Architecture Program Report

Institution
Department of Architecture
Massachusetts Institute of Technology

September 21, 2022

National Architectural Accrediting Board, Inc.

NAAB

Architecture Program Report (APR)

2020 Conditions for Accreditation
2020 Procedures for Accreditation

Institution	**Massachusetts Institute of Technology**
Name of Academic Unit	Department of Architecture
Degree(s) *(check all that apply)* **Track(s)** *(Please include all tracks offered by the program under the respective degree, including total number of credits. Examples:* *150 semester undergraduate credit hours* *Undergraduate degree with architecture major + 60 graduate semester credit hours* *Undergraduate degree with non-architecture major + 90 graduate semester credit hours)*	☐ Bachelor of Architecture Track: ☒ Master of Architecture Track: Track: ☐ Doctor of Architecture Track: Track:
Application for Accreditation	**Continuing Accreditation**
Year of Previous Visit	2015
Current Term of Accreditation *(refer to most recent decision letter)*	Continuing Accreditation (Eight-Year Term)
Program Administrator	William O'Brien, Jr.
Chief Administrator for the academic unit in which the program is located *(e.g., dean or department chair)*	Nicholas de Monchaux
Chief Academic Officer of the Institution	Cynthia Barnhart, Provost
President of the Institution	L. Rafael Reif
Individual submitting the APR	Nicholas de Monchaux
Name and email address of individual to whom questions should be directed	Paul Pettigrew, paulpett@mit.edu

Submission Requirements:

- The APR must be submitted as one PDF document, with supporting materials
- The APR must not exceed 20 MB and 150 pages
- The APR template document shall not be reformatted

NAAB

INTRODUCTION

Progress since the Previous Visit (limit 5 pages)

In this Introduction to the APR, the program must document all actions taken since the previous visit to address Conditions Not Met and Causes of Concern cited in the most recent VTR.

The APR must include the exact text quoted from the previous VTR, as well as the summary of activities.

Program Response:

Conditions Not Met in Most Recent VTR (March 2015)

B.4 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.

Response:

Following the 2015 Team Assessment, site design skills have been enhanced in the MArch Core studio sequence and expanded in Option Studios and Workshops. All MArch students are required to take the three-semester sequence of *Core I*, *Core II*, and *Core III* studios. Option Studios and Workshops are available to all MArch students as both required Option Studios and Elective classes.

Arch 4.151 Core I studio (first semester MArch) In anticipation of site design as part of the comprehensive design problem in *Arch 4.153* (*Core III*), instructors included 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, MA. This project requires building siting, circulation, and layout with respect to riparian landforms, soils, and stream channels.

Arch 4.152 Core II studio (second semester MArch) In anticipation of site design as part of the comprehensive design problem in *Core III*, *Core II* instructors incorporated urban ecological factors into a theatre design project set on a site in Dorchester, MA. Considering the Strand Theater as the site for a future mixed-use center for the Boston Centers for Youth and Families (CYF), students speculated on the broader vision to reignite Upham's Corner as a hub of creative activity by revitalizing and expanding the theatre with a wide range of cultural and recreational programs. In preparation for *Core III*, students are given the opportunity to investigate drainage issues, soil, & topography within a specific urban site/context/environment, in this case, Upham's Corner in Dorchester, MA.

Arch 4.153 Core III studio (third semester MArch) Integrated into its curriculum is 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 the following: 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 III* 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-levels. Students speak with local site experts, take field notes from 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.)

4.154 Option Studios (offered after the initial three required semesters of design studio) These 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 electives on environmental and landscape systems. For example, one of these restricted electives for MArch students, *4.612 Earth, Reed, & Water: Islamic Architecture and the Environment*, systematically step through historical and contemporary analyses of climate, hydrology, geomorphology, soils, vegetation, and environmental systems. During the Fall semester, there are consistently MArch students simultaneously enrolled in both *Islamic Architecture and the Environment* and the *Core III* comprehensive building problem studio. Most students in this advanced seminar are MArch students in the *Core III* design studio who connect seminar studies with their comprehensive design studio proposals. The course includes specific lectures on Water Budget Analysis, Landform Analysis, and Vegetation Analysis related to the *Core III* studio project.

B.6 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.

Response:

Several key adjustments have been made to respond to the points raised in the 2015 NAAB Visiting Team Assessment on Comprehensive Design. Changes in the overall organization of the *Core III* studio have enabled the core class *4.463, Building Structural Systems II* (part of the Building Technology curriculum), to be closely integrated with the development of students' design projects in the *Core III* 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 III* 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 III* are complemented by 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 III* Curriculum Spreadsheet in the Appendix of this document for a Comparative Outline of integrated curriculum content in *Core III*. The spreadsheet identifies by date when areas of the integrated *Core III*/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 III* curriculum, course organization, and faculty expertise that are outlined above, the following integrative learning methods and resources have been introduced in the *Core III* 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 into 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 III* 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 during the *Core III* 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 III* 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-levels. Students learn about the site firsthand, through site visits and discussions with local landscape experts. Students take field notes during consecutive site visits at different times of the day and produce site survey documentation through the team-led landscape (site) transects through the studio site.

B.5 Life Safety

Discussion of life safety in *Core III* design is integrated with Building Technology workshops and assignments through structural design principles for static and dynamic loads as well as 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, egress, fire vehicle access, and the design of safe evacuation paths. *Core III* 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 III* 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 gases (carbon emissions). The study of emergent, best practices in passive, sustainable environmental building systems is thus emphasized throughout *Core III*. Learning topics include building design for optimal site orientation, the design of micro-climates, the use of natural daylight and ventilation, and 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 as well as problem sets that quantify heat transfer through building envelopes.

***Building Structural Systems II (4.463)* Overview:**

Taught in parallel with the comprehensive *Core III 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 III studio*, who compose most of the students in the class, this project is integrated with the main *Core III studio* project.

***Core III* 2021: Fall 2021 (abstracted from the course syllabus)**

4.153, Architecture Design Core III, is the final semester of the MIT graduate core studio sequence. In *Core III*, students develop an architectural design proposal that integrates building construction technologies, material logic, climate, and site design considerations in a single comprehensive project. The *Core III 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 concepts and technical means of building construction across scales are central to the work of the comprehensive studio at MIT.

During the Fall 2021, the *Core III* studio focused on the architectural design problem of a community-owned and operated Seaweed Processing Plant, a collective workspace located in the state of Maine. This collective workplace was intended to engage regenerative seaweed farming, issues of food sovereignty, and the possibility of cooperative regional food networks between inland and coastal communities. The Seaweed Processing program – with its requirements for seedling nurseries, wash stations, cold storage, daylight, darkness, and warm drying areas – provided students with specific structural, thermal, and daylight requirements to use as design criteria. The dynamic climate conditions of Maine – with harsh winter conditions, tidal shifts of 15 feet or more, and warming summers – required an understanding of daily and seasonal time cycles of Seaweed Harvesting and provided a chance to design multitasking spaces that could serve the community in the offseason.

The semester was structured as a single project organized around four Design Modules with required deliverables that presented a particular scale and lens by which architecture can be designed and understood. Constructive Systems: Convention & Transformation addressed learning and innovating through worked precedents; Massing, Movement, & Space considered massing and circulation demonstrated in the design of a large-scale section of a selected program space; Unpacking the Wall addressed relationships in the design of a project's building envelope and public image; and Synthesis was an opportunity to step back, reflect, and foreground the key ideas and representations for the design development students 'architectural design proposals. *Core III* supported students in learning the development of an iterative design process that emphasized research on materials and construction techniques, quick studies, and exploration of design options through design drawings and models.

The *Core III studio* was 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 were fully coordinated with students' studio design projects in *Core III*. The study of emergent, best practices in passive, sustainable environmental building systems were integrated throughout *Core III* lectures, workshops, and assignments on climate, site design, and design strategies for integrated environmental building systems emphasizing material and construction strategies that reduced carbon emissions and architecture's dependency on non-renewable sources of energy. In parallel with their studio design work, students developed a carbon argument supporting their choice of building materials and construction systems and investigated how technical and design considerations of structure, enclosure, daylighting, ventilation, and climate design could be synthesized in an architectural design concept that was coordinated across scales. In *Core III*, architecture students collaborated with their engineering graduate student peers and consulted with visiting structural, civil, and climate engineers over the course of the semester. Special guests in history and theory, critics in architecture, water conservation, and specialized building industry fabricators contributed to the discussion.

Learning Objectives:

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

Grading Rubric:

Core III grades were assessed based upon the following criteria:
• Quality of design and development of *The Plant: A Co-Operative Community Food Center* 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 the student's own work
• Overall collaboration, work effort, and progress in studio work

Causes of Concern

Part One (1): Section 2 - Resources 1.2.1 Human Resources and Human Resource Development: Students

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.

The Department is engaged in a deliberate and long-term effort to improve its diversity, equity, and sense of community, including the presence of under-represented minorities and black students, faculty and staff in particular. In the spring of 2020, Professor Terry Knight was appointed as the Department's first Associate Department Head with a specific equity portfolio, and a brief to address on inclusion and representation at the staff, faculty, and student levels, as well as the larger quality of community encountered by all within the Department. She and current Department Head Nicholas de Monchaux began their terms on June 1, 2020.

To inclusively manage this program of work, the Department formed a Strategy & Equity (S&E) team, including Associate Head Knight, a staff and student representative, and Head de Monchaux. The team has included Katharine Kettner and Mohamed Ismail as student representatives, and Inala Locke as staff representative. In AY 2020-21, the team was supported by a part-time staff member borrowed from other department efforts. Work across that academic year and into the current one, led to the hiring of a dedicated Diversity, Equity & Belonging (DEB) officer in the Department in the spring of 2022, Lauren Schuller. Lauren Schuller focuses on student issues and coordinates staff activities around this work going forward, as well as provides coordination with new staffing at the School level, Assistant Dean for DEB and Student Support, Monica Orta.

Amongst its many efforts, S&E work has specifically addressed our admissions process and the participation of our student body. Based on surveys of current students identifying potential barriers to admissions applications and other feedback from our community, revisions were made to the MArch applications (as well as other programs offered in the Department and School). As part of these efforts and changes, the GRE (previously required) was dropped from all our application requirements, students were included in all admissions committees, and new anti-bias training for admissions committee members was introduced. Two new and successful programs, the Applicant Mentorship Program (AMP) and ArchCatalyst, were developed to offer student peer-to-peer support for applicants from underrepresented backgrounds.

The MArch program at MIT continues to attract the highest caliber of applicants. In academic year 2020, admissions were 468 applications (244 female, 224 male, and 54% international applicants), 21 were targeted, 45 admitted (62% W, 24% URM, 40% Intl), and 25 enrolled. In 2021, admissions were highly competitive with a record number of applications (825). Twenty-one were targeted, 30 admitted, and 22 enrolled (45% W, 32% URM, 32% Intl). In our view, this class of students are the most accomplished and the most diverse the program has welcomed to date.

In recent years, the Department has also continued to improve the diversity of its faculty and staff. Of our 42 full-time faculty and lecturers as of Fall 2020 (17 Female, 23 Male, and 2 non-binary) 18% identify as URM. Of seven full-time faculty hired to the tenure-track or long-term contracts the last two years, (5 female, 1 male, 1 non-binary), three identify as URM (two black, one Latinx). At the School level, our Faculty Diversity Committee (FDC) continues to play a crucial role in monitoring hiring practices and search procedures to maximize diversity in this hiring pool. In addition, Associate Dept Head for Academics, Professor Timothy Hyde, worked with Dept Head, Nicholas de Monchaux, this past year on developing and implementing on new, clearer faculty advising and mentoring practices for better support and retention of faculty, with mentoring being of special importance for women and faculty of color. As a final component of our diversity efforts within the Department community, we are working with MIT's central HR and School-wide partners to help ensure a similar attention to diversity in hiring at the staff level.

Part One (1): Section 2 - Resources 1.2.3 Physical Resources

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.

The MIT Department of Architecture has been located in a range of buildings in Boston and Cambridge since 1865 and are currently divided between the landmark "Main Group," and shop spaces in MIT's building N51/N52. Currently the Department offers several exhibitions and gallery spaces with rotating faculty and student exhibitions, including the Keller Gallery in MIT's Building 7 where most of the Department's spaces are located; Gallery 9, located in the lobby of Building 9, the main location of the Department for Urban Studies and Planning; The Weisner Student Gallery in MIT's Student Center, as well as several exhibition and presentation spaces at the Media Lab.

In a campus as dense and historic as MIT, space remains an ongoing issue for the Department of Architecture. For that reason, in 2018 MIT and the School of Architecture and Planning announced a future move to the Metropolitan Warehouse Building located at 134 Massachusetts Avenue on the MIT Campus. After a public selection process, Diller, Scofidio + Renfro was chosen along with local partners, Leers Weinzapfel Associates, to undertake an extensive renovation of the building to form a new home for the Department of Architecture and hub for MIT-wide initiatives in design. The adaptive reuse of the Met Warehouse will create 217,000

gross square feet of space for academic, research, gathering, and makerspace purposes, including undergraduate and graduate labs and studios. As noted, the Met Warehouse will be the new home for the Department of Architecture, along with research units and studios from the Department of Urban Studies and Planning, the Center for Real Estate, and the Norman B. Leventhal Center for Advanced Urbanism. Demolition work for the project is underway as of summer 2022, with occupation of the new building scheduled for summer 2025.

Amongst the many other improvements it offers to the Department's physical spaces, the Met will include a 400-square-foot gallery dedicated to the Department of Architecture and adjacent to our reception area on the second and third floors of the building, and 4500 square feet of exhibition space on the ground floor, including a flexible lobby, a dedicated exhibition space for our design programs, and a shared gallery and lobby exhibition area for the School as a whole.

Program Changes

Further, if the Accreditation Conditions have changed since the previous visit, the APR must include a brief description of changes made to the program as a result of changes in the Conditions.

This section is limited to 5 pages, total.

Program Response:

The MArch program at MIT is a cross-departmental collaboration that integrates critical thinking and design with advanced technical knowledge to prepare students to contribute meaningfully to the architectural field — be it through practice, teaching, or research. For us at MIT, the most significant opportunity of the new accreditation criteria is the opportunity to better distribute thinking about building technology, sustainability, accessibility, and integrated design throughout our curriculum.

