Massachusetts Institute of Technology

Interim Progress Report for 2017

Instructions and Template

[Submitted 11/30/2017]

Contents

1. INSTRUCTIONS AND TEMPLATE GUIDELINES

Purpose

Continuing accreditation is subject to the submission of interim progress reports at defined intervals after an eight-year or four-year term of continuing accreditation is approved.

This narrative report, supported by documentation, covers three areas:

1. The program's progress in addressing not-met Conditions, Student Performance Criteria, or Causes of Concern from the most recent Visiting Team Report.
2. Significant changes to the program or the institution since the last visit.
3. Responses to changes in the NAAB Conditions since your last visit (Note: Only required if Conditions have changed since your last visit)

Supporting Documentation

1. The narrative should describe in detail all changes in the program made in response to not-met Conditions, Student Performance Criteria, and Causes of Concern.
2. 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.
3. Provide detailed descriptions of changes to the curriculum that have been made in response to not-met Student Performance Criteria. Identify any specific outcomes expected to student performance. Attach new or revised syllabi of required courses that address unmet SPC.
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 most recent VTR.
2. Accept the interim report as having demonstrated progress toward addressing deficiencies but require the program to provide additional information (e.g., examples of actions taken to address deficiencies).
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 but not more than three years, thereby shortening the term of accreditation. In such cases, the chief academic officer of the institution will be notified and a copy 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 2015 Conditions) is still required.

Deadline and Contacts

IPRs are due on November 30. They are submitted through the NAAB's Annual Report System (ARS). Contact Kesha Abdul Mateen (kabdul@naab.org) with questions.

Instructions

1. Type all responses in the designated text areas.
2. Reports must be submitted as a single PDF following the template format. Pages should be numbered.
3. Reports are limited to 25 pages/10 MBs.
4. Supporting documentation should be included in the body of the report.
5. Student work is not to be submitted as documentation for a two-year IPR.

[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.

2. EXECUTIVE SUMMARY OF 2015 NAAB VISIT

CONDITIONS NOT MET

2015 VTR
None

STUDENT PERFORMANCE CRITERIA NOT MET

2015 VTR
B.4 Site Design
B. 6 Comprehensive Design

CAUSES OF CONCERN

2015 VTR
Human Resources & Human Resources Development–Students
Physical Resources

3. TEMPLATE

Interim Progress Report

Massachusetts Institute of Technology
Department of Architecture
M. Arch. [admitted to year 1 (3 ½ year program): 112 credits]
M. Arch. [admitted to year 2 with advanced entry (2 ½ year): 77 credits]
Last APR submission: September 2014
Year of the previous visit: 2015

Chief administrator for the academic unit in which the program is located:
Hashim Sarkis, Dean

Provost:
Martin A. Schmidt, Provost

President of the institution:
Rafael Reif, President

Individual submitting the Interim Progress Report:
Paul Pettigrew, Coordinator of Undergraduate Initiatives & Manager of Special Projects

Name of individual(s) to whom questions should be directed:
Paul Pettigrew, Coordinator of Undergraduate Initiatives & Manager of Special Projects

Current term of accreditation: 8-year term

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

B.2 Site Design

2015 Visiting Team Assessment: The team found adequate evidence of students' ability to respond to urban site challenges and vegetation (Project Lechmere T stop); however, evidence was not found to support a student's ability to respond to soil, topography, and related watershed (drainage) issues.

This criterion calls for ***ability*** to respond to site characteristics such as soil, topography, vegetation, and watershed in the development of a project design.

MIT, 2017 Response: **MIT, 2017 Response:**

Following the 2015 Team Assessment, site design skills have been enhanced in the Core studio sequence and expanded in Option Studios and Workshops. All MArch students are required to take the three-semester sequence of Core1, Core 2, & Core 3 studios. Option Studios and Workshops are available to all MArch students as both required Option Studios and Elective courses.

Core 1 (first semester MArch) studio, in anticipation of site design as part of the comprehensive design problem, instructors have added a site design project to locate two theatre spaces in the sensitive historic landscape of the Riverway section of Frederick Law Olmsted's Emerald Necklace in Boston. This project requires building siting, circulation, and layout with respect to riparian landforms, soils, and stream channels.

Core 2 (second semester MArch) studio, in anticipation of site design as part of the comprehensive design problem in Core 3, instructors have incorporated urban ecological factors into a design project set in the Bronx, NYC. Issues of watershed (drainage issues), soil & topography are dealt with in a specifically urban site/context/environment, in this case the Southeast Bronx of NYC.

Core 3 (third semester MArch) studio, has integrated into its curriculum a series of lectures, workshops and site design critiques given by landscape architects, climate engineers and water conservation experts. Site design learning subjects addressed in this semester include: regional site and climate studies, site hydrology and water conservation, site vegetation, site topography, grading for building, water drainage, ADA access, and use of landforms in relation to architectural design concepts. In addition, all students in Core 3 visit the physical site where their studio problem is located. This enables students to directly observe and study the landscape of their selected site at both micro and macro scales. Students speak with local site experts, take field notes from 4 consecutive site visits at different times of the day and produce site survey documentation through team-led landscape (site) transects through the studio site.

Please refer to 'B4 site design' under response to 'B5 Comprehensive Design' for further details.

Option Studios (offered after the initial three required semesters of design studio) continue to address environmental dimensions of site planning and site design in projects that are varied in scale and complexity, urban and / or rural, and are located both internationally and within the United States.

Electives MArch students have access to new electives on environmental and landscape systems. For example, one of these restricted electives for MArch students, 4.612 *Islamic Architecture and the Environment*, systematically steps through historical and contemporary analyses of climate, hydrology, geomorphology, soils, vegetation, and environmental systems. In Fall 2017, there are 8 MArch students simultaneously enrolled in both *Islamic Architecture and the Environment* and the Core 3 comprehensive building problem studio. The majority of students in this advanced seminar are MArch students in the Core 3 design studio who connect seminar studies with their comprehensive design studio proposals. The

course included specific lectures on Water Budget Analysis; Landform Analysis; and Vegetation Analysis related to the Core 3 studio project.

B.5 Comprehensive Design

2015 Visiting Team Assessment: The team did not find evidence to support a student's ability to produce a comprehensive design that demonstrated a student's capacity to make decisions across scales addressing the following SPC:

B.2 Accessibility

B.4 Site Design

B.5 Life Safety

B.8 Environmental Systems

The team recognizes the value of the BT 1 Architectural Building Systems and BT 4 Energy courses in Building Design and Core III projects; however, it is concerned that issues remain regarding delivery sequence and evidence that clearly satisfies this criterion in a single, comprehensive project.

This criterion demands ***ability*** to produce a comprehensive architectural project that demonstrates each student's capacity to make design decisions across scales while integrating the SPC.

MIT, 2017 Response:

Several key adjustments have been made to address the points raised in the 2015 NAAB Visiting Team Assessment on Comprehensive Design. Changes in the overall organization of the Core 3 studio have enabled the core class 4.463, Building Structural Systems II (part of the Building Technology curriculum) to be taught in parallel and totally integrated with the development of students' design projects in the Core 3 comprehensive studio. This produces a unique and enriched learning setting where students utilize digital parametric tools to explore and visualize building structure and building envelope options to understand and evaluate building performance, so that comprehensive design work can be delivered consistently across different scales of architectural investigation.

