT faculty and guests	31 Pin-up: Discuss problem 2 with structural engineers, BT faculty and guests	01 Pin-up: Discuss problem 2 with structural engineers, BT faculty and guests
10		05 Review Problem 2	07	08
11		12	14 **Climate Design** lecture 3 (P. Raval) (B.4, B.8)	15 **Climate Design** studio crits (P. Raval) (B.4, B.8)
12		19 Problem 3 Pin UP	21	22
13		26 Pre-Final Review	28	30
14	December	03	05	06
15		10 Final Review	12 Final Review	

SAFETY
ACCESS
EGRESS
FIRE

Instructors:
Sheila Kennedy Coordinator
Rami el Samah
Cristina Parreño Alons

TAs:
Sarah Wagner
Alexandre Mackay
Christina Solis

code primer

CODE
PRIMER

contents

CODE PRIMER:

SAFETY

OCCUPANCY LOADS

- How many people occupy your building and how do they get out, both on a daily basis and in the event of an emergency?
-
- See occupancy classifications in IBC Chapter 3. See table 1004.1.1 (bottom), for occupant load values. Divide the square footage of each occupied space by the number given in the table, and that is the design occupant load for that space.

ADDITIONAL RESOURCES:
- International Building Code (IBC), http://publicecodes.cyberregs.com/icod/ibc/2009/
- IBC, Table 1004.1.1

FROM TABLE 1004.1.1
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	FLOOR AREA IN SQ. FT. PER OCCUPANT
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport Terminal	
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Assembly with fixed seats	See Section 1004.7
Assembly without fixed seats	
Concentrated (chairs only-not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	100 gross
Courtrooms-other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net

FUNCTION OF SPACE	FLOOR AREA IN SQ. FT. PER OCCUPANT
Exercise rooms	50 gross
H-5 Fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Locker rooms	50 gross
Mercantile	
Areas on other floors	60 gross
Basements and grade floor areas	30 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses	500 gross

EXIT PATH SIZING

- Occupant load is critical for determining the width of the exit paths.
-
- Determine your occupant load based on IBC2009 Chapter 10.
-
- Trace the egress routes from every space. As routes merge (as a result of more occupants moving toward the exit), the required width of the egress pathway will increase.

- Circulation spaces are not considered occupied spaces. They serve occupied spaces and derive their occupancy by the total occupant load of spaces served.
-
- 0.2" per occupant gets BIG very FAST!
-
- 44" is the minimum width

ADDITIONAL RESOURCES:
- IBC 2009, Chapter 10

0.2"* or 0.3" per occupant

0.15"* or 0.20" per occupant
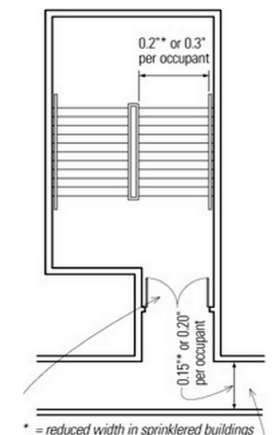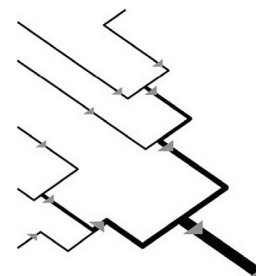
* = reduced width in sprinklered buildings

FIRE SAFETY & EGRESS

- Egress is the action of exiting or leaving a place.
-
- All accessible spaces must have an accessible means of egress (IBC 1007.1)
-
- It is important to remember that the distance one may travel in an exit access, from the most remote point in the room or space to the door of an exit is regulated by the Building Code.
-
- It may be necessary to provide a fire-rated passage, such as an exit passageway, for larger floor areas that may exceed the travel distances for various other means-of-egress components.
-
- Travel distances are not restricted in exits or in the portion of the exit discharge located at grade.