This opportunity is important given the recent history of our accreditation process. In the Department's most recent accreditation review in 2015, we were asked to submit interim reports during our 8-year accreditation period showing continued progress in integrated building design. The most recent of these reports, due in spring 2020, was determined by NAAB's panel of reviewers to have deficiencies in two of three student projects sampled, which has triggered an early review of our program in 2022-23, based on material submitted during the current academic year. The nature and seriousness of these deficiencies were a topic of extended discussion between us and NAAB, as were the challenges of meeting accreditation standards while returning the school from an extended period of remote learning. These conversations were productive, and while they did not ultimately lead to a delay in the upcoming review, we valued what was a thoughtful conversation, particularly as it related to issues of sustainable design, integrated curricula, and how best to serve student learning needs.

Against this background, we as a faculty are particularly excited about the opportunity of the new 2020 conditions to better distribute key aspects of integrated design, safety, and accessibility into the broader span of our integrated core curriculum. Over the last two years, we have convened our core MArch studio faculty over multiple planning meetings in a process of re-shaping our Core design studios to introduce these topics more robustly. These 'core summits,' as well as regular meetings of the MArch curriculum committee, are also considering other program changes made necessary as we transition from previous NAAB conditions to the 2020 Conditions accreditation criteria. Changes have been made across multiple semesters of core studios which is reflected in the overall curriculum, syllabi content, and student work in classes such as 4.153 *Architecture Design Core Studio lll* and *4.463 Building Technology Systems: Structures and Envelopes*, which we believe will result in a more robust curriculum, better student outcomes, and better legibility of key accreditation criteria.

We are committed to the continued excellence of our signature program; while we remain well-regarded in professional surveys, we understand this position as a responsibility for leadership and service to the profession, and professional education, as a whole — and we are particularly eager for the opportunity given by the 2020 conditions to better accomplish this goal.

NAAB

NARRATIVE TEMPLATE

1—Context and Mission

To help the NAAB and the visiting team understand the specific circumstances of the school, the program must describe the following:

The institutional context and geographic setting (public or private, urban or rural, size, etc.), and how the program's mission and culture influence its architecture pedagogy and impact its development. Programs that exist within a larger educational institution must also describe the mission of the college or university and how that shapes or influences the program.

Program must specify their delivery format (virtual/on-campus).

Program Response:

A Department of Architecture within a Global Research Institute

The mission of the Massachusetts Institute of Technology (MIT) is to advance knowledge and educate students in science, technology, and other areas of scholarship that will best serve the nation and the world in the 21st century. As an independent, coeducational, privately endowed university committed to the extension of knowledge through teaching and research, MIT enacts this mission through generating, disseminating, and preserving knowledge, and working with others to bring the outcomes of this work to bear on the world's great challenges.

This mission frames our goals in the Department of Architecture and our MArch degree: a small professional program offering significant support to students from diverse backgrounds and embedded within one of the most innovative technological and creative environments on the planet.

MIT was founded in 1861 and admitted its first class of students on February 20, 1865, with the first women students enrolled six years later. A new institute for technical education, it supported New England's Industrial Revolution under the motto "Mens et Manus" — mind and hand. As one of the first four divisions of MIT, the mission of the Department of Architecture (known internally still as 'Course 4,') has developed with that of MIT as a whole — today an architecturally imposing campus filled with some of the most innovative research on the planet. The resulting tension between speed and heaviness, and between lightness and gravity, is beautifully captured in the enduring culture of students hacking and transforming MIT's spaces. While superficially vandalizing the Institute, the decoration of domes with cars, robots, and other temporary ornaments also serve as the best representation of MIT's essential, improbable identity.

Below the domes, MIT's architecture is largely given over to labs and shops where things are measured, charted, and discovered. In addition to this work of research and discovery, our program is also profoundly shaped by creativity and inescapable political realities. And so, while creativity, history, politics, and technology are present throughout MIT, in our department, they live, work, and invent together. The organizational architecture of the Department reflects this reality. Groups of faculty in the arts, design and urbanism, computation, building technology, and history and theory, are all amongst the very best of the world, serving groups of advanced students. Our professional degrees connect these groups, as our faculty work together to model architecture's unique integration of diverse modes of thinking and making.

Today, we are turning these tools to the contradictions inherent in MIT's architecture and history; a history, which is closely linked to the slave economy, the dispossession of indigenous communities and land, and the physical location of MIT's main campus on the traditional unceded territory of the Wampanoag Nation In this context, MIT Architecture has committed itself to build an anti-racist and inclusive institution in our hiring and admissions processes, in our teaching, and in the community, we create in our classrooms, labs, and studios. This commitment is particularly essential in the larger context of the climate crisis, which like the ongoing pandemic, unevenly burdens the most vulnerable members of our global community.

The decades ahead are certain to present significant challenges to the discipline of architecture, the built environment, and to the social landscapes which we are part of both locally and globally. At the Department of Architecture, we welcome and confront these challenges by combining a sensitive and contextual approach to architectural design with a rigorous and devoted approach to research and innovation — aligning, once more, with the core mission of MIT.

Institutional Context, Geographic Setting, and Mission

From its foundation, the classroom and workshop have been two poles around which MIT students have learned about and participated in research in diverse fields. These studies take place within an institutional structure of five academic schools: Architecture and Planning; Engineering; Humanities, Arts and Social Sciences; Management; and Science. Each school is organized into departments, divisions, and programs that are joined by laboratories and centers. All of these are located on a single,168-acre campus along the Charles River in Cambridge, Massachusetts, facing the city of Boston. The campus houses approximately 12,000 undergraduate and graduate students and almost 16,000 employees, including faculty, researchers, and staff[1]. Throughout the campus, students and faculty often interact, experience and are inspired by unique works of architecture: From the mid 20th-century masterpieces such as Eero Saarinen's Kresge Auditorium and the adjacent MIT Chapel, or Alvar Aalto's Baker Hall, through the dormitories designed by Steven Holl and most recently Michael Maltzan Architects or NADAAA, to I.M. Pei's multiple campus interventions, Frank Gehry's Stata Center, Fumihiko Maki's Media Lab, or SANAA's MIT Music building, currently under construction. Mixed with MIT's legacy of late-19th century architecture as well as significant examples of 20th-century brutalism, all of these form together a living architectural archive.

Alongside Architecture, the four original departments at MIT were Civil Engineering, Mechanical Engineering, and Metallurgy. In 1932 the School of Architecture was established as part of the general academic reorganization and a course in city planning was added. In 1944 the school was renamed the School of Architecture and City Planning. In 1947 the Department of City and Regional Planning was established within the school and renamed the Department of Urban Studies and Planning in 1969, thus forming the School of Architecture and Planning (SA+P). The Architecture Machine group formed within the Department of Architecture in 1966, and evolved as the catalyst of the Media Lab, one of the leading research and innovation hubs in the world.

[1] For detailed students and employee data see:
https://facts.mit.edu/enrollment-statistics/
https://facts.mit.edu/employees/

Today, the Department of Architecture is embedded within SA+P, along with the Department of Urban Studies and Planning; the Media Lab and its Program in Media Arts and Sciences; the Program in Art, Culture, and Technology (ACT); the Center for Real Estate (CRE); and the Norman B. Leventhal Center for Advanced Urbanism (LCAU). The Department itself is organized around five discipline groups: Architecture + Urbanism (A+U); Building Technology (BT); Computation; History, Theory and Criticism of Architecture and Art (HTC); and the Aga Khan Program for Islamic Architecture (AKPIA). The Department houses thirty-seven permanent faculty, twenty-three visiting faculty, lecturers, and instructors across our curriculum, and twenty researchers that help staff our labs and workshops. In 2021, the Department housed 175 Master's students across our MArch and Master of Science degrees, 56 PhD students, and many hundreds of undergraduates across our courses. (For a detailed account of student, faculty and staff population and diversity see section 5.5).

The program's role in and relationship to its academic context and university community, including how the program benefits–and benefits from–its institutional setting and how the program as a unit and/or its individual faculty members participate in university-wide initiatives and the university's academic plan. Also describe how the program, as a unit, develops multidisciplinary relationships and leverages unique opportunities in the institution and the community.

Program Response:

At MIT Architecture, the space of the classroom, workshop and studio is joined by significant interdisciplinary and international opportunities for research topics relevant to the evolving practice of architecture. Within the Department, these include faculty-led laboratories devoted to self-assembly, urban resilience, black urbanism, curatorial work, future heritage, digital structures and fabrication, and sustainable and equitable design, amongst others. Beyond the Department's own research groups and activities, students a collaborate across the Institute's various schools, departments, and labs, and engage in cutting-edge research that both expands and transforms the discipline of architecture and its social and environmental responsibilities — from designing for zero-gravity environments, through digital interfaces for better democratic governance, to the role of design in thinking through assemblies at the molecular scale. These efforts have been advanced significantly in the last twelve months through the foundation of the Morningside Academy for Design, established with a $100 million gift from philanthropist Gerald Chan to advance an understanding of design across MIT. Housed in the School of Architecture and Planning, the academy builds on the foundation of fast-growing programs in Design established by the Department of Architecture in the last decade.

On issues as diverse and critical as poverty, social injustice, resource scarcities, global climate change, and the evolution of institutional and political organizations in addressing the needs of the world's population, MIT has supported students and researchers in traveling to where they are needed and in doing so, has enhanced their learning experience and research opportunities. Although recent years, and the Covid pandemic, have introduced challenges to international travel, the Department of Architecture embraced these challenges as an opportunity to collaborate differently across geographies and borders and on a variety of scales.

The ways in which the program encourages students and faculty to learn both inside and outside the classroom through individual and collective opportunities (e.g., field trips, participation in professional societies and organizations, honor societies, and other program-specific or campus-wide and community-wide activities).

Program Response:

As a leader in combining architectural design and education with research and innovation, the Department of Architecture offers unique opportunities for its students and faculty to participate in pertinent conversations about the role of architecture and design, both within and outside the Department.

Each year the Department of Architecture hosts leading figures in the fields of architecture, art, design, technology and innovations, humanistic studies and more. Over the past year these include lectures by Dorit Aviv, Marlon Blackwell, Mariam Kamara, Mpho Matsipa, Fred Moten, Vernelle Noel, Billie Tsien and Tod Williams and more. Additional notable events include the 2021 symposium 'Engineering Independence: Concrete Architecture in the Global South,' organized and developed by students and faculty in the *4.s48 Collaborations in Concrete* seminar, led by Caitlin Mueller and Mohamed Ismail; and the 3D/5G - Surveillance and Agency institute-wide symposium, with participation from Department Head, Nicholas de Monchaux, and faculty members Sheila Kennedy and Caroline Jones. Additionally, faculty member Brandon Clifford hosted the interdisciplinary artist Sanford Biggers as an MIT MLK Visiting Scholar. For a comprehensive list of the events hosted by the Department in the past years, please visit: https://architecture.mit.edu/events

Recently, the Department supported and facilitated an unprecedented representation of faculty and students at the 2021 Venice Architecture Biennale, which was curated by SA+P Dean, Hashim Sarkis. Those included professors Azra Aksamija, Rania Ghosn, Mark Jarzombek, Sheila Kennedy, Miho Mazeereuw, Nicholas de Monchaux, Liam O'Brian, Cristina Parreno, Rafi Segal, Skylar Tibbits, and James Wescoat.

The Department prides itself on having an active, vocal, and engaged student body. The Architecture Student Council (ASC) is co-lead by two students voted by the students each year and is composed of 15 cabinet members. It maintains continuous communication both with the Department's administration and leadership, as well as with the institute-wide leadership, the Graduate Student Council (GSC). The ASC fosters and organizes an array of public and departmental events, lectures that brought together faculty and students into thoughtful conversations, and a series of town hall meetings with the Department's leadership. The Department's NOMAS chapter is well-supported, with the goal of championing diversity in design by calling for equality and fairness in our education, celebrating excellence in the discipline, and providing community members with resources to develop personally and professionally.

Students in the Department have also facilitated a wide range of public activities and events, such as the series of conversations between faculty and students titled 'Dinner with the In-Laws,' a film series titled 'Cinema and Architectural Imagination,' and WAWD? Radio, an online radio station, which began in the spring of 2020 as a response to the Covid pandemic and persisted to continue and amplify student voices to this day. Additionally, during the pandemic students created outofframe.mit.edu: An online space for the amplification of student voices and research. With over 200 posts, this content-rich resource continues to grow and provide a unique platform for students to share their work and interests with one another. In 2021, with the support of Department Head Nicholas de Monchaux and Communications Strategist Amanda Moore, students in the Department created Imprint: A collective student-led publication that offers a diverse and inclusive platform for the Department's students to share their work. This is complemented by the continuing publication of *Thresholds*, a peer-reviewed journal of architectural history and theory, which is edited by the Departments' students. In 2017 the publication and distribution of *Thresholds* was transferred to the MIT Press, and in 2022 the Department published the journal's 50th issue, *Before / After*, which was supported by a Graham Foundation Grant. This occasion was also marked with a series of public events organized and facilitated by the student editors, as well as an exhibition of the journal's past issues and legacy in the Department's Keller Gallery.

Summary Statement of 1 – Context and Mission

This paragraph will be included in the VTR; limit to maximum 250 words.

Program Response:

Our department was founded in 1865 as part of a new institute for technical education, supporting the Industrial Revolution. As the role of technology has transformed globally so has the position of MIT, which is now preeminent in its stated mission of scientific and technological research: “to advance knowledge and educate students in science, technology, and other areas of scholarship that will best serve the nation and the world in the 21st century.”

The influence of architectural education at MIT is subtle, but immense, and is reflected in MIT’s larger focus on shared teaching environments, hands-on-learning, and creative problem solving in the service of cities and society. Our small and focused professional program, embedded within one of the most innovative environments on the planet, offers significant support to students from remarkably diverse backgrounds. This allows us to provide a sensitive and rigorous professional education, but also brings with it a responsibility of using our unique position to research and expand the possibilities for our profession’s future. Today, this means attention to the climate crisis, to diversity and inclusion, and the shifting role of technology in the built environment. At MIT, it also means sharing our profession’s expertise and its social consequences to the frontiers that shape our surroundings—from nanomaterials to machine learning to the frontiers of biotechnology. Through these related conversations, we seek a central role for architects in shaping a just, sustainable, and accessible built environment for another 150 years - and beyond.