In addition, MIT has established an adjunct teaching position in the field of Climate Engineering, which is currently held by Pratik Raval Associate Director of Transsolar, one of the world's leading professional consultancies on sustainable environmental design. As a Visiting Critic, Raval instructs students in Core 3 and Building Structural Systems II , where he gives lectures, critiques and instructional workshops on criteria for Human Comfort, Passive Building Design with Climate and Energy Load Reduction. These learning subjects in Core 3 are complimented with a set of lectures given in Building Structural Systems II by MIT Professor Les Norford, an expert on energy load reductions (operational and embedded energy) and the optimization of passive and active environmental building systems to reduce carbon emissions.

(Please see the **Core 3 Curriculum Spreadsheet in the Appendix** of this document for a Comparative Outline of integrated curriculum content in Core 3. The spreadsheet identifies by date when areas of the integrated Core 3/BT curriculum are introduced, taught and worked on as part of the overall comprehensive design problem).

In addition to the adjustments MIT has made in Core 3 curriculum, course organization and faculty expertise that are outlined above, the following integrative learning methods and resources have been introduced in the Core 3 curriculum to address the NAAB SPC recommendations provided by the NAAB Visiting team:

B.2 Accessibility

At the beginning of the semester, students receive a Code Handbook that is based upon standards established by The Massachusetts State Building Code (MSBC) 9th Edition. Accessibility principles are presented and integrated in students' design work. These include ADA code mission, principles of accessible routes in buildings and in graded landscape paths, code compliant stairs, ramps and elevators and layouts for accessible bathrooms. Reviews and audits are conducted during the semester to ensure the integration of accessibility principles.

B.4 Site Design

MIT's Core 3 studio has integrated into its curriculum a series of lectures, workshops and site design critiques given by landscape architects, climate engineers and water conservation experts. Site design learning subjects addressed in this semester include: regional site and climate studies, site hydrology and water conservation, site vegetation, site topography, grading for building, water drainage and ADA access and use of landforms in relation to architectural design concepts. In addition, all students in Core 3 visit the physical site where their studio problem is located. This enables students to directly observe and study the landscape of their selected site at both micro and macro scales. Students learn about the site first hand through site visits and discussions with local landscape experts. Students take field notes during four consecutive site visits at different times of the day, and produce site survey documentation through team-led landscape (site) transects through the studio site.

B.5 Life Safety

Discussion of life safety in Core 3 design is integrated with Building Technology workshops and assignments through structural design principles for static and dynamic loads and analysis of construction choices and member sizes and connections for life safety in building structures including principles of lateral bracing and earthquake resistance. In addition to building safety in structures, students are encouraged to consider fire resistant materials for construction, Fire safety and egress and fire vehicle Access, and the design of safe evacuation paths. Core 3 addresses Life Safety concepts on Occupancy loads, exit path sizing, (remote) exit paths, number of exits and maximum travel distance. The integration of life safety in Core 3 studio design projects is supported through desk critiques, reviews and focused workshops with MIT structural engineering faculty and guest experts.

B.8 Environmental Systems

MIT's mission in the Department of Architecture is to prepare architects who can respond to current and future challenges of global climate change and the increase of greenhouse gasses (carbon emissions). The study of emergent, best practices in passive, sustainable environmental building systems is thus emphasized throughout Core 3. learning topics include building design for optimal site orientation, the design of micro-climates, the use of natural daylight and ventilation, ground/water and radiant heating and cooling strategies through thermal mass and solar chimneys. These environmental systems are tested through digital software that visualizes and verifies daylight levels and solar irradiation and problem sets that quantify heat transfer through building envelopes.

Building Structural Systems II (4.463) Overview:

Taught in parallel with the comprehensive Core 3 studio, Building Structural Systems II addresses advanced structural systems, exterior envelopes, environmental systems, and building materials. As the third subject in the required Building Technology MArch curriculum, Building Structural Systems II continues the exploration of structural elements and systems, expanding to include more complex determinate, indeterminate, long-span, and high-rise systems, and a range of structural materials and technologies. The contemporary exterior envelope is discussed with an emphasis on the classification of systems, their performance attributes, climate-based design criteria, and advanced manufacturing technologies. State-of-the-art computational methods and tools are introduced and utilized for structural, envelope, and building system design. The main focus of this course is a semester-long design project, supported by ten short homework assignments. For MArch students in the Core 3 studio, who compose the majority of the students in the class, this project is integrate with the main Core 3 studio project.

Core 3 2017: Fall 2017 (abstracted from the course syllabus)

MIT 4.153, Architecture Design Core 3 is the final semester of the MIT graduate core studio sequence. In Core 3, students develop an architectural design proposal that integrates building construction technologies, material logics and climate and site design considerations in a single comprehensive project. The Core 3 studio works on design programs that engage spaces of production, such as sustainable fish markets, breweries, bakeries and wine making facilities. The functional and thermal requirements of these programs are used to explore the agency of architecture within the changing cultural spectrum of nature, climate change and the built environment. Design exploration, iteration and experimentation that link design concept and technical means of building construction across scales are central to the work of the comprehensive studio at MIT.

In Fall 2017, the Core 3 studio focuses on the architectural design problem of a winery in the Valle de Guadeloupe in Baja, Mexico, a region impacted by drought and climate change. The studio travelled to the Valle to document sites, visit wine making facilities, research site appropriate construction materials, and wine production in the region.

The Valle context brings a set of questions and competing visons for the scale of proposed future development, the role of architecture and brand in an increasingly global wine industry, and the relationship of public space, tourism and regional identity. Students will have the opportunity to explore the architecture of the winery as a platform for design research that takes a position on these matters of concern. Wine making is inextricably embedded in the persistent realities of the Newtonian world. Grapes are heavy, wet and they smell. Students address the functional imperatives of wine production. Grapes must be accessed, harvested, moved, crushed, discarded, mixed, fermented and stored within very specific temperature ranges and thermal conditions. Through digital and analogue analysis, detailed architectural drawings and the fabrication of large-scale models and architectural prototypes, the work of the studio offers an iterative design process of ideation, technical testing and discovery.

The Core 3 studio is taught in parallel with 4.463, Building Structural Systems II to ensure that the delivery of lectures, workshops and assignments on environmental systems, climate considerations, building structure and envelope are fully coordinated with students' studio design projects in Core 3. The study of emergent, best practices in passive, sustainable environmental building systems is integrated throughout Core 3. Lectures, workshops and assignments on climate, site design and design strategies for integrated environmental building systems emphasize material and construction strategies that reduce carbon emissions and architecture's dependency on non-renewable sources of energy. In parallel with their studio design work, students develop a carbon argument supporting their choice of building materials and construction systems and investigate how technical and design considerations of structure, enclosure, daylighting, ventilation and climate design are synthesized in an architectural design concept that is coordinated across scales. In Core 3, architecture students collaborate with their engineering graduate student peers and consult with visiting structural, civil and climate engineers over the course of the semester. Special guests in history and theory, the winemaking industry, critics in architecture, water conservation and specialized building industry fabricators will contribute to the discussion.

Learning Objectives:

At the end of the Core 3 studio, students should be able to translate spatial, material and programmatic ideas into a comprehensive and well developed architectural proposal that reflects an understanding of the relationships between design intention, site orientation and climate strategy, building form and program organization, architectural enclosure and structural principles. Students should demonstrate a thorough control of architectural organization in plan, section and elevation and an understanding of fundamental egress, accessibility and life safety considerations. Students should be able to move fluidly between analogue and digital design tools in a process of sustained, consistent design research that explores and verifies the spatial, aesthetic and performance attributes of their design proposals.