ADDITIONAL RESOURCES:
- IBC 1007.1
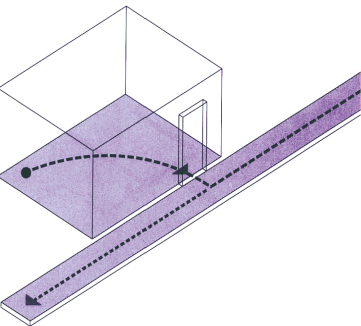
6

FIRE VEHICLE ACCESS

- Fire department ACCESS ROADS shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 ft (46m) from the fire department access roads as measured by an approved route around the exterior of the building or facility.

ADDITIONAL RESOURCES:
- National Fire Protection Association (NFPA) 2012 Fire Code

150' from building

20' Wide Road
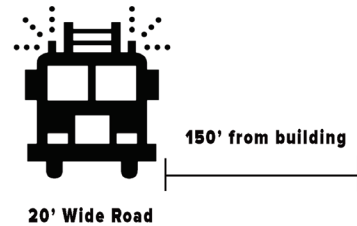
7

EXIT PATHS

- Exit paths CANNOT contain ESCALATORS or ELEVATORS. You need to provide fire stairs.
-
- § 1003.7, see right, does not permit any of these models of transportation to be used as components of a means of egress. The only exception is for elevators used as an accessible means of egress per § 1007.4, where they are provided with standby power and also with operation and signal devices per §2.27 of ASME A17.1

Click to collapse

§ 1003.7

Street
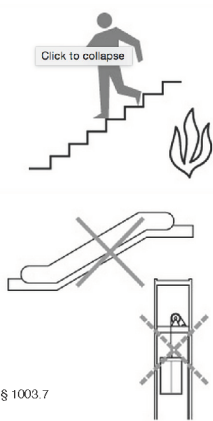
- The means of egress for a small single-story building is usually simple, because the second and third components of the exit path are often combined.
-
- In many one-story buildings, such as retail stores and banks, only the fist portion of the means of egress exists. A corridor may extend to the exterior or wall and open onto a street, yard or other public space. This simultaneously provides the exit access, the exit and the exit discharge to the exterior public way of the building at ground level. The room or space opens directly to the building's exterior without the need of protected corridors or stairways.

Street
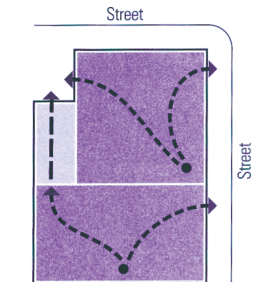
ADDITIONAL RESOURCES:
- IBC 1008.1
- American Society of Mechanical Engineers (ASME) A17.1
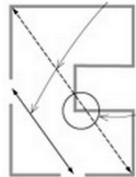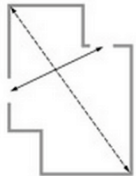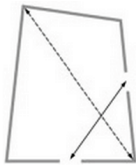
Exit

Exit Access

Yard

Exit Discharge

Street

9

27
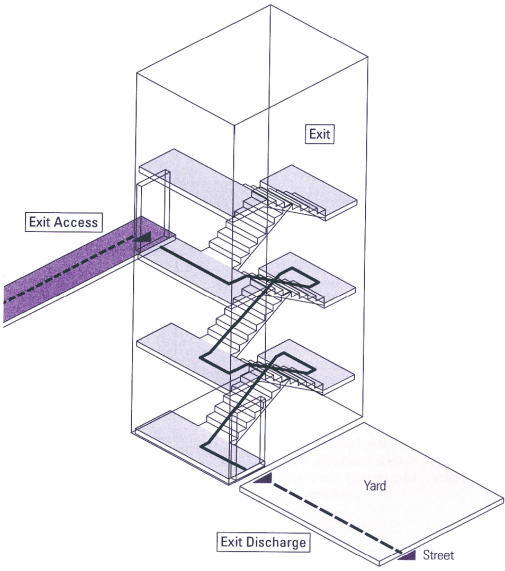
NUMBER OF EXITS

- The number of exits required from each story (IBC Table 1021.1)
- 2 EXITS: 1-500 occupants
- 3 EXITS: 501-1000 occupants
- 4 EXITS: 1000+ occupants
-
- Exits must be placed so that they are separated by at least 1/3 of the diagonal distance from the most remote point in a space, to an enclosed fire-rated exit passageway or vertical enclosure, or to the exterior of the building. This distance cannot exceed 250'
-
- See IBC Table 1016.1 for more specific requirements by occupancy and exceptions.
-
- Up to 50% of the exit discharge may pass through an unobstructed lobby space.
-
- The width of the discharge must be sufficient for the number of occupants served.