2—Shared Values of the Discipline and Profession

The program must report on how it responds to the following values, all of which affect the education and development of architects. The response to each value must also identify how the program will continue to address these values as part of its long-range planning. These values are foundational, not exhaustive.

Design: Architects design better, safer, more equitable, resilient, and sustainable built environments. Design thinking and integrated design solutions are hallmarks of architecture education, the discipline, and the profession.

Program Response:

Design is a process and mode of inquiry that underpins research and pedagogy across MIT, and to which the Department of Architecture has contributed since MIT's founding in 1865. As a result, MIT has a rich history of advancing design theory, research, teaching, and practice, with considerable impact at the Institute and around the world.

Today, in our department, we focus on contemporary practice through an active pursuit of interdisciplinary collaboration and being keenly aware of the necessity to learn and borrow from, as well as to instigate exchange, with other disciplines. Nevertheless, we believe strongly in the foundational intelligence of architectural approaches to design — particularly for their ability to integrate multiple viewpoints, users, as well as ethical and social concerns.

These forms of insight are particularly essential as design encounters contemporary conditions such as the climate crisis, globalization, technology, and urbanization. Here design becomes particularly important as we move beyond extractive and resource-intensive approaches to problem solving and focus on the power of design to rearrange and reconfigure existing methods, places, and technologies to meet the enormous challenges of our time.

As a result, architectural design at MIT focuses on a broad range of perspectives linking several common concerns: site and context, use and form, building methods and materials, and the role of the architect. We see the architect less as the sole creator of an autonomous building than as a collaborator in shaping the physical environment, with important ethical responsibilities to people and ecologies. Workshops, lectures, seminars, and research projects are just some of the tools we use in advancing our work. Our faculty undertake a wide variety of projects and research areas such as large-scale physical planning, environmental programming, the form and evaluation of cities, computation and design, architectural theory and design methodology, decision making procedures in design, housing and settlement forms in developing countries, self-help processes, and design in non-Western cultures.

Design and research are core tenets of MIT's MArch program. As the first of its kind in the United States, the professional degree program at MIT also has a particular responsibility to the future: it is a professional program that trains skilled architects and practitioners but also serves as a laboratory for all the innovation and scholarship within the Department, challenging, expanding, and redefining the role, responsibilities, and capacities of the architect in the 21st century. This interdisciplinary and experimental approach to design is present throughout our curriculum, specifically in the core studio and building technology sequences (see 3.1 Program Criteria).

In the last two years, the connections between our professional education in architecture and a larger conversation on design at MIT have been strengthened through new conversations and institutional opportunities. Building on the success of the interdisciplinary Design Minor and Design Major graduates hosted in the Department of Architecture since 2017, in 2020 School of Architecture + Planning Dean Hashim Sarkis, along with Engineering Dean Anantha Chandrakasan, asked Professors John Ochsendorf and Maria Yang to convene a committee across MIT in 2020-2021 to discuss the future of design education at MIT, and how existing efforts—including our leading programs—could be better synthesized and connected. This work shaped a fundraising initiative leading to a transformative, $100 million gift that will create a new institution — the Morningside Academy for Design (MAD) — based in our new home in the Metropolitan Storage Warehouse. Most of this gift will go to create design spaces in the Warehouse as well as an endowment for the long-term provision of student fellowships and research support across MIT.

MAD presents an enormous opportunity for the Department to both grow and share its expertise across MIT. In addition, its activities present an essential opportunity for our focus on design as a tool to create equity and resilience to shape a transformative institution for all of MIT. In the coming years, and as the Academy is established, we will be discussing and resolving questions of governance, curriculum, and programming, all of which are of pivotal importance to the future of the Department of Architecture and its role in MIT.

Environmental Stewardship and Professional Responsibility: Architects are responsible for the impact of their work on the natural world and on public health, safety, and welfare. As professionals and designers of the built environment, we embrace these responsibilities and act ethically to accomplish them.

Program Response:

The years 2020 and 2021, successively, have been the hottest and most extreme years of global weather ever recorded. Not only does global warming increasingly drive drought, wildfire, flooding, and other extreme events threatening the resilience of human communities, but it also contains deep challenges in the equity and distribution of these impacts. Decisions about energy and resources increasingly drive politics, globally and locally. Against this background, MIT committed itself in 2021 to a renewed climate action plan, including work on campus operations, path-breaking research, and environmental justice. These initiatives, including a campus that will be net-zero by 2026, will transform not only the Institute and the landscape in which our department exists but the way our department operates as well. Connecting questions in design, engineering, and the social, cultural, and historical role of building solutions that address the climate crisis will require new kinds of collaboration between us, across MIT, and with partners around the globe.

While every department at MIT has an essential contribution to make to this historic challenge, the making and operation of buildings produces over 40% of emissions contributing to global warming and stands at the front line of moderating energy consumption and providing physical, social, and economic resilience to communities against the inevitable effects of the climate's transformation. As a result, the role of architecture in the causes and effects of the climate crisis has rightly begun to center itself in the Department's life and work.

To model leadership in this domain, we first examined our own operations. Beginning in 2020, Associate Dean and Professor of Architecture Caroline Jones led work on a School-wide Climate Action Plan (SA+P CAP), which included consideration of the climate impacts of travel and building operations—a first for MIT. This work contributed to conversations that have also transformed the energy model and proposed operations for our new home in the Metropolitan Warehouse, ensuring that we model for ourselves and others the importance of continued innovation and responsibility in the domain of energy and building, and contributing to MIT's newly announced energy goals.

As part of MIT's larger efforts at providing intellectual and research leadership in responding to the climate crisis, more than 10 department faculty participated in an Institute-wide program of Climate Grand Challenges, a competition for path-breaking research.

Within the Department, the centrality of work on mitigating the climate crisis over the next decades was marked by a $4m gift from Alan and Terri Spoon, creating a named research chair in the Department focused on "how architecture itself (materials, designs, construction, etc.) can help mitigate the climate crisis and its effects on cities and landscapes." This leadership gift — the first endowed chair within the Department since the establishment of the Aga Khan Program in Islamic Architecture in 1979 — is providing a catalyst to new modes of research, teaching, and impact in our curriculum and research.

In the 2021-22 academic year, we began to prototype the mechanism for this larger-scale initiative through a new, three-year collaboration with the Department of Urban Studies and Planning (DUSP) centered around the design and community possibilities of green jobs and construction, and the possibility of a new civilian climate corps. So far, this initiative has involved activities from collaboration with MIT's DC Office to shape legislation, to collaboration between DUSP, Architecture, and MITdesignX within SA+P to help imagine how our studios and associated research can combine to create real possibilities of long-term impact for our community partners and for MIT.

Above all, it is the collaborative nature of this project that we believe presents the best prototype for impactful work on climate going forward. From Professor Mazereeuw's Urban Risk Lab to Cristoph Reinhart's Sustainable Design Lab, to the work of design and research faculty from Rania Ghosn to Caitlin Mueller, Les Norford, and Sheila Kennedy, our department contains a robust diversity of approaches to climate that will continue to be integrated with each other and within our curriculum to address the greatest challenge of our age.

Equity, Diversity, and Inclusion: Architects commit to equity and inclusion in the environments we design, the policies we adopt, the words we speak, the actions we take, and the respectful learning, teaching, and working environments we create. Architects seek fairness, diversity, and social justice in the profession and in society and support a range of pathways for students seeking access to an architecture education.

Program Response: (See Also 5.5 Social Equity, Diversity, and Inclusion)

In 1892, Robert Robinson Taylor became MIT's first acknowledged Black graduate, and the first accredited Black architect in the United States. Our work on equity and inclusion in our department and in the profession we serve, builds on this history and seeks to live up to it.

Today, our department hosts the most diverse population of faculty, staff, and students it has ever welcomed; and we have dedicated ourselves to creating an environment that welcomes all.[2] In this ongoing work, we must reflect, engage, and give voice to the rich diversity of national and global identities, perspectives, and abilities – in our hiring and admissions processes, in our teaching, and in the communities we seek to create in our classrooms, labs, and studios. In collaborating with our current community, we aim for transparency in policy and practice, and for accountability in action. We seek to build a department guided by principles of equity and anti-racism that support the mission of connecting design, research, and creativity to diverse communities and the issues of our time.

In the past three years our work has included new initiatives in outreach, admissions, mentorship, and equity within the Department. As noted above, this current chapter of our efforts around diversity began in the spring and summer of 2020, with the appointment in March 2020 of our first Associate Department Head for Strategy and Equity (Terry Knight), and the formation in June 2020 of a dedicated Strategy & Equity (S&E) team with staff and student representation. Since its establishment, the team has worked to evaluate, challenge, and change our administrative and community responses to issues concerning diversity, equity, and inclusion (DEI).

To date, this work has engaged several major areas of focus: data collection; outreach and recruitment; graduate student admissions; student support; faculty hiring, support, and retention; staff community and support; departmental climate and cultures; curriculum; communications and public image. For each focus area, S&E has suggested new policies, helped implement readily actionable items, and made recommendations for next steps in the creation and maintenance of better DEI practices. Highlights of S&E work are elaborated below; the team's AY 2021 report can be viewed in full here and accessed through our department's website. .

While advancing this work within our community involves continuous engagement amongst our faculty, staff and students, we are respectful of the need for dedicated expertise and support in this work as well. In the 2020-21 and 2021-22 academic years, we partnered with the San Francisco-based DEI consultancy Courageous Conversation to facilitate discussions with students, staff, and faculty groups, coordinated with the S&E team. In February of 2022, we hired our department's first Diversity, Equity and Belonging Officer, Lauren Schuller, who provides dedicated staff support to our ongoing S&E work in coordination with our School's inaugural Assistant Dean for Diversity, Equity, Belonging & Student Support, Monica Orta. In addition, at the School level, the Faculty Diversity Committee, currently chaired by Architecture faculty member Larry Sass, provides both input and approval on inclusive hiring practices for all faculty searches.

Case-studies of work in several essential areas follow as illustrations of our data-driven and collaborative approach:

[2] Our population of 317 students is a balance of 53% US, and 47% international students, representing over 45 countries. Graduate students number 231, with 131 women and 100 men. The undergraduate students number 35, with about 21 women and 10 men, and 3 unspecified. 28% of our US-based graduate students and 17% of our US-based undergraduates identify as POC. Of our 42 full-time faculty and lecturers as of Fall 2020 (17 Female, 23 Male, and 2 non-binary) 18% identify as URM. Of seven full-time faculty hired to the tenure-track or long-term contracts the last two years, (5 female, 1 male, 1 non-binary), three identify as URM (two black, one Latinx).

Graduate Admissions

Starting in 2020, The S&E team surveyed approximately 150 graduate students across the Department about their experiences applying to MIT, then identified areas that pose barriers to application and matriculation. Using this feedback, S&E collaborated on revisions to the MArch application, successfully pushed for all admissions groups to drop the GRE requirement and instituted anti-bias training for admissions committee members. Two new programs, the Applicant Mentorship Program (AMP) and ArchCatalyst, were developed to offer support for applicants from underrepresented backgrounds or those facing challenges in their pursuit of graduate studies. Both were very successful last year in recruiting and admitting students to our incoming class.

Within our revised admissions process, we look to support diversity on multiple fronts as a critical foundation to not only support the student body's understanding of diverse cultural and social contexts but to bring those lived experiences into the classroom as well. Towards this end, we look not only at equitable representation in terms of gender and ethnicity, but also socioeconomics, and (perhaps unusually for an MArch program) a balance of students with and without existing backgrounds in design.

Curriculum

To encourage critical evaluation of the diversity of perspectives included in course materials, the team supported a syllabi audit for all required and restricted elective courses in the MArch and SMArchS programs. The S&E team also worked to institutionalize survey collection in support of the semesterly NOMAS reviewer reports, which track demographic data of critics at final studio reviews.

Over the past year the Department has fostered and dedicated several classes, seminars and studios dedicated to issues of Diversity, Equity and Inclusion. Those included *11.S940 Joy & Grief Worksho*p (Mazereeuw and Cadogan); *4.154 Collective Architecture Studio: Roxbury* (Miljački); and *Blueprints of Justice Vol. 2 Studio: Human Rights* (Stanescu). For a more detailed account of how issues of Social Equity, Diversity and Inclusion are expressed in the curriculum, see PC.8 - Social Equity and Inclusion of this APR.

Staff Community and Support

The team surveyed staff across the Department to gather feedback regarding conflict and concerns reporting systems and collected thoughts about formal channels for staff to voice suggestions and propose ideas. Across many conversations, the team worked to clarify HR structures affecting the Department and encouraged various HR personnel to attend future staff meetings. The team also facilitated department-wide meetings to view and discuss an MIT-wide DEI initiative, the *Staff Monologues*.

Climate and Culture

In addition to our partnership with the consultancy *Courageous Conversation*, the S&E team helped set up a new peer-to-peer student support program (archREFS) and advocated for and achieved more robust inclusion of students in departmental governance and decision-making.

Conclusion

While MIT and the Department of Architecture have invested efforts to create a more diverse, equitable and inclusive environment for our students, we know that there are great lengths and improvements that can still be made. Over the next years we will continue to explore and revise our curriculum to reflect our true commitment to these values, and in creating a pedagogical environment in which all members of our community feel welcome.

Knowledge and Innovation: Architects create and disseminate knowledge focused on design and the built environment in response to ever-changing conditions. New knowledge advances architecture as a cultural force, drives innovation, and prompts the continuous improvement of the discipline.

Program Response:

Embedded within one of the leading research institutions in the world, the MIT Department of Architecture is a leader in cultivating experimental and scholarly knowledge and technological innovation—and incorporating those within the education of architects and designers. The work of our faculty, which is composed of practitioners, design researchers and leading scholars in the fields of building technology, design computation, and history and theory, often serves as a benchmark for scholarship and innovation. In addition, the fluid interchange at MIT between lab, studio, and classroom ensures that the research activities of our faculty surround and support learning by students, whether through dedicated research assistantships (RAs), semester-long studios, workshops and seminars, or dedicated collaborations during summers and MIT's January term, otherwise known as the Independent Activities Period (IAP)

This inclusive approach to research and education was exemplified as part of our department's response to the Covid-19 Pandemic and the lockdown that coincided with the summer of 2020. In response to our students' loss of travel and internship opportunities, the Department launched the Summer Work and Pedagogy Program (SWAP), in which students were paired with faculty and advanced research students for dedicated, summer-long remote workshops aligned with current research in the Department, including work in fabrication, inclusive research, multimedia storytelling, and more.