Grading Rubric:

Core 3 grades will be assessed based upon the following criteria:

• Quality of design and development of the Baja Winery project at regional, site, building and detail scales
• Ability to integrate material structural, climate and architectural design strategies
• Ability to explore design options in a consistent, sustained and iterative design process
• Ability to consistently complete required deliverables at pin-ups and reviews
• Auto-critical capability: the student's capacity to critique and advance her/his own work
• Overall collaboration, work effort and progress in studio work

b. Plans for/Progress in Addressing Causes of Concern

- **Human Resources & Human Resources Development-Students**

2015 Visiting Team Comments: 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.

MIT, 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.

SA+P 1.19.17
Hashim Sarkis, Dean, School of Architecture and Planning

Diversity Events: The following are examples of recent initiatives

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. This past summer 16 MITES rising seniors participated in a 6-week architecture & design problem titled *Binary Body Device*.

(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. This past summer 28 rising high school seniors participated in two 3 hour workshops where we asked the question Is it possible to "Teach Architecture" in 3 hours?

Diversity Outreach: The following are examples of recent initiatives

MIT NOMAS (National Organization of Minority Architects Students) is a student chapter of the National Organization of Minority Architects (NOMA). MIT NOMAS seeks to promote diversity and inclusion by, exposing architecture students to the history, culture, and practice of underrepresented minority architects, providing a place where issues of diversity are discussed, and addressing the concerns for minority architecture students. An annual NOMA conference is held each year giving students an opportunity to attend workshops, learn more about the impact of current issues in architecture and diversity, and meet and network with other students and professionals from across the country. A major conference event is the Barbara G. Laurie Annual Student Design Competition which provides architecture students, with an opportunity to showcase their talents to design industry professionals from across the nation. If you want to get involved or want more information on the MIT NOMAS, contact ElDante' C Winston.

MIT NOMAS: Recent Activities & Events

MIT NOMAS (National Organization of Minority Architecture Students) is pleased to introduce POWER LUNCH, a lunch series that will bring together women in MIT's SA&P faculty, as well as women in the greater-Cambridge/Boston area to discuss how being a woman has shaped their experiences within their given field. Each lunch will have a different focus, involve a new set of guests, and conversations will be moderated by students. Please see below for the topics:

2/10: Practice
3/3: Academia/Curriculum
4/14: The City
5/5: Round Table

09/30/17, Women in Architecture Wikipedia Edit-a-thon, Strengthen the presence of women in architecture by learning how to edit and add content to Wikipedia. MIT NOMAS will be joined by Phoebe Ayers (MIT Libraries and Wikipedia expert) and Rebecca Thorndike-Breeze (Lecturer, Writing and

Communication Center and Writing, Rhetoric, and Professional Communication). Please make a Wikipedia account before attending,11 AM: Introduction & Training (with coffee and snacks), 12 PM: Edit-a-thon

05/05/17, NOMAS Power Lunch, Has the Election Changed your architecture? Has the walkout changed your architecture? Has Black Lives Matter changed your architecture? Please join us for the last Power Lunch: Round Table, Friday @ 12 pm in the Long Lounge, Featuring: QSPACE, Duygu Demir, Lucy Liu, Jess Myers, and you! Conversation will be moderated by Emily Watlington and Stephanie Lee.

04/24/17, NOMAS Power Lunch, Women in the City, Do You Feel Safe? Do You Feel Welcome? Where Do You Feel Most Safe? Where Do You Feel Most Welcome? Please join MIT NOMAS TODAY! at noon in Long Lounge for the third Power Lunch. Anne Whiston Spirn, Gabriella Carolini, Ingrid Gould Ellen, Heba Allah Essam E. Khalil, and Tigist Kassahun Temesgen will discuss women in the city. The conversation will be moderated by Jess Myers (MCP '17)!

03/03/17, NOMAS Power Lunch, Women in the Academia, How Many Women Were On Your Last Review? How Many Women Are On Your Syllabus? How Many Woman-Run Architecture Firms Can You Think Of? Please join MIT NOMAS this Friday (3/3) at noon in Long Lounge for the second Power Lunch. Caitlin Mueller, Caroline Jones, Joyce Hwang, and Lauren Jacobi will discuss women in academia and feminism in curriculum. The conversation will be moderated by Emily Watlington (SMarchS)

02/10/17, NOMAS Power Lunch, Women in Practice, hosted by the MIT Chapter of the National Organization of Minority Architecture Students (NOMAS), Jennifer Bonner, Andreea Leers, Sheila Kennedy; Moderated by Jessica Varner

Recruitment Activities: related to recent efforts made by the program to recruit underrepresented minorities, particularly individuals of African-American descent

10/12/17 – 10/14/17, NOMA Conference & College Fair, Houston Texas, the 45th Annual Conference of The National Organization of Minority Architects is the single most important conference for those involved and/or interested in ensuring diversity in the design community. Our conference draws hundreds from across the country. By exhibiting at this year's conference, your organization will gain a competitive edge while you network face-to-face with key decision makers. Your school will also be introduced to our conference attendees in our exhibit hall and throughout the conference. We hope you will be part of this unique conference experience.

37 Students attending the NOMA College Fair provided their names and email addresses indicating an interest in graduate architecture & planning programs at MIT. All 37 students have been contacted individually via email to invite them to our online Graduate Open House. Many of these students are currently being corresponded with individually to answer questions they might have about our architecture & planning programs.

09/23/17, Boston Society of Architects (BSA) College Fair, each year the BSA Architecture/Design College Fair offers students and their families a unique forum for investigating academic and career opportunities in design-related fields. The 2017 BSA Architecture/Design College Fair was held at BSA Space on Saturday, September 23, 2017. Close to 200 prospective students visited with 47 representatives from national and international schools of architecture and design discussing portfolios, admissions, scholarships, curricula, and more.

30+ Students attending the BSA College fair provided their names and email addresses indicating an interest in graduate architecture & planning programs at MIT. Many of the students we met with and talked to identify as underrepresented minorities. All 30+ students have been contacted individually via email to invite them to our online Graduate Open House. Many of these students are currently being corresponded with individually to answer questions they might have about our architecture & planning programs.

10/30/16, AIAS Forum, Career & College Fair, thinking about attending architecture school, interested in seeing what graduate programs are out there, or looking for a job? Attend one of the College + Career Days throughout the country this fall! And don't forget about our very own expo at FORUM this December, BOSTON CAREER DAY, Where: BSA Space, 290 Congress St., Suite 200, Boston, MA, When: Saturday, September 24, 2016 – 10:00am–2:00pm

10/13/16 – 10/15/16, NOMA Conference & College Fair, Los Angeles California, the 44th Annual Conference of The National Organization of Minority Architects is the single most important conference for those involved and/or interested in ensuring diversity in the design community. Our conference draws hundreds from across the country. By exhibiting at this year's conference, your organization will gain a competitive edge while you network face-to-face with key decision makers. Your school will also be introduced to our conference attendees in our exhibit hall and throughout the conference. We hope you will be part of this unique conference experience.

09/25/16, Boston Society of Architects (BSA) College Fair, each year the BSA Architecture/Design College Fair offers students and their families a unique forum for investigating academic and career opportunities in design-related fields. The 2016 BSA Architecture/Design College Fair was held at BSA Space on Saturday, September 25, 2017. Close to 200 prospective students visited with 47 representatives from national and international schools of architecture and design discussing portfolios, admissions, scholarships, curricula, and more.