ADDITIONAL RESOURCES:
- IBC, Table 1021.1
- IBC, Table 1016.1

10

MAXIMUM TRAVEL DISTANCE

- Ask yourself: how do people get out of a building? To obtain the answer, trace the path to find the EXIT ACCESS TRAVEL and plan your exits accordingly.
-
- For most occupancies, the allowable exit-access travel distance is 200' without a sprinkler system, and from 250' to 300' with a sprinkler system.
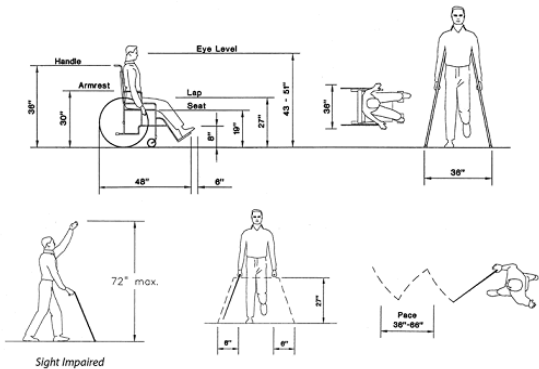
11
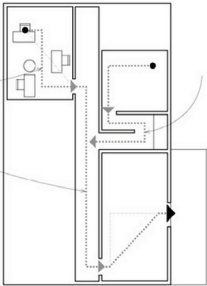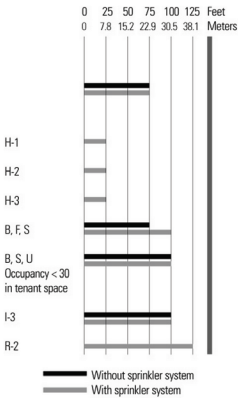
ACCESSIBILITY

ADA

- Entrances MUST ALLOW the passage of wheelchairs easily between double doors. See 521 Code of Massachusetts Regulations (CMR) section 25.
-
- Consider the dimensions taken up by a wheelchair to be 30" x 48" with 36" doors and 36" corridors required for a clear passage. See CMR section 26, attached, for general space clearances.
-
- Accessible bathrooms must be provided, at least one in every public toilet room. This means that if you have multiple stalls in once space, only one needs to be accessible.
-
- An accessible bathroom has a very particular layout and dimensional requirements. See section 30 of 521 CMR. Also, there are code requirements for how many bathrooms you must provide based on occupancy. See IBC Table 2902.1

ADDITIONAL RESOURCES:
- http://www.ada.gov/2010adastandards_index.htm
- Accessibility: Massachusetts Architectural Access Board (521 CMR), http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/aab/aab-rules-and-regulations-pdf.html
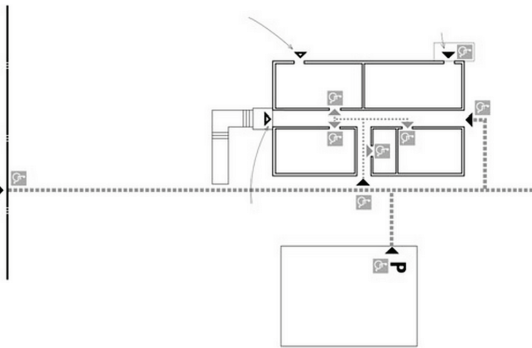- IBC, Table 2902.1