Institutionally, the Department of Architecture is a home for numerous design and research labs across the various discipline groups. The labs and research centers offer students the opportunity to engage with faculty on cutting edge research projects through their education. Among them are the Urban Risk Lab (Mazereeuw, A+U), which works to increase community resilience and collective capacity to adapt to climate shocks by embedding techniques and strategies of risk reduction through collaborative design; the Self-Assembly Lab (Tibbits, Computation), which explores principles of self-assembly and programmable material technologies; the Digital Structures Research Group (Mueller, Building Technology), which operates at the interface of architecture, structural engineering, and computation and focuses on the synthetic integration of creative and technical goals in the design and fabrication of buildings, bridges, and other large-scale structures; the Future Heritage Lab (Akšamija, Art, Culture and Technology), which explores cultural responses to conflict and crisis through artistic projects on a civic scale that translate traditional cultural practices and crafts into new technologies, advance knowledge transfer across borders, and have a positive impact on threatened communities; or The Critical Broadcasting Lab (Miljački, A+U), that teaches tools for producing the distance necessary for critical operations, cultivates an experimental attitude toward making architecture public and seeks to produce robust criticism of the discipline's contemporary, historical, and future entanglements with forces beyond academia.

For a complete list of the research labs in the Department please see:
https://architecture.mit.edu/research-labs

Individual faculty continue to be recognized for groundbreaking work and research, as summarized by areas below:

Architecture and Urbanism

A+U's faculty continue to develop cutting-edge research in their field. Brandon Clifford's work was recognized with a TED Fellowship, A|N Design Award, and the R+D award from Architect Magazine. Rania Ghosn's design project Elephant in the Room, won the Reimagining Museums for Climate Action Competition in 2020, and Ghosn and her partner in the practice Design Earth, El Hadi Jazairy, were recently awarded the prestigious US Artists award for 2022-23 in Design. Associate Professor Mark Goulthorpe received a $3 million grant to support carbon construction prototyping. Professor Sheila Kennedy's firm, Kennedy & Violich Architecture, Ltd (KVA), led a groundbreaking renovation of Hayden Library and courtyard at MIT in 2020. Associate Professor Mazereeuw and the Urban Risk Lab received a new grant from Broward County for work on real-time flood mapping and sea-level rise planning in 2019. Ana Miljački's Critical Broadcasting Lab presented "Sharing Trainers" at the Sao Paulo Architecture Biennale. Professor Rafi Segal created a new lab in 2020, Future Urban Collectives, which is engaged in projects in Arizona, Columbia, and Israel. While serving as the Mahony Lecturer at MIT, Rosalyne Shieh and her firm, Schaum/Shieh, were recognized with an Emerging Voices Award from the Architectural League of New York and a Building of the Year Award from Architect's Newspaper.

Building Technology

BT faculty continue to attract support from the larger MIT funding ecosystem, including the MIT Energy Initiative (MITEI) and the Environmental Solutions Initiative (ESI). In addition, industry fellowships from leading architecture firms—such as Arup, Behnisch Architekten, and HOK— continue to strengthen the program's traditional ties to industry. In 2019, Associate Professor Caitlin Mueller was awarded a three-year National Science Foundation Leading Engineering for America's Prosperity, Health, and Infrastructure (NSF LEAP-HI) grant, together with Profs. Maria Yang and Sang-Gook Kim of MIT's Mechanical Engineering Department, to develop new human-computer creative design methods using AI and machine learning. Mueller later received support from the Dar Group to explore structurally optimized concrete housing in the Middle East. She has additionally received financial support from the software companies Robert McNeel & Associates and Altair to support her research in new methods for high-performance computational design. In spring 2020, John Ochsendorf was honored with an Architecture Award from the American Academy of Arts and Letters.

Design and Computation

The Design Computation faculty continue to develop new and cutting-edge research in their field. The MIT Virtual Experience Design Lab was launched through the efforts of PhD student Cagri Zaman, with Professors Knight and Takehiko Nagakura, while Knight continued to work as a co-editor for the Routledge Design, Technology, and Society series, which published the book Data Publics: Public Plurality in an Era of Data Determinacy in 2021. Associate Professor Nagakura's Aaltohouse AR, an augmented reality tour of Alvar Aalto's house, was installed in Gallery A4 in Tokyo and exhibited from December 2019 to January 2020. Nagakura's 2016 workshop produced a video, Monticello from the Air, which has since been adapted as part of two upcoming TV programs including the Netflix story of African American Culinary History. The Self-Assembly Lab, directed by Associate Professor Skylar Tibbits, has been the subject of profiles in media outlets including Fast Company and the Wall Street Journal. Tibbits' and the Lab received the National Geographic Exploration grant for their continued work on growing islands in the Maldives.

History, Theory and Criticism of Architecture and Art

The History, Theory and Criticism of Architecture and Art (HTC) group continues to produce Unique scholarship in the field of art and architectural history. Professor Timothy Hyde was awarded the 2020/2021 Clark-Oakley Fellowship. Professor Mark Jarzombek continued his work with the Mellon Global Architectural History Teaching Collaborative (GAHTC). In March 2019, David and Nina Fialkow provided a foundational gift of $1 million for the creation of the Institute-wide Transmedia Storytelling Initiative, under the direction of Professor Caroline Jones. Prior to his retirement from the AKPIA program, Professor James Wescoat was recognized as a Fellow of the American Society of Landscape Architects. The society also honored him with a Distinguished Member Award. In addition, his projects were supported by the National Science Foundation and the Tata Center for Technology and Design. In 2020, Rabbat was the W. Bernard Herman Distinguished Visiting Scholar at the University of Toronto. Rabbat published a book in Arabic on the "Dead Cities" in Syria, with the Hamad Bin Khalifa University Press in Doha, Qatar. In June 2019, he returned to his Fellowship at Annemarie Schimmel Kolleg, at the University of Bonn, Germany, where he worked on his book on al-Maqrizi, which is expected to be published later this year.

Art, Culture and Technology

The ACT (Art, Culture and Technology) Program and faculty continue to serve as a hub of critical art practice and discourse within the School of Architecture and Planning. Professor Renée Green was a fellow at the American Academy in Berlin during the Fall of 2019. Assistant Professor Nida Sinnokrot received the Ford International Career Development chair, was awarded grant funding from the Prince Claus Fund and Goethe-Institute and published in e-flux and Artforum. Akšamija received The LafargeHolcim Awards in 2020/2021 as well as the Emerging Voices Award from the Architectural League New York in 2022.

The faculty and students of the Department of Architecture are active participants and leaders in MIT's academic life, cross-institutional programs and international collaborations. BT Professor John Fernandez has been serving as the Director of MIT's Environmental Solutions Initiative (ESI) since its foundation in 2015. Professor Ochsendorf has been the MIT co-director of the International Design Center (IDC) since July 2020 and during its final year in collaboration with the Singapore University of Technology and Design, while guiding work towards MIT's cross-Institute Design Initiative. BT professor Christoph Reinhardt's course on *Environmental Technologies in Buildings* (*4.646*) has been converted with the support of MITEI into a Massive Open Online Class (MOOC) and will be part of a micro-master's on Energy, with additional courses coming from MIT's Sloan School of Management and other departments. Associate Professor Mueller is also developing a MOOC, *4.453x Creative*

Machine Learning for Design and is supported by MITx. Other BT faculty continue to attract support through various collaborations and initiatives across MIT including the Center for Complex Engineering Systems at MIT and King Abdulaziz City for Science and Technology (KACST), the Hong Kong University of Science and Technology (HKUST)-MIT Research Alliance Consortium and the ESI.

Since March 2019, HTC Professor Caroline Jones has directed the Institute-wide Transmedia Storytelling Initiative, a project built on MIT's tradition of art education, research, production, and innovation in media-based storytelling, bringing together faculty from SA+P, the School of Humanities and Social Sciences, the Department for Comparative Media Studies and Writing, and the Computer Science and Artificial Intelligence Laboratory. In 2021, more than 10 department faculty and students were included in the list of finalists for an Institute-wide program of Climate Grand Challenges, a competition for path-breaking research. In April 2022, faculty member Miho Mazereeuw's project was chosen as one of five flagship proposals within the program. In 2019, and prior to the pandemic, more than 60 students from the Department had been supported by the MIT International Science and Technology Initiative (MISTI), a cross-institutional program that facilitates international collaborations, research projects, and fellowships for MIT students and faculty abroad. In the same year, a total of $193K was awarded to 8 different faculty members from the Department's various discipline groups through MISTI Seed Funds in support of research projects that involved students from the Department. This makes the Department of Architecture one of the most well represented communities in MISTI.

In addition to these achievements, as well as the unprecedented presence of the faculty and the Department in the 2021 Venice Architecture Biennale, faculty from the Department have participated in countless conferences and symposia including ACADIA, SAH and CAA. The work of various faculty has also been recognized through various publications and books including *The Cannibal's Cookbook* (Clifford 2021); *Things Fall Together* (Tibbits 2021); *The Planet after Geoengineering* (Ghosn 2021); *Ugliness and Judgment* (Hyde 2019); *Under the Influence* (Miljački 2019) and many more. Additionally, A+U director Ana Miljački has served as a guest editor of special issues for *Log 54 - Coauthoring* (Winter/Spring 2022), and the *Journal of Architectural Education - Pedagogies for a Broken World* (Fall 2022).

This ecosystem of research, design, and scholarship is not possible without the continuous contribution of the students. Whether through participation in exhibition design, research assistantships, or contributions to publications, students at the Department of Architecture are consistently exposed to and take part in producing architectural knowledge and innovation at the highest levels and in shaping architectural discourse for years to come.

Leadership, Collaboration, and Community Engagement: Architects practice design as a collaborative, inclusive, creative, and empathetic enterprise with other disciplines, the communities we serve, and the clients for whom we work.

Program Response:

Belying the image of the architect as a heroic individual, our department's polycentric structure and curriculum emphasize the role of collaboration and shared innovation in creating architecture and the built environment. Throughout their professional education students continuously and consistently collaborate with one another on joint projects, while also developing individual skills and expertise. In the first Core studio, a modular training model rapidly familiarizes students with a diversity of modes of engagement and entry into a design project. In Core II, they become acclimated with group work through a shared research phase and encounter the need to design in collaboration with a community. This process culminates in Core III where the entire semester is a series of group design and research phases, collaborations between BT and studio, community organizations or members and the design team, and within the design team itself.

Over the past years, various studios and classes have been dedicated to cultivating these new forms of leadership, while emphasizing collective work and authorship, and community engagement. Ana Miljački's Collective Architecture Option Studio offered students to redefine their relationship with a real community, with one another, and with the Department itself, by engaging the Dudley Street Land Trust and the Dudley Street Neighborhood Initiative in Roxbury, MA, and by exploring new forms of collaboration with various partners such as The Food Project and The Boston Plan for Excellence. Over the past several years, Rafi Segal's 'Collectives' seminar has worked closely with local actors and stakeholders in Mexico City, Tel Aviv, Phoenix, Bogotá, and Baltimore, and explored various collective projects and proposals. This work has culminated in the exhibition 'New Collectives,' curated by Segal, SA+P faculty, Sarah Williams and Marisa Jahn, as part of the 2021 Venice Biennale. As noted earlier, recent initiatives and collaborations between Architecture and the Department of Urban Studies and Planning (DUSP), have involved students in tangible impacts on national policy around community service and green job creation, while working with community organizations in East Boston (Eastie Farms) to create local impact and new models for service at MIT and in Boston as a whole.

Within the Department, our approach to education is exemplified by the robust and collaborative role of student government in department life. Students both facilitate and organize public events, lectures, and exhibitions, participate and initiate town-hall meetings with faculty and staff, and contribute to vibrant and dynamic sense of community. The small nature of the program affords a close comradery between the students, while the students' own sense of leadership and conviction often cultivates change in the program's nature in real time.

In addition to the Architecture Student Council (ASC), which is the primary student leadership body, student groups take an active role in shaping their pedagogical and communal experience. Those include China SA+P, archREFS (Resources for Easing Friction and Stress), and the MIT Chapter of NOMAS. For more specific information about the student groups please see section 5.1 Structure and Governance.

Student leadership is further expressed in the ways in which students share and communicate their work with one another and to publics outside of MIT. In fall 2021, the Department supported the first exhibition since the pandemic began in 2020. *Desktop: A Material History of MIT Architecture During a Year Apar*t sought to materialize the diverse experiences of design, theory, practice, history, and artistry during the remote 2020–2021 academic year. Hosted in the Keller Gallery, students shared their work, communicating the

stories behind the products and processes of making and learning at a distance. All these artifacts became objects of interaction and contemplation at the Department's gallery, reminding the community of the brilliant moments of triumphs and more challenging tribulations throughout a year of dispersion. In Spring 2021, MArch student Amanda Ugorji collaborated with a colleague from the Harvard GSD in curating and preparing an exhibition at the Rotch Library gallery at MIT. The exhibit, titled *Soft City*, was composed of a large-scale textile series that maps the urban fabric of Black neighborhoods in the Boston area. During the Covid-19 pandemic, the Department's students also formed a departmental radio station, WAWD? Radio, which serves as an open platform for students to share their thoughts, interests and concerns. The success of the platform continued beyond the pandemic, and it continues to operate as a hub for student interaction to this day.

Despite the hindrances of the pandemic and work-from-home 2020-21 year, the Department is proud to report that the return to campus has further elevated the creative voices of students who pushed themselves to collaborate far and wide towards new ends.

Lifelong Learning: Architects value educational breadth and depth, including a thorough understanding of the discipline's body of knowledge, histories and theories, and architecture's role in cultural, social, environmental, economic, and built contexts. The practice of architecture demands lifelong learning, which is a shared responsibility between academic and practice settings.

Program Response:
Drawing from its unique nature and position within a research institution, the MArch program at MIT provides students with skills for thinking and experimenting throughout their education as well as their professional careers.