Statistics: related to recent efforts made by the program to recruit and enroll underrepresented minorities, particularly individuals of African-American descent

2015
MArch URM

Applied: 39
Admitted: 11
Enrolled: 7

Enrolled breakdown:
Hispanic/Latino
Mexico; Hispanic/Latino
Hispanic/Latino; Middle East
Mexico, Spain; Hispanic/Latino
Hispanic/Latino (S. America)
Native Hawaiian or other Pacific Islander
Puerto Rico

2016
MArch URM

Applied: 51
Admitted: 16 + 1 WL
Enrolled: 9

Enrolled breakdown:
Black or African American; American Indian or Alaskan Native; Native Hawaiian or other Pacific Islander
Central America Hispanic/Latino; Asian; White
Hispanic/Latino White
Caribbean; Black or African American; Hispanic/Latino India Asian Europe White
Cuba Puerto Rico Hispanic/Latino White
Hawaii Native Hawaiian or other Pacific Islander Europe White

Mexico Hispanic/Latino
Puerto Rico Hispanic/Latino
Puerto Rico Hispanic/Latino White
Spain Hispanic/Latino Europe White

2017
MArch URM

Applied: 48
Admitted: 6
Enrolled: 4

Enrolled breakdown:
Cuba Hispanic/Latino Europe White
Hispanic/Latino White
Mexico Hispanic/Latino White
Hispanic/Latino White

(For more information on MIT's programs and initiatives on diversity development see the Diversity at MIT website, diversity.mit.edu)

- **Physical Resources**

2015 Visiting Team Comments: The program is housed on several levels in a campus landmark (Rogers Building). Space is limited and coveted. Current space allocation appears adequate; however, there is no permanent gallery for student/alumni/faculty display or presentations, which is unexpected in a program having MIT's reputation.

MIT, 2017 Response:

Since the 2015 team assessment, two new permanent gallery spaces have been added to a third existing gallery (not noted in the 2015 report). All three galleries are for student/alumni/faculty display or presentation.

The Dean's Gallery is a new space dedicated to showing the work of students, faculty, and alumni. Since its opening, The Dean's Gallery has put together three exhibitions:

05/01/17 – 04/30/18, In Our Present Condition, curated by Laura Knott and Nomeda Urbonas, When Professor Gyorgy Kepes founded the Center for Advanced Visual Studies (CAVS) in 1967, he provided a home at MIT for "artistic tasks that have authentic roots in our present condition." For Kepes, that condition meant intense engagements among art, science and technology. The lineage of CAVS continues in SA+P's Program in Art, Culture and Technology (ACT). An academic and research center for the visual arts, ACT provides global leadership in critical, culturally engaged artistic practice.
As part of SA+P's celebration of the founding of CAVS, this exhibit of works by alumni in the visual arts expands on Kepes' vision, encompassing a "present condition" of urgent political, social and cultural needs. With participation of Haseeb Ahmed, Allara and Calzadilla, Giacomo Castagnola, Alia Farid, Sohin Hwang, Marisa Jahn, Pia Lindman, Jill Magid, Matthew Mazzotta, Lauren McCarthy, Hiroharu Mori, Michael Rakowitz, Jae Rhim Lee.

05/04/16 – 03/09/17, Space of Learning, curated by Nomeda Urbonas with design assistance from Lucy Siyao Liu, The School of Architecture + Planning investigates the "Space of Learning" in a new exhibit, featuring research from faculty and students that explores the place-based collaborations of the MIT research community. Space of Learning includes contributions from Anmahian Winton Architects, Lara Baladi, Timothy Carey, Neil Gershenfeld, Huma Gupta, Caleb Harper, Caroline Jones & Stefan

Helmreich, Sheila Kennedy, Alan Kwan, Collective LOK, Takehiko Nagakura, Tobias Putrih, Carlo Ratti, Michel Resnick, Rafi Segal & David Salazar, Gediminas Urbonas, and Jessica Varner.

04/01/15 – 05/03/16, Dean's Show, Exhibition concept: Hashim Sarkis, Dean, SA+P Curator: Nomeda Urbonas, ACT research affiliate Installation: Seth Avecilla, ACT fabrication associate Assistants: Kristopher Swick, BSA'15; Jie Zhang, MArch'15, Exhibited SA+P faculty included: Neri Oxman in collaboration with Christoph Bader and Dominik Kolb, Azra Aksamija, Sheila Kennedy, Design Earth (Rania Ghosn and El Hadi Jazairy), Ana Miljacki, Miho Mazereeuw/Urban Risk Lab, Roy Shilkrot & Pattie Maes, Cristina Parreño Architecture, Anne Winston Spirn, Sarah Williams, Meejin Yoon / Höweler + Yoon Architecture, Renée Green

The Lobby 9 Gallery is a new gallery space of 3,332 sf. (approx..1500 sf. useable due to ADA constraints) for exhibitions dedicated to the SA+P community. The Lobby 9 space will be used for end-of-year thesis exhibitions dedicated each spring to student work. Curatorial control of the new Lobby 9 Gallery is handled by the SA+P Dean's Office.

The Keller Gallery was possibly overlooked by the 2015 Visiting Team Comments. The 348 sf. Keller Gallery was established in the fall of 2011 with a generous donation of materials and labor in kind from Shawn Keller, principal with C.W. Keller & Associates, an architectural millwork, furniture and design firm. A vest-pocket space at about 200 square feet, the gallery shows a steady stream of faculty, student and experimental work, including work from alumni and friends. Located in MIT Building 7, Room 408, it is free and open to the public Monday through Saturday from 9AM to 6PM.

Keller Gallery exhibitions dating back to March of 2015 include:

11/17/17 – 01/20/18, Big Data Visualization, and Society, curated by SA+P faculty member Sarah Williams, The Big Data, Visualization, and Society course (Spring 2016) worked with cell phone and social media data provided by the city of Riyadh, Saudi Arabia to visualize policy questions around the development of Riyadh's subway system, which is currently under development. Students analyzed the data with support from MIT's Civic Data Design Lab (CDDL), HumNet Lab, Center for Complex Engineering (CCES) and King Abdulaziz City for Science and Technology (KACST).

02/16/17 – 04/07/17, Some Evidence of Real Alternatives, 2017 MArch Thesis Work, it seemed not too long ago that alternative realities were indeed the purview of all architectural projects. But as that notion (and term) got swept into the vortex of contemporary media and politics, swirling now dangerously close to the drain, real alternatives seem ever more urgently necessary. The 2017 MArch Theses included here operate on the edge where contemporary environmental, cultural and political transformations meet the discipline and the profession of architecture. Their premises are radically real and their conception of architectural agency hopeful.

11/05/16 – 11/11/16, September 55, 10-minute Virtual Reality Documentary of the Istanbul Pogrom, curated by PHD student Cagri Hakan Zaman, September 55 is a 10-minute virtual-reality documentary of the Istanbul Pogrom, a government-initiated organized attack on the minorities of Istanbul on September 6-7, 1955. This interactive installation places the viewer in a photography studio in the midst of the pogrom, allowing one to witness the events from the perspective of a local shop-owner.

09/23/16 – 11/01/16, Thinness, featuring the work of SA+P faculty member Joel Lamere's practice Gunadi Lamere Design (GLD), Thinness revels in the enduring power of the one-dimensional. Lines – here acting as projected proxies for the radically thin surfaces that have preoccupied Gunadi Lamere Design's (GLD) research and installation work – prescribe geometries, define volumes, isolate atmospheres and impart structure. In deploying singular thin surfaces to such disparate ends, the work challenges traditional notions of architectural enclosure and its representation, eschewing aggregate thickness for bare linearity.

05/13/16 – 06/05/16, Mangled Machines, Missing Stars, Windswept Ashes and a Little Red Trike, The Program in Art, Culture, and Technology (ACT) second year graduates present spats and seductions, dialogues and debates, between people and their built environment.