12

ACCESSIBLE ROUTES

- 60% OF ENTRANCES must be wheel chair accessible
-
- 1105 requires that at least one main entrance, and at least 60% of the total of all entrances to a building must be accessible. Where there are separate tenant space entries, the same criteria apply to each tenant space. Te only exceptions are entrances not required to be accessible and service entrances or loading docks that are not the only entry to a building or tenant space. Where service entrances are the only entrance, they are to be accessible.
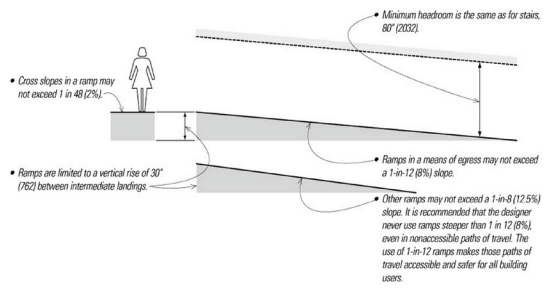
ADDITIONAL RESOURCES:
- http://www.ada.gov/2010adastandards_index.htm
- Accessibility: Massachusetts Architectural Access Board (521 CMR), http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/aab/aab-rules-and-regulations-pdf.html
- IBC, Table 2902.1

13

RAMPS

- All public areas, which includes spaces where people may be employed, are required to be accessible. You can provide access by elevator or ramp.

- An accessible ramp is 1:12 maximum slope, and must have a 5' landing every 30'. See section 24 of 521 CMR. Ramps require handrails. A surface with a pitch of 1:20 or less is considered level, and therefore does not require handrails or landings.

ADDITIONAL RESOURCES:
- Accessibility: Massachusetts Architectural Access Board (521 CMR), Section 24

- Minimum headroom is the same as for stairs, 80" (2032).
- Cross slopes in a ramp may not exceed 1 in 48 (2%).
- Ramps are limited to a vertical rise of 30" (762) between intermediate landings.
- Ramps in a means of egress may not exceed a 1-in-12 (8%) slope.
- Other ramps may not exceed a 1-in-8 (12.5%) slope. It is recommended that the designer never use ramps steeper than 1 in 12 (8%), even in nonaccessible paths of travel. The use of 1-in-12 ramps makes those paths of travel accessible and safer for all building users.

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ELEVATORS

- These are necessary for most projects, normally bundled with mechanical systems, and bathrooms. This is because elevator shafts are good places to take pipe/vents vertically through the building, among other reasons.

- Elevator cabs must be sized to allow wheelchairs to maneuver inside. See section 28 of 521 CMR. Elevator door width must be a 32" minimum clear opening.

- Elevator cab interiors must be 68" wide (parallel to door) and 54" deep from the inside surface of the door to the back of the cab.


15
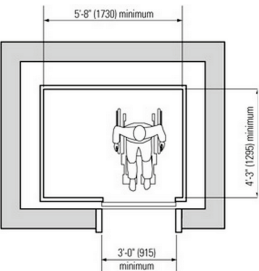
HEAD HEIGHT

- 7'-6" (2286) is the minimum ceiling height for an occupiable space.

- § 1003.1 Protruding objects may extend below the minimum ceiling height, as long as they provide a minimum headroom of 80" for any walking surface, over less than 50% of said surface.

- § 1003.3 governs how much objects may protrude into entrance ways (suspended lights, fixtures, signs, door closers, etc). These objects SHALL NOT OBSTRUCT the clear width of an accessible route or maneuvering space.

- If vertical clearance of an area adjoining an accessible route is reduced, a barrier or warning must be provided to alert the visually or physically impaired.

ADDITIONAL RESOURCES:
- Accessibility: Massachusetts Architectural Access Board (521 CMR), Section 24

MINIMUM 7'6"

16
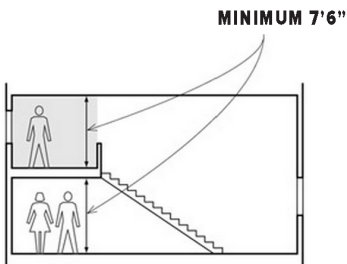
BATHROOMS

ACCESSIBILITY

- AT LEAST ONE type of fixture in each bathroom must meet wheelchair accessibility requirements.