Within the MArch program students and faculty always join hands in mutual learning and exploration. As noted above, the small size and intellectual diversity of the program — with approximately 25 students in each class from a wide range of cultures and previous backgrounds — allows for unique trajectories through MIT, into the profession of architecture and beyond. The program's size also ensures that our experiments are conducted in an atmosphere of engaged debate—with ourselves, with guests, and with the larger communities which we serve. This culture extends through public lectures and programs within the Department, the School of Architecture and Planning and all of MIT, with students curating the most agile platforms for dialogue. In recent years, digital platforms developed during the pandemic have allowed these lectures and events to serve as bridges to alumni and our larger community, with up to 30,000 visitors and alumni from around the world participating online, alongside in-person participants.

The MArch program feeds from the various discipline groups and faculty and from MIT's culture and resources, but it derives its energy from its key testing ground: the studio. The studio space is where iterative and embodied design learning takes place, and where cultural meaning animates methods and materials with urgency. The collective mission of the three Core studios is to offer fundamental architectural methods to the students, while opening a series of different entries into the vocation of an architect. For a large portion of every incoming MArch class, these three studios will be the first experiences in navigating uncertainty in the creative process, the exhilaration of giving form to ideas, imagining material assemblies with specific properties, and searching for the appropriate ways to align architecture's agency with their own cultural and social ambitions. Enabling a lifelong process of iteration and experimentation is the underlying ethos of all three core studios.

Following Core, the Option Studios offer an array of topics at scales that range from 1:1 experimentation in assembly to the geographic scale. They fit, though never neatly, into several categories of inquiry: architectural, which includes design of buildings and urban life; urban, which includes design of landscape, territories, and the urban fabric; and cross studios, which focus on interdisciplinary topics and open the possibilities for the final deliverables of the studio to take place in various media suited to the focus of the students' research.

Seminars and Lecture courses drill down into historical and disciplinary expertise, which contextualize, challenge, and enable studio's instrumental thinking, while workshops provide a platform for faster, more discrete experimentation than is normally conducted in studios. All of these are mechanisms by which faculty involve students into the deep depths of their own research.

The Thesis semester caps the MArch studio sequence. It provides students a precious and sustained space for their own experimentation with framing the terms of engagement with the world. The size of the program becomes relevant here once again. Many forms and formats of work are possible for this self-directed project; a student could choose to see their contribution at this stage as feeding into a larger project already well under way in the Department, or one of the labs currently operating, or as a more intimate dialogue with individual faculty. The final Thesis presentation, set to be the last event of the semester, is when the faculty involved in the MArch program together with students and guest critics celebrate our students' ideas, risks taken, decisions made during their thesis projects, and all those yet to come.

Beyond this core curricular structure, MIT offers unique opportunities to chart new paths for practice and entrepreneurship in design; Exemplary is MITdesignX; the only student-focused startup incubator located in a school of design in the world. Through MITdesignX, students from the Department can collaborate with colleagues from other departments and build new business ventures and forward-thinking solutions designed to address critical challenges facing the future of cities and the human environment.

Additionally, the Department supports independent student research and exploration through an array of grants, fellowships, and awards. These include both nation-wide grants, for which MIT students are eligible for such as The Kohn Pederson Fox Travelling Fellowship, which awarded three MIT Architecture students in the last decade, as well as departmental awards that are distributed each year and support a substantial number of students in the Department, including the Louis C. Rosenberg (1913) Travel Fellowship, the Julian Beinart Research Award, the Marvin E. Goody Award, or the Schlossman Research Award. [3]Additionally, each student in the Department is eligible for an annual Avalon conference travel grant, covering travel and accommodation costs of up to 600$.

Lastly, the Department and MIT have several dedicated gallery spaces for exhibiting curated exhibitions by students, faculty, and alumni. Recent exhibitions have featured the work from those of successful recent graduates, to re-examinations of historic firms (such as last year's exhaustive exhibition on the built legacy of The Architect's Collaborative, of TAC.)

[3] For a full list of fellowships, grants and awards please see: https://architecture.mit.edu/student-resources

3—Program and Student Criteria

These criteria seek to evaluate the outcomes of architecture programs and student work within their unique institutional, regional, national, international, and professional contexts, while encouraging innovative approaches to architecture education and professional preparation.

3.1 Program Criteria (PC)

A program must demonstrate how its curriculum, structure, and other experiences address the following criteria.

PC.1 Career Paths—How the program ensures that students understand the paths to becoming licensed as an architect in the United States and the range of available career opportunities that utilize the discipline's skills and knowledge.

Program Response:

Approach

Throughout their professional education in the Department of Architecture, MArch students are exposed to the various pathways to becoming licensed as an architect in the United States and the range of career opportunities available to them through pedagogy as well as supporting lectures and events. All MArch students take four classes related to Career Development &/or Career Paths in Architecture. *Positions: Cultivating Critical Practice (4.210)*, *Professional Practice (4.210), Thesis Prep (4.189, and Thesis (4.THG)*. S Within the classroom, *Professional Practice (4.222)* gives a critical orientation toward a career in architectural practice through case studies, critical discussion on contemporary topics, and role-playing exercises which challenge students to explore a range of legal, ethical, political, and professional questions they will face in practice. These critical understandings are further developed through *Thesis Prep (4.189)* and *Thesis (4.THG)*, in which a guest lecture series provides students with diverse examples of pathways from thesis to practice, both normatively architectural and extra-disciplinary. These three courses are further supported by lectures and events more broadly within the school, many student-led, and career development opportunities provided by MIT institutions such as MISTI (the MIT International Science & Technology Initiatives program).

Courses

Positions: Cultivating Critical Practice (4.210) explores the reality that architecture manifests itself in buildings, drawings, writing, broadcasts, postures, experiments, social and professional organizations, and modes of practice. Cultivating Critical Practice opens itself up to various definitions of architecture and of criticality, to "light up" possible paths through the discipline and the profession, both taken and previously unthinkable. In *4.210* students acquaint themselves with the characters, language, and concerns that greet them upon entering the field.

The key objective of *4.210* is to collectively develop languages, tools, and forms of critical thinking that will help students navigate a map of contemporary architectural practices—through formal reading, understanding of popular culture and politics, and using our general grasp of the recent history of architectural thinking.

Students start by landing in the contemporary moment, and over the course of the semester address a series of topics—traversing multiple times the timeline from the late 1970s to 2020. Each of the topics considered has had its related pair or triple of related concerns since the 70s. Students set up each topic by considering a combination of texts and architectural work.

As the course unfolds and as terms/themes accumulate, a map of contemporary practices and discourses appears, allowing students to consider certain works through a variety of lenses and forcing students to invent lenses that accommodate new relationships that inevitably emerge from class discussions.

4.222 Professional Practice focuses on both the state of architectural practice – including the systemic inequities, biases, and forms of discrimination or oppression that have historically undergirded it – and on the ways in which designers are broadening the canon and models of practice that are committed to positive change. The course explores how the practice of architecture differs from academe in significant ways by focusing on the financial, regulatory, historic, temporal, and managerial features and contexts of real works of architecture, within a discursive and conversational pedagogical format, to enable both critiques of the profession and positing of new models of practice. Throughout the semester, students engage with practicing architects who are disrupting practice in one way or another, interrogate built projects from a variety of angles, and investigate urgent questions facing practice today.

4.222 is about the making of architecture in the contemporary moment. The course gives a critical orientation towards a career in architectural practice. Through case studies, critical discussions on urgent topics, internal reflections, and role-playing exercises, the course challenges students to explore a range of legal, ethical, political, and professional questions they will face in practice. The class focus is on both the state of architecture practice – which is not isolated from the systemic societal faults, inequalities, inequities, and deeply-rooted, foundational discrimination and oppression that have been, and continue to be, exposed and laid bare over in our current moment – and on the ways by which designers are broadening the canon and developing modes of practice that are committed to positive change.

In addition, *4.222* explores how the practice of architecture differs from academe in significant ways. Works of architecture are real, not solely abstract or theoretical. They impact the real lives of real people in real places. Real projects take time, involve stakeholders, and cost money. Buildings are subject to regulatory approval, building codes, historic districts, and the varied and complex interests of a broad range of community members and stakeholders. Real projects are not always funded by the people or communities they serve. At times architecture projects involve difficult ethical decisions. This environment requires that strong design skills be complemented by strong ethics; skills in communication and promotion; stakeholder management; time management; and financial awareness. Much of the above is developed over time, putting the less-experienced architect at a disadvantage. Working in this environment requires the understanding that the profession and practice of architecture is as much a sculptor of our world as is it a product of it - a reflection of its context, however, faulted. Works of architecture, and architects themselves, can be vehicles for reinforcing the status quo, as much as they can be a means by which real change can be expressed and realized.

The course format is discursive and conversational, which allows for both critique of the profession and the positing of new models of practice. Throughout the semester, students engage with practicing architects who are disrupting practice in one way or another; they interrogate built projects from a variety of angles, and they will investigate urgent questions facing contemporary practice.

4.189 Thesis Prep asks students to see thesis prep and their MArch thesis less as a final project and more as the initial framing of a design practice. Students are taught that the most important thing they will design in a school of architecture is what and how they will design when they leave that school of architecture: what that practice is, who it is for, what issues it addresses, its manifold environments and techniques, its spatial politics, its desired outcomes, etc. This framing entails the production of a “well-conceived proposition” per the social course description. Thesis Prep does not delimit the proposition of a thesis developed

in the short-term for a degree requirement, but rather as propositions for design practices that are fit for the non-simple, non-stable horizon of design and life in the coming decades. To that end, Thesis Prep is not really about the ending of a student's MArch program, but rather about the beginning of a five or ten-year practice.

Thesis projects in architecture traditionally obsess over the recent past of disciplinary preoccupation, and in the best cases offer clever—but often minor—inflections as the endgame. The larger outcome of this tradition is thousands of PDFs, silently filed on hard drives. Thesis Prep wonders if that tradition serves students well because the lives and careers of current and future students will simply be unlike the lives and careers of current architecture faculty and practicing architects. The lives and careers of current and future students will be shaped and impacted by systemic transformations—some of which are entirely welcome and necessary, and some of which will be quick, shocking, and even devastating. The lives and careers of current students are arguably better served by the consideration and elaboration of practices fit for the storms of this century.

Thesis Prep is therefore conceived as an opportunity to prepare a new set of design practices, to reason and imagine a student's next steps as an architect/citizen designer. This will most certainly entail a thesis—a statement or theory that is put forward as a premise to be maintained or proved—but charges that cognitive activity with future-oriented opportunities and obligations. To do so, students are asked to evince their command of architecture as a discipline: its discourses and techniques. That command is not viewed as an end unto itself. Thesis Prep is, in this sense, a generous opportunity to frame and trial novel practices that deepen and extend architecture's role—as well as each student's role—in this century.

At the conclusion of Thesis Prep, students are expected to produce a dossier of varied media. Each student's dossier will clearly define the practice and its method, media, histories, futures, constituencies, contexts, and ultimately, its outcomes. Each student's thesis proposal will be submitted to the thesis coordinator and thesis advisor for signed approval before advancing to their thesis semester.

Thesis (4.THG) does not issue a single syllabus. Rather, each student works with their advisor to develop a course or thesis description, student learning outcomes or objectives, methods of assessment, a course schedule, and instructional materials. Building on work in *4.189*, the thesis is a deliberate articulation of a position within the discipline, and thus also towards a disciplinary trajectory post-graduation. The nature and possibilities of this trajectory are an explicit subject of critique, conversation, and ultimately celebration at the end of the semester.

Lectures and Events

In fall 2021, the Department's public lecture series hosted many presentations and discussions that offered students the opportunity to engage with critical work, practice, design, theory, criticism, and building processes from across the globe.

Speakers included Sanford Biggers, Vernelle A. A. Noel, Gökçe Günel, Mpho Matsipa, Joseph Choma, Maya Hayuk, Diana Martinez, Sussan Babaie, and Donnel Baird. The Department also hosted two endowed lectures: Sigrid Adriaenssens presented "Harnessing Extraordinary Mechanics for Structural Design" at The Edward and Mary Allen lecture in Structural Design. For The 27th Pietro Belluschi Lecture, Tod Williams and Billie Tsien presented "Defiant Optimism," discussing their work on the Obama Presidential Center, lessons learned, mistakes made, and future hopes for architecture and society.

The Spring 2022 lecture series hosted another group of formidable innovators, theorists, and entrepreneurs at the intersections of design and research. Among the varied topics, presenters confronted thermal dynamics in architecture, performance, globalism and racialization, power systems, the 'Climatic Turn,' the mythology of architectural authorship, and the complex relationships between people, place, and building. Through it all, the Department sought out excellence in discussing, complicating, and explaining architecture's role in helping us understand the world and our global community's responsibilities and possibilities in transforming it.

The spring series included Dorit Aviv, J. Yolande Daniels, Hakim Sameer Hamdani, Xiaoji Chen, Nadi Abusaada, Nida Sinnokrot, and Hentyle Yapp. The Department also welcomed Marlon Blackwell for a discussion on design strategies that draw upon vernaculars, building typologies, and the contradictions of place in his talk, "Abstract Unions," for The 31st Arthur H. Schein Memorial Lecture. A student- and community-driven annual lecture hosted by MIT NOMAS brought Frederick Moten to discuss walking, race, art forms, and urbanism in his talk, "Building and Bildung und Blackness: Some Architectural Questions for Fela."

Career Development

The Department supports active bridging between academe and practices through a series of career development and internship initiatives.

The MIT Alumni Advisor Hub is a venue for one-on-one conversations between students and alumni to provide or receive career advice. The MIT Alumni Advisor Hub is an MIT-provided service where MIT Architecture students and alumni go, sign up, and provide or receive career advice as both current MIT Architecture students and MIT Architecture alumni. Paul Pettigrew is an Alumni Advisor and has advised many MIT alumni who have reached out to me based on my Alumni Advisor Hub profile. Paul Pettigrew meets one-on-one with students to review their resumes, cover letters, and portfolios, and to brainstorm with them on which architecture firms and which cities/countries best align with their professional interests. Part of this process includes identifying MIT architecture alumni at firms students are interested in and providing students with alumni contact information so as to circumvent the Human Resources person at these firms and/or the career/job online portals.