04/07/16 – 05/06/16, The Contingent Space of Work, curated by PHD student Christianna Bonin, to call oneself a worker, or to label an activity as work and designate a space for it, is to move away from the stigma of amateurism and toward political action, economic viability, social relevance, and acceptance. Featuring artistic and design contributions from the current issue of thresholds, the MIT Department of Architecture's annual journal, The Contingent Space of Work presents creative responses to the mercurial designations of work, worker, and workspace within the contemporary rise of digital working platforms and immaterial products.

03/10/16 – 04/01/16, Coding the Third Condition, curated by Assistant Professor of Landscape Architecture Fadi Masoud, Cities today are the cumulative product of codes and standards that have directed how people use, construct, and shape their environments. By extrapolating the legends of land use maps, this timeline seeks to expose how landmark codes and ordinances have shaped the North American landscape. The legend in isolation, free from its associations, reveal the often reductive, scientific rationality of the code in contrast to the fluid networks of landscapes and communities. Charting the historical development of codes and standards, we see two conditions emerge over time.

02/01/16 – 02/20/16, Landlines: Drawing Terrain, curated by post professional research degree student Lucy Liu, Landlines: Drawing Terrain is an exhibition of drawings that reflect on the capacity of line to represent a contentious surface. There are eight methods of representing islands in this exhibition; the grouping of drawings positions these methods in relation to one another. There is a total of 24 drawings and 6 animations, organized into eight sets: projecting, hatching, growing, graining, slitting, animating, dashing, and boiding.

11/12/15 – 01/04/16, Neck of the Moon, curated by SA+P staff member Irina Chernyakova, “Orbital debris poses a risk to continued reliable use of space-based services and operations and to the safety of persons and property in space and on Earth,” observe both NASA and the European Space Agency. What is space debris? Space debris is the collection of defunct objects such as satellite explosions and collisions, spent rocket stages, old satellites and fragments from disintegration, all of which orbit the Earth. Such material byproducts of the space age and the information age pose collision risks with operational space objects.

03/02/15 – 04/18/15, Disciplined Negotiations with the Architectural Type, curated by SA+P, the exhibit compares two seemingly disparate projects, Ordos 20+10 and the New Hampshire Retreat, to reveal their common preoccupation with the figural clarity of architectural typology. These two projects negotiate the constraints and conventions of type by introducing the bespoke, the aberrant, and the unique in addressing the specificities of each architectural challenge in inventive ways.

c. 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).

MIT, 2017 Response:

• **Faculty retirement/succession planning:** No faculty retirements or succession planning activities to report.

• **Administration changes (dean, department chair, provost):** No administration changes (dean, department chair, provost) to report.

• **Changes in enrollment (increases, decreases, new /external pressures):** No changes to enrollment to report (increases, decreases, new/external pressures).

• **New opportunities for collaboration:** No new opportunities for collaboration to report.

• **Changes in financial resources (increases, decreases, external pressures):** No changes in financial resources (increases, decreases, external pressures) to report.

• **Significant changes in educational philosophy:** No changes in educational philosophy to report.

• **Changes in physical resources (e.g., deferred maintenance, new building planned, cancellation of plans for new building):** No changes to physical resources (e.g., deferred maintenance, new building planned, cancellation of plans for new building) to report (other than what is discussed above under "Physical Resources."

d. Summary of Activities in Response to Changes in the NAAB Conditions

MIT, 2017 Response:

Our Interim Progress Report addresses Student Performance Criteria Not Met and Causes of Concern identified within the National Architectural Accrediting Board's March 4, 2015 report. Adjustments made to the MIT Master of Architecture Program and MIT Department of Architecture facilities and practices not only take into account the NAAB's previous concerns, but also the 2014 Conditions for Accreditation approved July 18, 2014, effective April 1, 2015. We continue to monitor NAAB activities in order to anticipate future procedures and expectations for accreditation including the NAAB Procedures for accreditation approved May 6, 2015.

e. 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)

MIT, 2017 Response:

Appendix Table of Contents:

p. 18

Spreadsheet as a comparative outline of integrated curriculum content in Core 3. The spreadsheet identifies by date when areas of the integrated Core 3/BT curriculum are introduced, taught and worked on as part of the overall comprehensive design problem.

p. 19 - 23

Code Handbook distributed to Core 3 students at the beginning of the semester based upon standards established by The Massachusetts State Building Code (MSBC) 9th Edition. Accessibility principles are presented and integrated in students' design work. These include ADA Code mission, principles of Accessible Routes in buildings and in graded landscape paths, code compliant Stairs, Ramps and Elevators and layouts for Accessible Bathrooms. Reviews and audits are conducted during the semester to ensure the integration of Accessibility principles.

p. 24 - 25

Since the 2015 team assessment, two new permanent gallery spaces have been added to a third existing gallery not noted in the 2015 report. All three galleries are for student/alumni/faculty display or presentation. The included images attempt to provide a visual record to go along with the written descriptions included with our Interim Report.

Comprehensive Design: Core 3 Studio + Building Structural Systems II Course Integration Spreadsheet						
4.463: Building Structural Systems II // Fall 2016						
Instructors: Caitlin Mueller, Andrea Love // TA: Renaud Danhaive						
Week	Month	Lecture: Monday, 1-150, 9:30-11 AM	Lecture: Wednesday, 1-150, 9:30-11 AM	Lab: Wednesday, 5-233, 11-1 PM	Assigned	Due
	September					
01			06 Introduction	06 Reading **Building Details**	HW1	
02		11 **Materials** & **Site** I	13 **Materials** & **Site** II	13 Tools for **Material** Exploration	HW2	HW1
03		18 **Carbon** & **Energy**, **Thermal Mass**	20 **Climate Analysis** & Design	20 Tools for **Climate Analysis**	HW3	HW2
04		25 Case Study: **Materials** & **Fabrication**	27 Multi-Objective Design	27 Tools for Multi-Objective Design	HW4	HW3
	October					
05		02 Project Introduction (non-Core 3)	04 Project Development (non-Core 3)	04 Project Desk Crits (non-Core 3)		
06		09 Columbus Day Holiday // No Lecture	11 **Structural Spanning Systems**	11 Tools for **Structural Modeling** I	HW5	HW4
07		16 **Structural Floor Systems**	18 **Structural Vertical Systems**	18 Tools for **Structural Modeling** II	HW6	HW5
08		23 **Structural Lateral Systems**	25 **Structural Connections**	25 Tools for **Structural Connection** Design	HW7	HW6
	November					
09		30 **Foundations** and **Geotech Engineering**	01 Introduction to **Envelopes** & **Glazing**	01 **Site Visit**	HW8	HW7
10		06 **Air**, **Water**, **Heat**	08 **Water Management**	08 Tools for **Hygrothermal Analysis**	HW9	HW8
11		13 **Thermal Performance I**	15 Case Studiy: **Envelope Performance**	15 Tools for **Thermal Performance** Tour	HW10	HW9
12		20 **Thermal Performance II**	22 **Envelope Design** Case Studies	22 **Envelope Performance** Tour		HW10
	December					
13		27 **Technical Drawings**	29 Semester Summary	29 Project Pin-Up		Project Draft I
14		04 Desk Crits	06 Desk Crits	06 Desk Crits		
15		11 (Core 3 Final Review on 12/13, Desk Crits (Optional)	13 Desk Crits (Optional)	13 Desk Crirts (Optional)		Final Project Due
Final Exam Week		Final Project Review (Date TBD)				
4.153: Architecture Design Core 3 Studio - Baja Winery, Architecture in the Time of Drought						
Instructors: Sheila Kennedy, Mariana Ibenez, Rami el Samahy, Pratik Raval						
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		
	September					
01			07 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)	08 Introduction to **landscape**: Condtions of **Drought,** Lecture by Prof James Wescoat (B.4)		
02		12	14 **Climate Design** Workshop by Pratik Raval, Transsolar Climate Engineers	15 Studio design crit of **climate design** **passive building orienation**, **energy load reduction**, **site design** (B.4, B.8)		
03		19	21 Review team's work in RESOURCE problem (B.2, B.5)	22 Review team's work in RESOURCE problem		
04		26 Travel to visit site in Valle de Guadaloupe	28 **site** field work includes using levels, string and tape meaures 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 oreintation**. large granite boulders are also measured and confirmed against google earth imagery of the site. (B.4)	29 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 technical staff on both **passive** and **active (mechanical) systems** for **cooling** and **heating**. (B.8)		
	October					
05		02 Launch Problem 2: **Structural Statics** taught with BT Faculty Caitlin Mueller and her group of structural and civil engineering students	05 Launch Problem 2: **Structural Statics** taught with BT Faculty Caitlin Mueller and her group of structural and civil engineering students	06 Launch Problem 2: **Strauctural Statics** taught with BT Faculty Caitlin Mueller and her group of structural and civil engineering students		
06		10	12	13 Climate Design studio crit (P. Raval)		
07		17	19	20		
08		24	26 Climate design lecture and studio crit (P. Raval) (B.8)	27 climate design studio crit (P. Raval) (B.8)		
	November					
09		31 Pin-up: Discuss problem 2 with structural engineers, BT faculty and guests	02 Pin-up: Discuss problem 2 with structural engineers, BT faculty and guests	03 Pin-up: Discuss problem 2 with structural engineers, BT faculty and guests		
10		07 Review Problem 2	09 Launch Problem 3, Pushing the Envelope (B.8)	10		
11		14	16 **Climate Design** lecture 3 (P. Raval) (B.4, B.8)	17 **Climate Design** studio crits (P. Raval) (B.4, B.8)		
12		21 Problem 3 Pin UP	23	24		
	December					
13		28 Pre-Final Review	30	01		
14		05	07	08		
15		12	13 Final Review			