- § 1109.2 requires all toilet rooms and bathing facilities to be accessible. At least one of each type of fixture, element, control, or dispenser in each toilet room is to be accessible.

- The facilities are to provide equal access to all of the functions provided in them.

ADDITIONAL RESOURCES:
- Accessibility: Massachusetts Architectural Access Board (521 CMR), Section 24
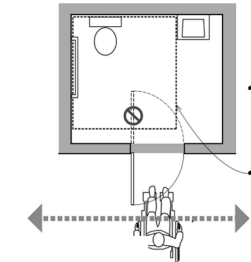

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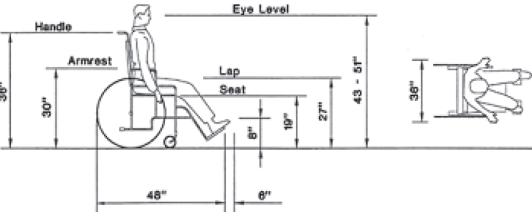
STALL SIZING

- Accessible bathrooms require the following dimensions:
- 36" Minimum path
- 60" x 60" Minimum for accessible stalls

Sink Elevations
Figure 30h
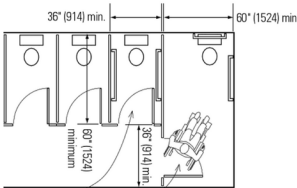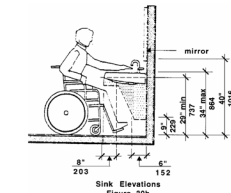
- For private bathrooms, clear space around toilet should be 60" x 56"
-
- Door swings may not interrupt this space.
-
- Bathrooms must be located on accessible paths

ADDITIONAL RESOURCES:
- Accessibility: Massachusetts Architectural Access Board (521 CMR), Section 24

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PLACEMENT GUIDELINES

- EVERY FLOOR must have an accessible bathroom.
-
- The doors must swing OUTWARD at each bathroom entrance.
- Keep single sex bathrooms near one another. Avoid long distances between male and female facilities.

Accessible Unisex Toilet Room
Figure 30d

19

SUMMARY

OCCUPANT LOAD

- Determine your occupant load based on IBC2009 Chapter 10.
- See occupancy classifications in IBC Chapter 3.
- See table 1004.1.1 for occupant load values.
- Divide the square footage of each occupied space by the number given in the table, and that is the design occupant load for that space. (Circulation spaces are not considered occupied spaces, they serve occupied spaces and derive their occupancy by the total occupant load of spaces served.)

EGRESS

- Determine the number of required egresses for each space, and for each story, and for the building.
- Comply with spacing requirements for multiple exit spaces and stories.
- Trace the egress routes from every space. As routes merge (more occupants moving toward the exit), the required width of the egress pathway will increase.
- Comply with maximum distance to a dedicated egress route from each space.
- Comply with the maximum total travel distance to a fire rated egress enclosure.
- Comply with required egress width for number of occupants served. Minimum width is 44".
- Egress widths cannot reduce as they approach an exit (IBC 1005.1)
- Egress cannot be through adjoining spaces which could be locked. Refer to (IBC 1014.2) for more detail
- All accessible spaces must have an accessible means of egress (IBC 1007.1)
- Dimensional Requirements for Egress Components
- Head height min: 7'-6" (IBC 1003.2)
- Width of egress components is 44" min, or 0.2" X occupant load served, whichever is larger (IBC 1005.1)

DOORS

- This applies to all doors that are part of an egress system, not just the exit door:
-   Egress doors must be 36" minimum, 48" maximum. (IBC 1008.1.1)
-   Egress doors must swing in the direction of travel (out) (IBC 1008.1.2)
-   Doors in series must be spaced apart by 48" + width of the door leaf, minimum (IBC 1008.1.8)