MIT's Career Advising & Professional Development (CAPD) advises students on any part of the career development process, including career self-assessment, exploring career opportunities, searching for jobs, and managing careers. The CAPD also maintains a program called Handshake that allows for the posting of internships. The following Career Development information and resources can be found on our MIT Department of Architecture website at the following link. These resources are updated annually to both verify that all of the links are working/current, to add new resources, and to remove dated or no longer relevant resources: (https://architecture.mit.edu/student-resources#career-development)

MISTI (the MIT International Science & Technology Initiatives program) matches MIT students with tailored internships, and research opportunities abroad. Rooted in MIT's *Mens et Manus* motto, MISTI fosters strong inter-cultural connections and advances global innovation through student internships, faculty collaborations, and partnerships with industry and governments around the world. In recent years, MArch students have participated in MISTI internships with architectural firms in Denmark (SPACE10, Henning Larsen, Vandkunsten Architects, BLOXHUB Sustainable Living Cluster), France (Oualalou + Choi, Sou Fujimoto, Campus France - Policy and Innovation Program, Encore Heureux, Ateliers Jean Nouvel, Studio Odile Decq, Confluence Summer School, Confluence Summer School, Lina Ghotmeh Architecture, Bon Soir Paris, Kengo Kuma and Associates, Orange), Israel (Ben-Gurion University - Isaac Meir, Tel Aviv University - Tali Hatuka, Israel Antiquities Authority, Schwartz Besnosoff, HQ Architects, Ben-Gurion University - Arts/Yerushalmy,

Azrieli School of Architecture, Tel Aviv University), Jordan (CBSE, AMIDEAST, Future Heritage Lab), Kazakhstan (Centre for Development of Almaty, A. Kasteyev Museum of Arts), Russia (Strelka Institute, Strelka KB, The SKOLKOVO Centre for Urban Studies, Garage, APEX, ZIL)

Lastly, MITdesignX, an academic program within the School of Architecture and Planning (SA+P), empowers students and researchers to build new business ventures and forward-thinking solutions that are designed to address critical challenges facing the future of cities and the human environment. Launched in 2016, MITdesignX is a unique entrepreneurship accelerator for design and the built environment. It is built on the belief that successful ventures exist at the intersection of design, business, science and technology. By providing resources to build new solutions, systems and ventures, MITdesignX supports interdisciplinary teams of creative thinkers and makers fast-track the development of their innovations and launch ventures into the marketplace. In recent years, several MArch students have submitted successful proposals for MITdesignX, utilizing their research and innovation skills acquired throughout their studies. For instance, a group of three MArch students formed Roofscapes, a design-business venture with the mission of transforming untapped rooftops into green roofs to mitigate climate change and to provide new outdoor spaces in cities. Since its inception in MITdesignX, Roofscapes has been featured in multiple publications and exhibitions and supported by various international grants.

All graduate students are eligible for Department travel support to one professional conference per year, providing the student is taking an active part in the scholarly meeting (such as presenting a paper or chairing a panel). Additional resources related to architecture and planning careers are also available. Current job postings, internship postings, and micro-internship postings can be found on the MIT Handshake Page.

Career Placement Services: Internships

The Architecture Department's Manager of Special projects, Paul Pettigrew, assists with the effort to place students in local, national, and international architecture firms to intern full-time for the entire month of January, the entire summer, and, in appropriate cases, earn academic credit. The Department assists with the effort to place students in local, national, and international architecture firms to intern full-time for the entire summer and, in appropriate cases, earn academic credit.

There are numerous ways for architecture firms/ alumni to connect with MIT architecture students for internship opportunities. Prior to both winter IAP Micro-Internships (usually late October) and summer internship interviews/applications (usually late February) the Department sends an email to all the architecture firms in our database run by MIT architecture alumni or with MIT architecture alumni in senior leadership positions, requesting information about potential winter and/or summer internship opportunities.

The Department of Architecture coordinates with Tavi Sookhoo (Assistant Director of Career Prototypes) in the MIT Career Advising & Professional Development office about Micro-Internships, Campus Career Fairs, and additional workshop events, all of which typically include firms with alumni connections interested in hiring current MIT Architecture students for winter and/or summer internship positions.

Micro-Internships occur during the month of January and are posted by the Career Advising & Professional Development (CAPD) office during the month of January and/or during MIT's IAP (Independent Activities Period). Micro-Internships are posted on Handshake prior to January's IAP period which is an opportunity for architecture firms to connect with MIT Architecture students prior to the summer internship interview and application process.

Our email lists include all current MArch students. If architecture firms/alumni are looking to hire a summer intern, firms contact Paul Pettigrew at paulpett@mit.edu directly and Paul forwards their opportunity to all our current MArch students.

The Department of Architecture organizes a variety of “workshops” for architecture students. Recently, Goody Clancy, Perkins & Will, and BIG, have visited MIT Architecture to talk to students about their firm/firm’s work, and discuss the application process for summer internships. Typically, firms have shown our students examples of resumes, portfolios, and even cover letters (emails) of their recent internship hires, then discussed with students their reasoning for hiring each of these recent interns.

The Department of Architecture sponsors research grant opportunities, based on a competitive application and selection process. Recent awards to MArch students include the Schlossman Research award, the Louis C. Rosenberg Travel Fellowship, and the Marvin E. Goody Award. All these grants offer a modest funding opportunity for a student to pursue his or her research.

Each year the Department provides a scholarship for one graduate or undergraduate student to attend the Architecture Summer Session at the Chateau Fontainebleau in France. The scholarship is made possible by the support of A. Anthony Tappe, MArch and MCP '58. The 5-week program features workshops, lectures, visits, and studios in and around the Chateau Fontainebleau.

Each summer one Department of Architecture graduate student is placed in a three-month internship in the Architectural Design Section of the Takenaka Corporation’s Osaka office in Japan. MArch students may apply for this competitive department internship.

Career Placement Services: Job Placement

Architecture Department staff members, and students, organize and maintain Architecture Department Bulletin Boards, where job announcements are posted. The Department supports an email "bulletin board" (arch-kiosk) for similar news, opportunities, and announcements including the Boston Society of Architects monthly newsletter and the Emerging Professionals Network newsletter. Students are supported administratively as staff members may assist with work-related visas and paperwork and write letters of introduction and recommendation.

Given the scale of the MArch program (~25/yr) relative to our alumni base (6000+ including all degrees), support for external internships or post-graduation work usually takes the form of one-on-one work with our outreach staff focusing on students’ interests in firms and location.

Our email lists include current students and students who graduated up to 6 months ago. If architecture firms/alumni are looking to hire a soon-to-be MIT Architecture graduate, or recent graduate, they can contact the Department’s career support representative, Paul Pettigrew at paulpett@mit.edu directly and the Department forwards their opportunity to all our current students and students who’ve graduated within the past 6 months.

The MIT Architecture Alumni Affinity Group (MITArchA) currently maintains a job board for the benefit of the MIT Architecture alumni community and student body. MIT Architecture alumni can add a job posting by reading out to MITArchA via their contact page. Students can visit https://www.mitarcha.org/jobs to view current job postings and can view a full archive of job listings as well.

(Also see 6.3 Access to Career Development Information)

Assessment

As well as the mechanisms outlined in section 5.3 below, regular assessment of career trajectories for our students takes place as part of Departmental planning processes with staff responsible for career development, including Paul Pettigrew and DEB Officer Lauren Schuller. In addition, regular meetings with Alumni and recent graduates serve to reconcile support strategies for current students with the emerging diversity of career paths for our graduating students.

PC.2 Design—How the program instills in students the role of the design process in shaping the built environment and conveys the methods by which design processes integrate multiple factors, in different settings and scales of development, from buildings to cities.

Program Response:

Approach

The small size of MIT's MArch program, with 25 students in each class, allows for unique trajectories through MIT, into the profession of architecture and beyond. The program's size also ensures that our experiments together are conducted in an atmosphere of engaged debate—with ourselves, with guests, and with the larger communities which we serve. As well as within the classroom, this culture extends through public lectures and programs within the Department, the School of Architecture and Planning, and all of MIT, with students curating the most agile platforms for dialogue.

Though it feeds on everything that surrounds it, the MArch laboratory derives its energy from its key testing ground: the studio. Studio is a key site of iterative, embodied, design learning, where cultural meaning animates methods and materials with urgency. MIT's MArch studio sequence is both surrounded by and infused with deep disciplinary and interdisciplinary thinking, sometimes in support of, and other times deliberately at odds with, studio concerns. It comprises three distinct units: (3) Core Studios, (3) Research/Option Studios and a Thesis Project.

The collective mission of the three Core studios is to offer fundamental architectural methods to the students, while opening a series of different entries into the vocation of an architect, such that students can begin to develop their own positions and become well versed in initiating other entries and paths through the discipline. Each of the Core studios is oriented toward contemporary conversations and the future of the discipline, which means that they are constantly updated. Though each of the Core studios outlines a diverse set of cultural, technical, and disciplinary issues, together they deliver approaches, attitudes, and questions that we deem essential for students who are establishing their own research projects and agenda.

Core & Curriculum

The Core studio sequence within MIT's MArch program introduces students to the role of the design process in shaping and integrating multiple factors through a series of expanding lenses, culturally and pedagogically anchored and defined by *Architecture Design Core 4.151 Studio I,* which introduces design at the scale of a public space, and expanded upon by *4.152 Architecture Design Core Studio II*, which introduces design at the scale of systems and cities.

In *Architecture Design Core Studio I* , students are asked to *design* in *light* of a *moment* – to identify a moment or mode of public assembly, to understand the constraints, needs, and intersectional factors that moment entails and requires, and to develop a publicly oriented design solution through the scales and mediums of objects, models, spaces and structure within a public landscape setting. This is further reinforced via bracketed modes of production through which Core I is delivered, focusing from week to week on engagement with the central design challenge through orthographics, image-making, time-based media, geometry, and simulative environments.

These diverse methods of design engagement are expanded and contextually diversified through *Architecture Design Core Studio II* which centers on the design of a public building situated within a dense urban neighborhood and fulfilling a community need. Students are introduced to regulatory constraints, community-oriented design processes, architectonic strategies, and material systems.

We are also unique in integrating design across multiple technical classes that exist alongside studios, ranging from *4.105 Geometric Disciplines and Architecture Skills* to our three-course Building Technology sequence (4*.462 Introduction to Structural Design 4.462*, *4.463 Building Technology Systems: Structures and Envelopes, 4.464 Environmental Technologies in Buildings*), all of which contain central design components.

These primary components of Core I and Core II are further supported by *4.123 Architectural Assemblies, 4.105 Geometric Disciplines and Architecture Skills, 4.210 Positions: Cultivating Critical Practice* , and yearly Building Technology courses throughout the pedagogical sequence which leverage design as a vehicle and entry point to engage particular topics of construction systems, structures, and details, geometric and formal refinement, and considerations of sustainability and environmental performance.

4.153 Architecture Design Core Studio III is the concluding studio of the MArch core program at MIT. As an integrated studio, it is co-taught with *4.463 Building Technology* led by Professor Caitlin Mueller and her team. The *Core III studio* gives students the chance to explore and test the development of an architectural design proposal with an integrated understanding of a building's technical performance and how a design proposal responds to climate change in the Anthropocene. The semester is structured as a single project organized around four Design Modules with required deliverables that present a particular scale and lens by which architecture is designed and understood. Constructive Systems: Convention & Transformation addresses learning and innovating through worked precedents; Massing, Movement & Space considers massing and circulation demonstrated in the design of a large-scale section of a selected program space; Unpacking the Wall addresses relationships in the design of a project's building envelope and public image; Synthesis is an opportunity to step back, reflect and foreground the key ideas and representations for the design development students 'architectural design proposals.

Option Studios & Discipline Groups

Following Core, the *4.154 Architecture Design Option/Research Studios* offer an array of topics at scales that range from 1:1 experimentation in assembly to the geographic scale. They fit, though never neatly, into several categories of inquiry: architectural, which includes design of buildings and urban life; urban, which includes design of landscape, territories, and the urban fabric); and cross studios, which focus on interdisciplinary topics and open the possibilities for the final deliverables of the studio to take place in various media suited to the focus of their research.

Seminars and Lecture courses drill down into historical and disciplinary expertise, which contextualize, challenge, and sometimes enable studio's instrumental thinking, while Workshops provide a platform for faster, more discrete experimentation than is normally conducted in studios. All of these are mechanisms by which faculty involve students into the deep depths of their own research.

Beyond these primary courses, students engage a broader range of social, technical, constructive, regulatory, and urban factors through the unique organization of MIT's Discipline Groups, which enable deep and diverse inquiries through Building Technology, History, Theory, and Criticism, Architecture + Urbanism, Computation, and the Aga Khan Program for Islamic Architecture.

Thesis

The Thesis semester caps the MArch studio sequence. It provides students a precious and sustained space for their own experimentation with framing the terms of engagement with the world. The size of the program becomes relevant here once again. Many forms and formats of work are possible for this self-directed project; a student could choose to see their contribution at this stage as feeding into a larger project already well underway in the Department, one of the labs currently operating, or as a more intimate dialogue with individual faculty. The energy, and the production that take place during the MArch thesis ferment into material artifacts, processes, and statements—knowledge—that probe the edges of architecture. The final Thesis presentation, set to be the last event of the semester, is when the faculty involved in the MArch program together with students and guest critics celebrate our students' ideas, risks taken, and decisions made during their thesis projects, and all those yet to come.

Assessment

Each studio receives ongoing assessment through public reviews at landmarks of the semester. Starting in 2020-21, all students are required to submit a digital archive of their work during the semester, which becomes part of a digital archive and informs both publication and assessment of student work each year. At the end of each semester, all design faculty meet in a "evaluation meeting" to discuss any unsatisfactory outcome from each semester's teaching. In addition, the faculty hold regular "Core summits" involving design faculty and other collaborators involved in the first three semesters of the MArch program, in which syllabi and student work are reviewed collectively to potentially adjust strategy, points of collaboration, and curriculum.

Please see 5.3 Curricular Development for further information about the assessment processes outlined above.

PC.3 Ecological Knowledge and Responsibility—How the program instills in students a holistic understanding of the dynamic between built and natural environments, enabling future architects to mitigate climate change responsibly by leveraging ecological, advanced building performance, adaptation, and resilience principles in their work and advocacy activities.