MIT
CORE III
FALL 2017

SAFETY ACCESS EGRESS FIRE

Instructors:
Sheila Kennedy, Coordinator
Mariana Ibañez
Rami el Samahy

TAs:
Maya Shopova
Danniely A. Staback
Tyler R. Swingle

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

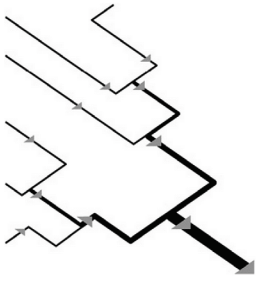
FUNCTION OF SPACE	FLOOR AREA IN SQ. FT. PER OCCUPANT
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport Terminal Baggage claim Baggage handling Concourse Waiting areas	 20 gross 300 gross 100 gross 15 gross
Assembly Gaming floors (keno, slots, etc.)	 11 gross
Assembly with fixed seats	See Section 1004.7
Assembly without fixed seats Concentrated (chairs only-not fixed) Standing space Unconcentrated (tables and chairs)	 7 net 5net 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 Shops and other vocational room areas	 20 net 50 net

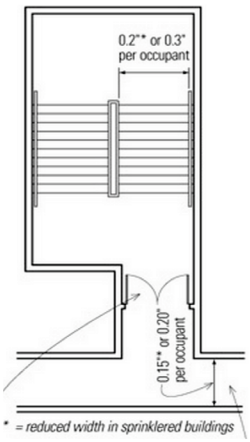
FUNCTION OF SPACE	FLOOR AREA IN SQ. FT. PER OCCUPANT
Exercise rooms	50 gross
H-5 Fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Institutional areas Impatient treatment areas Outpatient areas Sleeping areas	 240 gross 100 gross 120 gross
Kitchens, commercial	200 gross
Library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



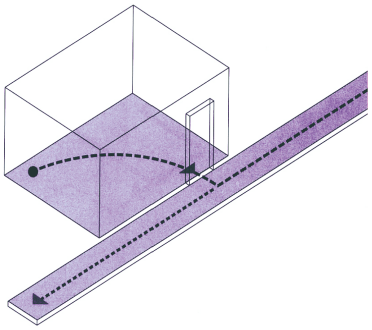


FIRE SAFETY & EGRESS

- 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

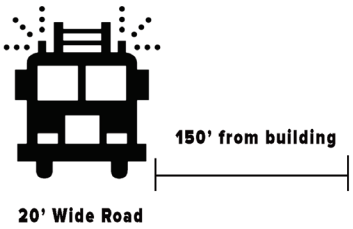


FIRE VEHICLE ACCESS

- 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.

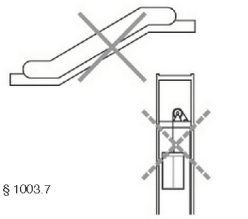
ADDITIONAL RESOURCES:

- National Fire Protection Association (NFPA) 2012 Fire Code



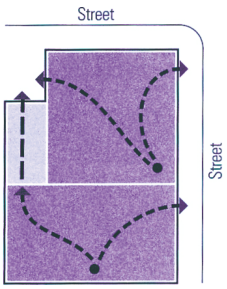
EXIT PATHS

- 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



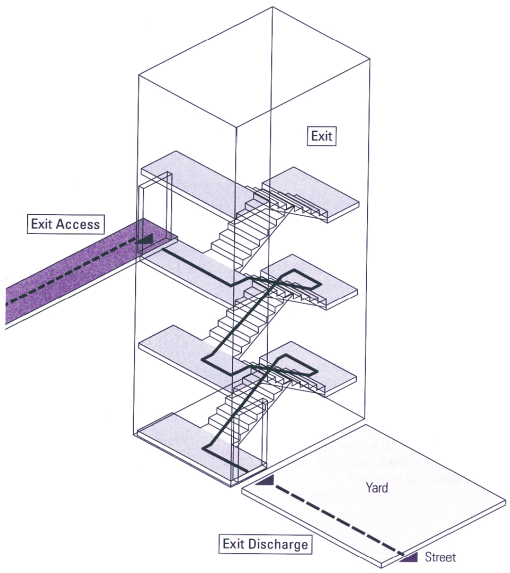
§ 1003.7

- 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 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.



ADDITIONAL RESOURCES:

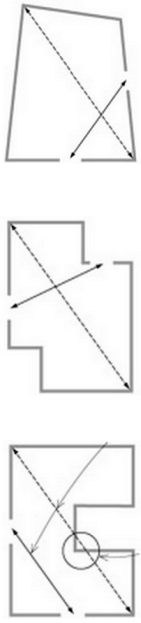
- IBC 1008.1
- American Society of Mechanical Engineers (ASME) A17.1



NUMBER OF EXITS

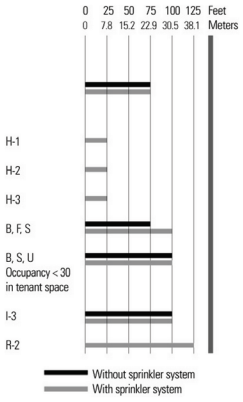
- The number of exits required from each story (IBC Table 1021.1)
- 2 EXITS: 1-500 occupants
- 3 EXITS: 501-1000 occupants
- 4 EXITS: 1000+ occupants
-
- Exits must be placed so that they are separated by at least 1/3 of the diagonal distance from the most remote point in a space, to an enclosed fire-rated 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.