STAIRS

- Width of egress stairs is 44" min, or 0.3" x occupant load served, whichever is larger (IBC 1005.1). Accessible egress stairways must be 48" wide between handrails (IBC 1007.3).
- Head height min at stairways, measured from stair nosing: 6'-8" (IBC 1009.2)
- Stair risers must be between 4" and 7", stair treads must be 11" min (IBC 1009.4.2)
- Stairs must have a 48" min landing top and bottom (IBC 1009.5)
- Stairs have a maximum vertical rise of 12'-0" between landings or floors (IBC 1009.7)
- Ramps shall have a 1:12 maximum slope, maximum rise of 30" between landings, and landings shall be 5' long. (IBC 1010)
- Handrails must be provided at both sides of stairs and ramps. Handrails shall be 34-38" above the stair nosing, 1.5" off of the wall, and 1.5" diameter. (IBC 1012)
- Handrails shall extend beyond the top riser by 12 inches, and continue the slope beyond the bottom riser by 1 tread depth.
- Handrails compliant with 521 CMR must also extend an additional 12" horizontally at the bottom.
- Handrail extensions may return to wall or floor.
- Guards must be provided anywhere there is a 30" drop or more. Guards must be min 42" high and not allow a 4" sphere to pass through. (IBC 1013)
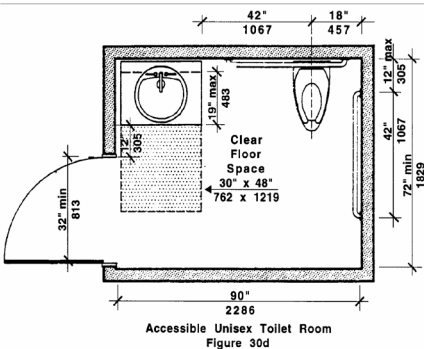
EXITS

- Common Path of Egress Travel = portion of an exit access before there are two distinct paths of egress travel leading to separate exits. This includes the length of egress paths which split and merge. This may not exceed 75'. (IBC 1014.3)
- Number of Exits Required from Spaces (IBC 1015)
-   2 exits: for 50 -500 occupants
-   3 exits: for 501-1000 occupants
-   4 exits: for more than 1000 occupants
- Exits must be placed apart by at least 1/3 the diagonal distance of the area served
- Number of Exits Required from each story (IBC Table 1021.1)
-   2 exits: Stories with 1-500 occupants
-   3 exits: Stories with 501-1000 occupants
-   4 exits: Stories with more than 1000 occupants
- Exits must be placed apart by at least 1/3 the diagonal distance of the area served
- Travel distance from the most remote point in a space, to an enclosed fire-rated exit passageway or vertical enclosure or to the exterior of the building, cannot exceed 250'. (See IBC Table 1016.1 for more specific requirements by occupancy and exceptions).
- Dead ends of more than 20' are not allowed in enclosed corridors.
- Exit Discharge is where the egress components terminate at the exterior of the building. (IBC 1027)
- Up to 50% of the exit discharge may pass through an unobstructed lobby space
- Width of the discharge must be sufficient for the number of occupants served.

ACCESSIBILITY

- Massachusetts Architectural Access Board (521 CMR)
- All public areas, which includes spaces where people may be employed, are required to be accessible. You can provide access by elevator or ramp.
- An accessible ramp is 1:12 max slope, and must have a 5' landing every 30'. See section 24 of 521 CMR. Ramps require handrails. A surface with a pitch of 1:20 or less is considered level and does not require handrails or landings.
- Entrances must allow the passage of wheelchairs easily between double doors.
- See 521 CMR section 25. Consider the dimensions taken up by a wheelchair to be 30"x48", with 36" doors and 36" corridors required for clear passage. See 521
- CMR section 26, attached, for general space clearances.
- Elevator cabs must be sized to allow wheelchairs to maneuver inside. See section 28 of 521 CMR.
- Elevator door width must be 32" clear opening minimum.
- Elevator cab interior must be 68" wide (parallel to door) and 54" deep from door inside surface to back of cab.
- Accessible bathrooms must be provided, at least one in every public toilet room. This means if you have multiple stalls in one space, only one needs to be accessible. An accessible bathroom has a very particular layout and dimensional requirements. See section 30 of 521 CMR. Also, there are code requirements for how many bathrooms you must provide based on occupancy. See w Table 2902.1.

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