Program Response:

Approach

We approach questions of environmental stewardship and professional responsibility by recognizing that we face not only a crisis of the physical environment but also of the intertwined cultural, technological and economic environments —to which architecture is essential. Throughout the curriculum, students are exposed to various aspects of environmental questions and professional responsibilities in both dedicated and required classes, as well as various electives provided by the different discipline groups.

In their first semester, MArch students are required to complete *4.464 - Environmental Technologies in Buildings* (Reinhart) which introduces students to the basic scientific of the thermal and luminous behavior of buildings and to a range of technologies and analysis techniques for designing comfortable indoor environments. The course has a strong environmental modeling component that teaches students how to quantitatively develop an environmental concept for a net zero, medium-sized office building or startup space. To this end, students work on a series of analysis workshops for climate, daylighting and energy. Example materials can be found under https://netzerobuildings.mit.edu/.

During their third term, MArch students learn about advanced structures, exterior envelopes, and building material systems with a focus on building performance and environmental impact of design strategies across these systems (*4.643 - Building Technology Systems: Structures and Envelopes* (Mueller)). The knowledge and skills developed in these courses are reviewed and built upon in *4.153*, the third Architecture Design Core Studio, which is taught together with 4.463. In this combined curriculum, students engage the domains of building technology, computation, and the cultural/historical geographies of energy. This curriculum is designed to give students the chance to explore and test the development of an architectural design proposal with an integrated understanding of a building's technical performance and how a design proposal responds to ongoing changes driven by the climate crisis. Projects focus on discovering design solutions that satisfy multiple metrics of performance, refined through the paired courses. Within *4.463*, students begin with a precedent study to understand methods of assembly, embodied carbon impacts, and structural properties of a range of constructive systems. They then review building structural systems in depth, with an emphasis on load path, systems interactions, and design integration. Finally, they complete a module on building envelopes and passive and active conditioning systems, with a focus on environmental performance. During their studio design work, students explore and discuss energy load reduction strategies such as building site orientation, north and south elevation treatments and thermal mass and stack effects.

In parallel to the course's weekly lectures, discussions, and lab sessions focused on technical content delivery, assignments and desk crits are dedicated to the discussion and refinement of studio projects within *4.151*. The course uses different modalities of thought to examine architectural agendas for sustainability and climate-responsive design; students position their work with respect to a broader understanding of the environment and its relationship to society and technology and develop a project with a comprehensive approach to programmatic organization, energy load considerations, building material assemblies, exterior envelope, and structural systems.

Beyond this basic education in architecture, building performance, and sustainability, in *4.222 Professional Practice* students focus on the state of architecture practice – which is not isolated from the systemic societal faults, inequalities, inequities, and deeply-rooted, foundational discrimination and oppression that have been, and continue to be, exposed and laid bare over in our current moment – and on the ways by which designers are broadening the canon and developing modes of practice that are committing to positive change. Exploring the real-world implications of architectural work, and the relationship of built work to various stakeholders, regulations, histories and complex and varied interests, students

develop both professional skills and professional ethics, and learn that buildings, as well as architects, can be vehicles for reinforcing the status quo, as much as they can be a means by which desires for real change can be expressed and realized.

The professional, social, and environmental responsibilities of architects are incorporated into an array of additional courses, seminars, and studios, which students can choose to attend throughout their studies. In the past years these included *4.154 Architecture Design Option Studio: CARBONFJORD: Center for Biogeochemistry in the Anthropocene — Re-thinking Materials + Modes of Habitation for a Despoiled Planet: Friluftsliv + Dugnad (Goulthorpe); 4.154 Architecture Design Option Studio: Repositioning – Design and Repositioning of Skyscrapers in New York City (Simmons); 4.183 Architectural Design Workshop — World Heritage, Climate Inheritance (Ghosn); 4.433 Modeling Urban Energy Flows for Sustainable Cities and Neighborhoods (Reinhardt); 4.421 Space-Conditioning Systems for Low-Carbon Buildings (Norford); 4.213 Ecological Urbanism Seminar (Spirn);* and *4.612 Islamic Architecture and the Environment: Earth, Reed & Water (Gupta*)

Assessment

Each core studio noted above receives ongoing assessment through public reviews at landmarks of the semester. Starting in 2020-21, all students are required to submit a digital archive of their work during the semester, which becomes part of a digital archive and informs both publication and assessment of student work each year. As noted elsewhere, In the 2022-23 academic year, we are planning further integration between the design and building performance classes beyond the integrated *4.151/4.463* curriculum noted above.

Please see 5.3 Curricular Development for further information about assessment processes.

PC.4 History and Theory—How the program ensures that students understand the histories and theories of architecture and urbanism, framed by diverse social, cultural, economic, and political forces, nationally and globally.

Program Response:

The MIT Department of Architecture operates with the conviction that meaningful and impactful design is rooted in a deep understanding of historical and social context and conditions. As the home of the first Ph.D. program in architecture in the US, the Department is a leading institution in the fields of history and theory of architecture, with a world-renowned History, Theory and Criticism of Architecture and Art (HTC) group. The HTC faculty teaches courses that deal with the social, cultural, economic, and material context of the built environment; that address significant theoretical issues in current disciplinary thinking; and that interpret the philosophical and material contexts for works of and architecture art with a range of analytical methodologies. Specifically, all the courses offered by HTC faculty examine architecture by introducing topics in global history, colonial and imperial histories, issues of equity and policy, as well as justice and inclusion. In addition, The Aga Khan Program for Islamic Architecture at MIT (AKPIA) is an academic leader in the study of architecture and urbanism in the Islamic world. AKPIA concentrates on the critical study of the history and historiography of Islamic architecture; the interaction between architecture, society, and culture; strategies of urban and architectural preservation; design interventions in disaster areas and environmental and water-conserving landscape research.

Students in the MArch program are required to complete four classes in the History, Theory and Criticism of Architecture, offered by HTC and AKPIA faculty. These courses present various discourses such as contextualism, regional and national identity, technological narratives, socioeconomic factors, and perspectives from around the world, including western

and non-western traditions. The first course, *4.210 Positions: Cultivating Critical Practice* (Miljački), introduces students to a set of contemporary and recent historical and theoretical architectural discourses, as well as to preliminary research methods. *4.645 Architecture from 1750- Present* (Dutta) provides a general study of modern architecture as a response to important technological, cultural, environmental, aesthetic, and theoretical challenges after the European Enlightenment. These two required classes are followed by the 'limited elective' sequence of *4.612, 4.621, 4.647,* or *4.241* where every student has to engage one of these subjects within the core and then take an additional HTC elective to complete the 4-class, 36-unit HTC sequence requirement. Global culture and traditions are further explored through *4.189 Thesis Prep*, where extensive work on bibliographies, precedents, and local contexts inform thesis proposals that are intellectually grounded and focused.

Faculty in the HTC group offers an array of special-subject seminars from which MArch students can choose as open electives. Students benefit from the consistent presence of HTC faculty and PhD students and candidates in reviews and discussions revolving around design, and often choose HTC faculty as thesis advisors and readers. In addition, PhD students from the HTC group organize an annual lecture series, HTC Forum. Through these, MArch students are exposed to leading, contemporary and upcoming researchers and scholars in the fields of architectural, art, and visual history.

HTC requirements for MArch Degree

HTC Required Courses:
4.210, Positions: Cultivating Critical Practice, 9 units (Miljački)
4.645, Selected Topics in Architecture: 1750 to the Present, 9 units (Dutta)

HTC Restricted Elective (one of four):
4.612, Islamic Architecture and the Environment, 9 unit (Gupta)
4.621, Orientalism, Colonialism, and Representation, 9 units (Rabbat)
4.647, Technopolitics, Culture, Intervention, 9 units (Dutta)
4.241, The Making of Cities, 9 units, (If the student didn't take *4.607* or alternatives previously)

HTC Open Elective (at least one) such as:
4.6XX HTC Elective, 9 units (Rotating faculty)

Total: 36 HTC Units Minimum

Assessment

The HTC group is administered by a faculty member serving as Director of HTC (Hyde), who has oversight for course offerings in history and theory of architecture. Every year, either the HTC Director or another appointed HTC faculty (Jarzombek) serves as a member of the MArch Curriculum Committee and is responsible for assessing with that committee the efficacy and relevance of the required and elective course sequence in history and theory. Any modifications to the sequence, or individual required courses in the sequence, are discussed first by the MArch Curriculum Committee and then presented by the serving HTC faculty member to the HTC Director for consideration and for a recommendation that is then conveyed back to the MArch Curriculum Committee. The HTC faculty as a group review the course offerings in history and theory of architecture annually. In addition, the HTC Director participates in the end-of-semester MArch student progress meetings in which student performance in all required courses is discussed.

Please see 5.3 Curricular Development for further information about assessment processes.

PC.5 Research and Innovation—How the program prepares students to engage and participate in architectural research to test and evaluate innovations in the field.

Program Response:

Beginning after the second world war, and accelerating to the current day, MIT has defined the modern research university. While, historically, funding into architecture and design has been less generous than funding in basic scientific research and engineering, the open and collaborative nature of the MIT campus means that the Department of Architecture has been shaped by, and has helped shape, key practical innovations in architecture and design across the last 80 years — from the first CAD Software, through the invention of CNC fabrication, to key contemporary innovations in 3-D printing. In addition, the intellectual framework of research culture at MIT has fostered key intellectual landmarks in our discipline as well — from Kevin Lynch's work on urban form, to the foundation of the Aga Kahn Program in Islamic Architecture, to the formation of new global networks of teaching architectural history and critical practice in the present day. Key to this success is the fact that that students at every level — including in our professional degree programs — have opportunities to participate directly in faculty research through internships, seminars, studios and workshops.

In FY 2022 (July 1, 2021 - June 20, 2022) total funding for research in the Department of Architecture was $4.7M ($4.3M in sponsored research and $398k in internal MIT funding). Architecture faculty are playing key roles in research initiatives across MIT in climate and resilience, as well as computation and its applications across disciplines. At MIT, we are very conscious of the role technology can play within the architectural culture, not only in terms of technical disciplines but also in the critical evaluation of how technology establishes a role in society.

Courses

The Department of Architecture defines its program as the intersection of design practice and research. While nearly every course in our curriculum involves some research, the moments of greatest emphasis are found in *4.646 Environmental Technologies in Buildings, 4.154 Architecture Design Option/Research Studios, 4.189 Preparation for MArch Thesis,* and *4.THG Graduate Thesis.* Because the intersection of design and research is at the core of our program, it is difficult to define one class or set of classes as satisfying these criteria. The range of research studios has focused in the past year on carbon construction, social research, etc. However, it is particularly important in this context to introduce students to basic research skills and how to test and evaluate innovations. Once so equipped, students are supported not only in research within the learning environment but also along their own journeys as innovators and inventors through programs such as MITdesignX.

Environmental Technologies in Buildings (4.464)

4.646 Environmental Technologies in Buildings focuses on the study of the thermal, luminous, and acoustical behavior of buildings. This course examines the basic scientific principles underlying these phenomena and introduces students to a range of technologies and analysis techniques for designing comfortable indoor environments. Students are challenged to apply these techniques and explore the role energy, light, and sound can play in shaping architecture.

Following a review of how to analyze a site's climate and local energy mix, the course introduces students to the art and science of lighting buildings along with rules of thumb and computer-based methods for analyzing daylight within and around buildings. The third part of the course is dedicated to the principles of heat storage and heat flow into and out of buildings. Basic manual and computer-based methods to predict the energy use of buildings are also discussed. To introduce students to the effective use of computer simulations during design, a Building Optimization Game that mimics a sustainable design charrette is incorporated into the class schedule. During the game, student groups compete to discover who develops the building with the lowest energy use within a given cost budget and for a given climate. The last part of the course provides an overview of building acoustics and sound attenuation.

The course aims to help students: 1. Understand and apply the scientific principles underlying the thermal, luminous, and acoustical behavior of buildings, 2. Learn to evaluate the pros and cons of a range of technologies for creating comfortable indoor environments, 3. Conduct a series of design analyses workflows regarding climate, 4. Building energy use and daylighting, 5. And acquire the knowledge required to critically discuss/present the environmental concept of a building.

It should be note that by teaching this class for over a decade, the Sustainable Design Lab, lead by Christoph Reinhart, has developed and tested multiple design concepts and metrics, the most prominent being Daylight Autonomy that is now being used as a metric for evaluating daylight in buildings in buildings across the world. Originating from the course is also the formation of Soleanna, a technology company that develops simulation workflows for architects via tools such as DIVA-for-Rhino and ClimateStudio. The latter is used for teaching architects at 400 universities worldwide (https://www.solemma.com/educational-climatestudio).

Option Studios

Within our MArch program, our Option Studios are best understood as "Research Studios," in which students work alongside permanent and visiting faculty on current problems in the discipline and built environment. Increasingly, these studios focus on medium-term research goals, involving two or up to three interconnected syllabi, leading to specific outcomes in publications, symposia, or exhibits. Example studio descriptions from 2021-2022 include:

Intelligent Skin, Skylar Tibbits: This studio brings together the worlds of fashion, design and technology by exploring the topic of an 'interactive intelligent skin.' This studio is taught as a collaboration between HTW in Berlin & MIT. The aim of the collaboration is to bring together students across both institutions as well as faculty, and invited guest presenters, to help conceptualize and materialize a future intelligent skin. This begs the question - can we now create truly intelligent materials that can go beyond a sense/response behavior, towards seamless human interaction, embodied intelligence and even form their own materially creative expression.

Making Ingredients: Externalities of Knowledge, Methods, and Materials in Fabrication Research, Lavender Tessmer, Diego Pinochet*: Making Ingredients* is an explorative fabrication studio dedicated to producing vibrant, spatially rich installations in celebration of reinhabiting our physical space at MIT. The studio will draw on references that range from architectural fabrication research to street art and its ability to transform the built environment through colors, patterns, and light. Students will learn: 1. Develop a critical framework for thinking of fabrication/installation projects in a research context, 2. Learn how to establish architectural research agenda through installation-based work, 3. Gain familiarity with major conceptual themes in computational design research, 4. Practical skills, including design scripting, machine usage, techniques for detail and assembly

On/Off: Architecture of the Earth, Antón García-Abril: *ON/OFF is* a hybrid studio, between Hands-On model sessions and online classes, in which students integrate research, fabrication and design. Students can participate in an enriching experience involving academic and theoretical design and research followed by practical application of their concepts. The studio involves and connects physical and digital design methods, and includes case studies, models, drawings, engineering, and construction, with a focus on 3D printing and 3D scans, 3D printed molds, structural reinforcements, concrete casting, etc. Models and mockups as part of prior research will also be intensively utilized. All materials are progressively produced over the course of the studio as essential parts of the research, helping the design effort versus serving as mere means of representation.