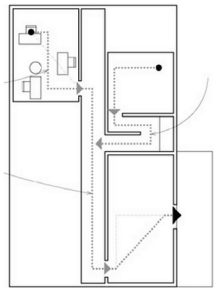
ADDITIONAL RESOURCES:
- IBC, Table 1021.1
- IBC, Table 1016.1



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.



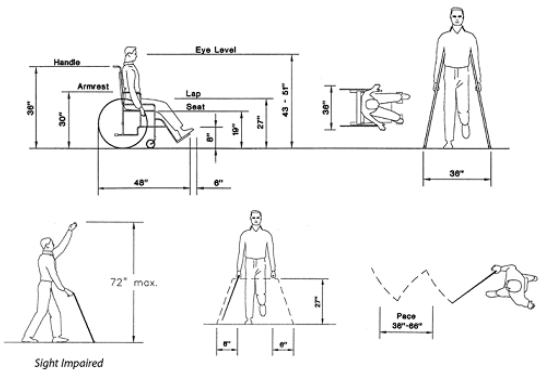


ACCESSIBILITY

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

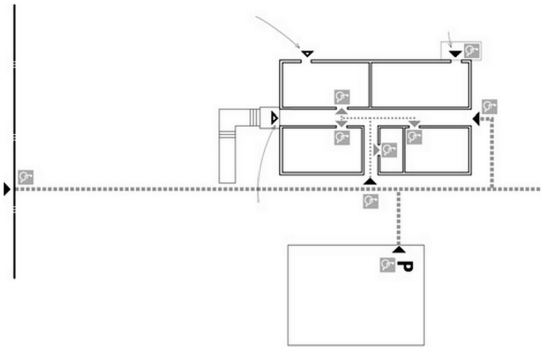
ADDITIONAL RESOURCES:
- http://www.ada.gov/2010adastandards_index.htm
- Accessibility: Massachusetts Architectural Access Board (521 CMR),http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/aab/aab-rules-and-regulations-pdf.html
- IBC, Table 2902.1



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

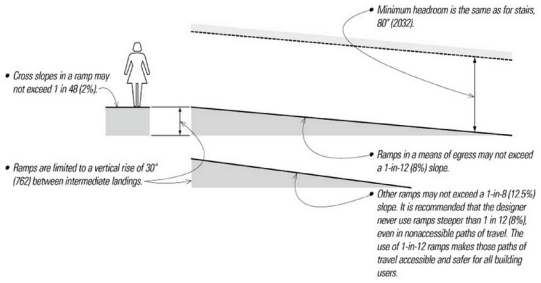


RAMPS

- 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.

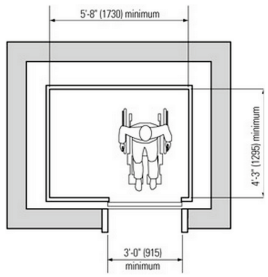
ADDITIONAL RESOURCES:

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



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.

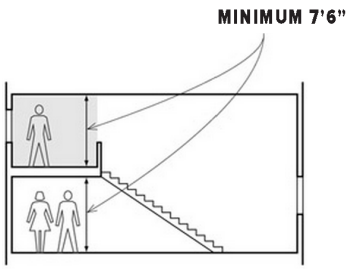


HEAD HEIGHT

- 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



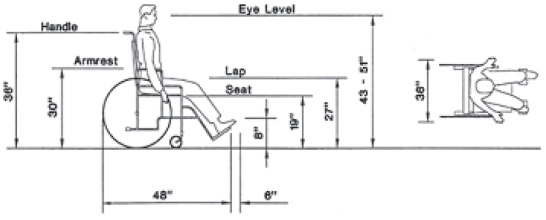
BATHROOMS

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.

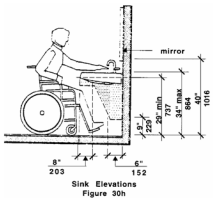
ADDITIONAL RESOURCES:

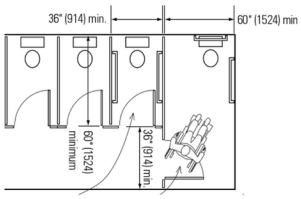
- Accessibility: Massachusetts Architectural Access Board (521 CMR), Section 24



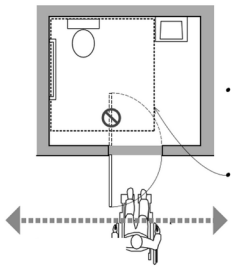
STALL SIZING

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





- 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

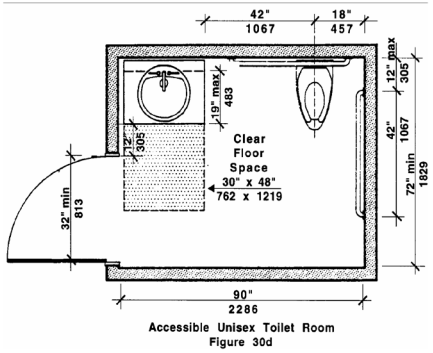


ADDITIONAL RESOURCES:

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

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.



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)

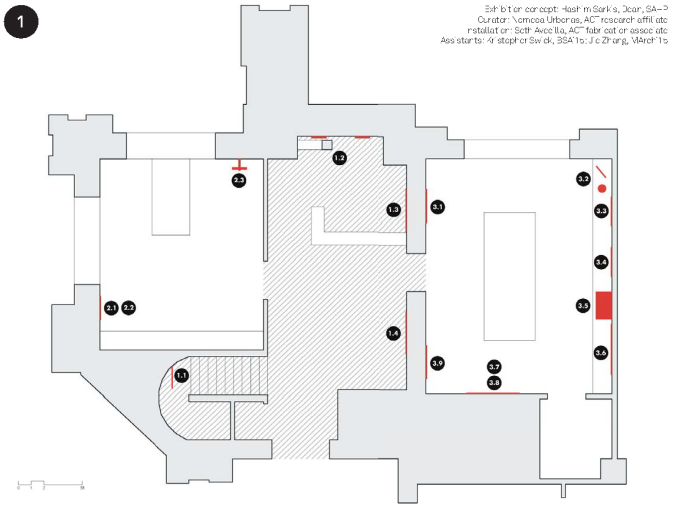
EXITS

- 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 exists: 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.

1



1.1
Neri Oxman
In collaboration with Christoph Bader and Dominik Kolb; produced by Stratasys on the Objet500 Connex3 3D Production System

Ottaared, from the Wanderers collection
Photo credit: Yoram Reshef. Photo courtesy of Neri Oxman.

1.2
Azra Aksamija

Cultural Transfers
2012

The project consisting of a range of traffic signs, attempts to broaden the established essentialist perceptions of Islamic identities towards a more inclusive multicultural society.

1.3
Sheila Kennedy / Kennedy & Violich Architecture, Ltd.

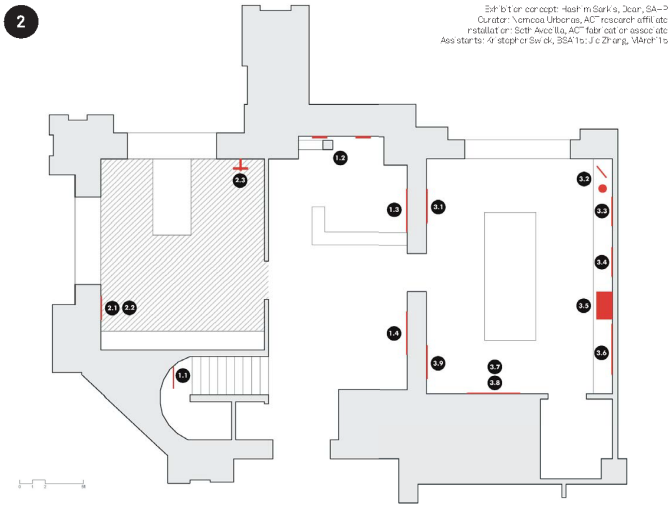
IBA Soft House
Hamburg, Germany
2013

Movable curtains in the Soft House interior distribute clean energy and light.
Image by: Michael Moser

1.4
Design Earth (**Rania Ghosn** and El Hadi Jazairy, with Yu-Hsiang Lin, Dongye Liu, Jia Weng)

Belly of a Mountain
2013
Drawing together urban infrastructure and the geography of the city, Belly of A Mountain organizes Rio de Janeiro's expanding urban logistics into a series of excavated grottos within the iconic Corcovado Mountain.

2



2.1 (upper)
Neri Oxman
In collaboration with Christoph Bader and Dominik Kolb; produced by Stratasys on the Objet500 Connex3 3D Production System.

Al-Qamar, from the Wanderers collection
Photo credit: Yoram Reshef. Photo courtesy of Neri Oxman.

2.2 (lower)
Neri Oxman
In collaboration with Christoph Bader and Dominik Kolb; produced by Stratasys on the Objet500 Connex3 3D Production System.

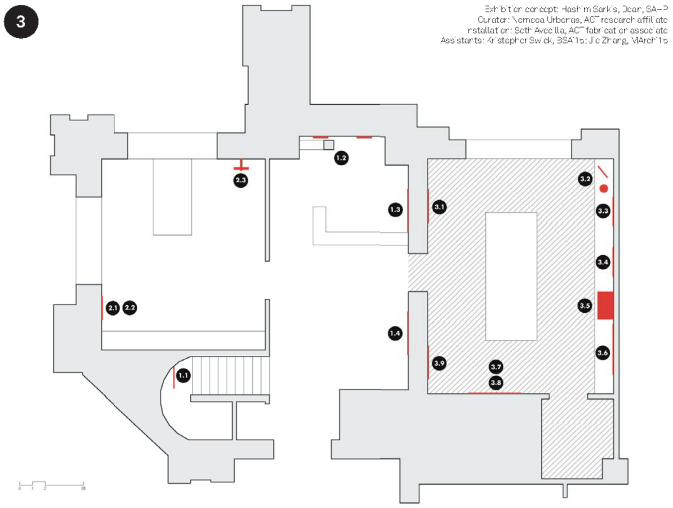
Mushtari, from the Wanderers collection
Photo credit: Yoram Reshef. Photo courtesy of Neri Oxman

2.3
Ana Miljacki,
In collaboration with Sarah Hirschman

Project_Rorschach
2014

Grouped by meme, ubiquitous images of architecture are layered into ten revised Rorschach cards. No longer in fact inkblots, but retaining the symmetry formerly constitutive of their process of figuration (which in turn ties back to the symmetry that governs most of the organic world and symmetry that defamiliarizes in multiplication even our own faces), these architectural Rorschach images are super-saturated compositions of chimneys, robotic bricks, cantilevers, house piles, hyper-towers, circles, phalluses, beany blobs, single surfaces, diagrids and stacks. They are assembled precisely from the archives that are available for all of us to draw on when thirsty – Archinect, Archdaily, Dezeen, etc. – and allowed to operate in the low-res flatness that is their currency.

3



3.1
Miho Mazereeuw / Urban Risk Lab

Risk Dynamics
2015

Global Hazards interlaced with Mercator Projection Earth Vegetation Map. Interrelationship of tectonic plates and earthquake zones, watersheds and flood occurrences, hurricanes and cyclones, vegetation, urban and rural areas. Based on WRI Aqueduct Water Risk Data 2013, Natural Earth Dataset 2013, UNEP/GRID-Europe Tropical Cyclone Tracks Data1975-2007,UNEP/GRI Database for Earthquake Intensity Zones 2002, A true color earth dataset including seasonal dynamics from MODIS.
Reto Stöckli, NASA Earth Observatory December 2014

3.2
Roy Shilkrot and Pattie Maes

FingerReader: A wearable assistive device for reading print
2014-2015

The FingerReader assists people who have visual impairments or reading disabilities by reading any text they point their finger at and guiding them with auditory-tactile feedback.

⟶ To be continued

3.3
Cristina Parreño Architecture
Research Assistant: Sixto Cordero. Collaborators: Dohyun Lee, Stefan Elsholtz, Nazareth Ekmekian and Haydee Casellas.

Tectonics of Transparency (The Wall)
International Design Center at MIT. Cambridge, MA, USA
2014

"The Wall" is a glass structure which geometry changes in appearance according to the position of the viewer. The architectural installation aims to generate high compressive strength as a vehicle to produce spatial environments that are specific to the glass medium. The use of glass as the only material touches on issues of perception, privacy, transparency, light and opacity. In turn, the artifact has the potential to exude multiple interpretations.

Photo credit: John Horner and Jane Messinger

3.4
Anne Whiston Spirn

Threshold
1990

a haiku
Glowing, shadows show
"What is there, hidden and real" --
Eternal threshold.

Quotation from Seamus Heany.

3.5
Meejin Yoon / Höweler + Yoon Architecture

Emporium Towers
Shanghai, China
2010

Emporium Towers is a residential development in Shanghai consisting of two towers of residential units. The unit mix, consisting of a range of different unit types is essential to the commercial success of the development, and the motivation behind the unique facade treatment. Each floor consists of a different size and number of units, resulting in a pixelated expression of the balconies on the facade. The resulting pattern expresses the diversity of the residential unit mix as a smooth transformation from bottom to top. The disposition of units and the resulting corner condition creates a tapered building profile, adding to its signature expression on the skyline.

3.6
Azra Aksamija

Shingle-Mihrab Prayer space of the first Islamic Cemetery in Vorarlberg, Altach, Austria
2012

Constructed of local materials in the context of regional craft traditions, the Qibla (the wall-curtain and rugs) draws on motifs of Islamic religious architecture, symbolically uniting the different cultures of the Vorarlberg region.

3.7 , 3.8
Sarah Williams

We Are Here Now
2011

Sites such as Foursquare and Facebook allow us to spatially mark our explorations in the city, creating rich databases that hold digital imprints of our interactions. To analyze these traces, the Foursquare and Facebook Application Programming Interfaces (API's) were used to access location-based data to determine where social media users broadcast that they are "Here Now". Analysis of this geographic data exposed the psycho-geography and economic terrain of New York City's social media users.

3.9
Renée Green

Begin Again, Begin Again
2015

Installation view, MAK Center for Art and Architecture at the Schindler House, Los Angeles.

Courtesy of the artist and Free Agent Media © MAK Center / Photo by Joshua White

The Keller Gallery was possibly overlooked by the 2015 Visiting Team Comments. The 348 sf. Keller Gallery was established in the fall of 2011 with a generous donation of materials and labor in kind from Shawn Keller, principal with C.W. Keller & Associates, an architectural millwork, furniture and design firm. A vest-pocket space at about 200 square feet, the gallery shows a steady stream of faculty, student and experimental work, including work from alumni and friends. Located in MIT Building 7, Room 408, it is free and open to the public Monday through Saturday from 9AM to 6PM.

The Lobby 9 Gallery is a new gallery space of 3,332 sf. (approximately1500 s.f. usable due to ADA constraints) for exhibitions dedicated to the MIT School of Architecture + Planning community. The Lobby 9 gallery space will be used for end-of-year thesis exhibitions dedicated each spring to student work. Curatorial control of the new Lobby 9 Gallery is handled by the School of Architecture + Planning Dean's Office.