Utopic and Crisis Forms, J. Yolande Daniels: This studio critically analyzes and draws inspiration from architects that sought to re-envision society through visionary projects in response to historic social crises. Within the context of the studio that fosters interaction and sharing ideas, and the studio framework, students follow individual interests to develop independent proposals including exhibiting the ability to research, conceptualize, develop, and represent design research, the design process, and final designs while conducting, compiling, and representing research of the project pertinent to the studio framework. The process of conceptual development includes design and material research. Final design responses are expected to be the logical conclusion the process of design development. Architectural designs are evaluated by their performance as logical programmatic and site responses, as the product of design research, and for spatial, structural, and material clarity.

Serra da Capivara Studio: Unfolded from Amazonia 2, Angelo Bucci & Roi Salgueiro: This studio builds upon *Amazonia Studio 1*, carried out previously, which engaged the archaeological site of Monte Alegre in the State of Pará in the Amazon region. That previous studio relied on the participation of archeologist Edithe Pereira, who has been researching Monte Alegre for three decades, and Raoni do Vale, who researches rupestrian inscriptions (rock markings) with an anthropological lens and indigenous researchers. Studio objectives include strengthening the students' ability to research, conceptualize, and develop an understanding of complex urban environments. Studio criteria include quality and depth of analysis and design research.

Loudspeaking Models: Implementing Audio Technologies in Architectural Representation, Deborah Garcia: Students in this studio design audio-focused building interventions, focusing on sites near or around the traditional territory of the Wampanoag Nation. Students consider site and landscape as narrative mediums. In the same way that we think of museums, galleries, monuments, and archives as vessels of knowledge, students equally acknowledge the stories that exist outside of them. The class introduces the topic of site research and requires the delivery of site precedent research, a site research booklet, and site research and information as plan drawing(s) of public communal space typologies.

Carbonfjord : Center for Biogeochemistry in the Anthropocene (Cba) Re-thinking Materials + Modes of Habitation for a Despoiled Planet: Friluftsliv + Dugnad, Mark Goulthorpe: Carbon*House* is an on-going research initiative funded by ARPA-e (the Advanced Research Projects Agency of the US Dept of Energy) that involves MIT and 9 groups of international scientists, researchers, composite fabricators, all focused on emerging forms of Carbon for their holistic use in benign, high-performance buildings. Since buildings consume approx. 40% of global energy production, with some 10% embodied energy, the re-orientation of the hydrocarbon legacy to produce clean energy and ultra-benign buildings at macro scale is seen as a critical endeavor. The studio projects augment this research effort by helping to envisage new carbon architectures, both housing and research buildings - i.e. projects that will build the case "for carbon" to hopefully influence Equinor, the Norwegian Government, ARPA-e and DOE, etc. Students can choose the scale of their projects, from event spaces or

research labs or manufacturing hubs to housing and community spaces – these all offer challenges in formal, detail, manufacturing, environmental, etc. terms. Benefitting from the extended ARPA-e research team, the course offers more technical input than usual, with cameo appearances from the extended Carbon>Building research group.

Collective Architecture Studio: Roxbury with Dudley Street Neighborhood Initiative The Food Project and Boston Plan for Excellence, Ana Miljački: *Collective Architecture Studio* both studies and self-experiments with forms of collective authorship. Every student participates in the constitution of our studio's own archives, work and broadcasts. Students read, plan, and play together. Once the members of the studio are sitting at the same table, theyl refine this plan, and add skilling, playing, workshopping, discussions, dinners, etc., as needed. The rough outline of the studio involves: 1. A deep dive into the archives of DNI and other land trusts, which we will share in the form of interactive broadcasts, 2. Research on Collective Authorship in Architecture and (physical and digital) tools for working together, 3. Research on The Food Project (mission, operation, and context) and the production of Architectural Proposals for the Dudley Miller Park site, as well as for Adaptive Reuse sites that we identify.

On Vessels, William O'Brien Jr.**:** *On Vessels* is a studio concerned with architecture as an act of subtraction and the articulation of *voids*, rather than a process of addition and the making of *objects*. The studio finds inspiration outside of the western canon of architectural precedents to ground the studio's research in, for example, industrial designed objects, works of land-art, and subterranean spaces not typically deemed "architectural." The studio is deeply informed by a series of workshops that chart out a series of themes and techniques critical to the questions being addressed including historical contextualization via deep precedent research. At the end of the course students can engage with an increasing level of design-research through iterative studies and move fluidly between different modes and scales of design. Students demonstrate application of design skills, understanding of architectural conventions, and ability to sustain an increasing level of research in the projects over the semester.

Blueprints of Justice Vol. 2: Human Rights. The Weaponization of Space Against the Body, MIT and Stanford's Legal Design Lab Oana Stănescu and Nóra Al Haider In memory of co-creator Virgil Abloh: This studio works in partnership with sexual health care clinics in the US that struggle to exist within the restrictions in order to examine how law and space interact, understanding the ways in which space is being weaponized against the body. Student learning outcome objectives include strengthening the students' ability to research, conceptualize, and develop an understanding of politicized urban environments. Studio criteria include depth of analysis and design research.

4.189 Preparation for MArch Thesis* and *4.THG Graduate Thesis

4.189 Preparation for MArch Thesis assists MArch students with their research and development preparations for a well-conceived MArch thesis proposition. Students formulate a cohesive thesis argument and critical project using supportive research and case studies through a variety of representational media, critical traditions, and architectural/artistic conventions. Group study in seminar and studio format, with periodic reviews supplemented by conference with faculty and a designated committee member for each individual thesis.

Presentation of MArch, SMArchS, and Ph.D. thesis presentations at the end of each semester offers all students in the Department the opportunity to listen in on and learn about the variety of innovative research topics currently under investigation.

Supplemental Experiences

MITdesignX

MITdesignX is an academic program in the MIT School of Architecture and Planning (SA+P) dedicated to design innovation and entrepreneurship. MITdesignX empowers students, faculty, and researchers to build new business ventures and forward-thinking solutions designed to address critical challenges facing the future of cities and the human environment. MITesignX is the country's only startup incubator located within a school of architecture and planning.

MITdesignX provides resources to build new solutions, systems, and ventures. Successful ventures exist at the intersection of design, business, science, and technology. Interdisciplinary teams of creative thinkers and makers fast-track the development of their innovations and launch ventures into the marketplace. We turn ideas into action. MITdesignX looks for creative innovators dedicated to improving the quality of life in cities and the human environment. MITdesignX seeks diverse, interdisciplinary teams working on challenging ideas with a clear vision, passion and a drive to design solutions and launch real ventures.

Each Fall, applicants go through a rigorous selection process that reviews venture designs and ideas based on human and social impact, feasibility, uniqueness, and scalability as well as team composition, diversity, and skillset. Finalists pitch before a panel of judges to enter the program. Applicants may include graduate students, researchers, staff, and/or faculty members from the MIT SA+P and their collaborators from across MIT, other universities, and beyond. Previous teams in MITdesignX have included participants from across MIT including SA+P, computer science, engineering, management, biology, and the humanities. Since MITdesignX's inception 6 years ago, 12 MArch students have been involved in the startup of 7 companies. 11 of the 12 MArch students have taken part in MITdesignX in the last 3 years.

Lectures, Panels, Symposia

In fall 2021, the Department's public lecture series hosted many presentations and discussions in a hybrid format. Each lecture was delivered in-person, with live streaming options through MIT's Live Webcast portal, Facebook, and YouTube. This format allowed thousands of viewers to engage with critical work, practice, design, theory, criticism, and building processes from across the globe. Our viewers joined us and engaged in the Q&A portions while livestreaming the lecture events, from Sommerville to Saudi Arabia and beyond. Conversations focused on visionary symbolism; extraordinary mechanics; decolonial maneuvers; new methods of computational craft; situated technologies; design research; spaceships in the desert; conversations on care; and the enduring power of defiant optimism.

As also described above in PC.1, Speakers included Sanford Biggers, Vernelle A. A. Noel, Gökçe Günel, Mpho Matsipa, Joseph Choma, Maya Hayuk, Diana Martinez, Sussan Babaie, and Donnel Baird. The Department also hosted two endowed lectures: Sigrid Adriaenssens presented "Harnessing Extraordinary Mechanics for Structural Design" at The Edward and Mary Allen lecture in Structural Design. For The 27th Pietro Belluschi Lecture, Tod Williams and Billie Tsien presented "Defiant Optimism," discussing their work on the Obama Presidential Center, lessons learned, mistakes made, and future hopes for architecture and society.

Spring 2022 lectures also welcomed in-person visitors and remote audiences. The Department hosted another group of formidable innovators, theorists, and entrepreneurs at the intersections of design and research. Among the varied topics, presenters confronted thermal dynamics in architecture, performance, globalism and racialization, power systems, the 'Climatic Turn,' the mythology of architectural authorship, and the complex relationships

between people, place, and building. Through it all, the Department sought out excellence in discussing, complicating, and explaining architecture's role in helping us understand the world and our global community's responsibilities and possibilities in transforming it.

The spring series included Dorit Aviv, J. Yolande Daniels, Hakim Sameer Hamdani, Xiaoji Chen, Nadi Abusaada, Nida Sinnokrot, and Hentyle Yapp. The Department also welcomed Marlon Blackwell for a discussion on design strategies that draw upon vernaculars, building typologies, and the contradictions of place in his talk, "Abstract Unions," for The 31st Arthur H. Schein Memorial Lecture. A student- and community-driven annual lecture hosted by MIT NOMAS brought Frederick Moten to discuss walking, race, art forms, and urbanism in his talk, "Building and Bildung und Blackness: Some Architectural Questions for Fela." The fall and spring lecture series was supported in-part by the Arthur H. Schein (1951) Memorial Fund. The AY21-22 public programming very successfully reached over 30,000 people worldwide in this hybrid format.

Assessment

The most significant assessment of our research quality and outcomes are those by MIT itself, which sets the highest standards of quality and impact for each of its academic departments. These are upheld through two main mechanisms. This includes the mentorship and tenure evaluation of faculty, which involves not only assessment within the Department, but also assessment by allied disciplines in the School Council, and by evaluation by the Institute-wide Academic Council for each stage of promotion. MIT's promotion ladder includes such evaluations at the transition from Assistant Professor to Associate Professor without Tenure (AWOT), from AWOT to Associate Professor with Tenure (AWIT), and to Full Professor.

In addition to the evaluation of individual faculty members and their research impacts, MIT uniquely undertakes biannual evaluations of each department by a Visiting Committee (VC), containing alumni, field experts, and representatives of MIT's Corporation (board of trustees). While these exhaustive reviews touch on all aspects of department life and operations, the nature of MIT as an institution means that our research impact and outcomes are a primary topic of discussion and evaluation at each meeting, with specific recommendations and outcomes for improvement included in each report for action and subsequent evaluation.

Further information about curriculum-based assessment processes is in 5.3 Curricular Development.

PC.6 Leadership and Collaboration—How the program ensures that students understand approaches to leadership in multidisciplinary teams, diverse stakeholder constituents, and dynamic physical and social contexts, and learn how to apply effective collaboration skills to solve complex problems.

Program Response:

The research environment of MIT is distinguished by its relationship between leadership, collaboration, and innovation. Within this context, the School of Architecture focuses on a diversity of ways to integrate these concerns.

The core studio sequence (*4.151, 4.152,* and *4.153*) is structured to provide increasingly diverse and interdisciplinary contexts within which design operates. This begins with the dynamic physical and social contexts of *4.151 Architecture Design Core Studio I* which look at diverse temporalities, events, publics, and assemblies of both materials and populations. This framework is further expanded in *4.152 Architecture Design Core Studio II* with the

introduction of programmatic specificity, community outreach, and design synthesis at the neighborhood scale within an urban environment and culminates in the highly collaborative and interdisciplinary frameworks of *4.153 Architecture Design Core Studio III*.

Architecture Design Core Studio I - The first semester of the MArch program follows a project-based learning approach. *Core I Studio* operates in tandem with three other required courses. A central project is addressed by each student, guided by a range of disciplinary approaches. This coordinated semester combines collaboratively, the disciplines of History Theory and Criticism, Building Technology, Design, and Computation to provide focused modules, or "circuits," for exercising and exploring the topics of the central project. The Core 1 faculty collaboratively aid students in the mastery and exploration of subjects and methods including in 2021: Ana Miljački (*history/theory),* Brandon Clifford (design development), Christoph Reinhart (*daylighting),* Deborah Garcia (*time-based media),* Jeffrey Landman (*perspective),* Jeremy Jih (*form & material),* Mohamad Nahleh (*orthographics)*

Architecture Design Core Studio II collaborated with the City of Boston's vision for the Upham's Corner Arts and Innovation District, which builds directly on two public assets, the Strand Theater and the Boston Centers for Youth and Families. The Boston CYF is a city-wide institution that supports children, youth, individuals, and families through a wide range of programs and services. It manages 36 facilities, including community centers and pools and is currently looking for a site to build a center in Dorchester. Considering the Strand Theater as the site for a future mix-use center of the Boston CYF, students speculated on the broader vision to reignite Upham's Corner as a hub of creative activity by revitalizing and expanding the theater with a wide range of cultural and recreational programs.

Architecture Design Core Studio III is a highly collaborative semester, not only through the group nature of design work within the studio, but also the collaborative nature of the teaching team which each brings a particular area of expertise to the classroom, and who encourage students to reach out to each studio instructor for desk crits, as well as the collaborative pedagogy between *4.463 Building Technology Systems: Structures and Envelopes* and Core III , which integrate engineering, structural, and performative concerns with the social, material, climatic, environmental, and community-oriented concerns of Core III. In addition to Quantitative, Qualitative, and Self-Reflective Evaluations, success for students in the Core III curriculum is manifested in students understanding of approaches to leadership in multidisciplinary teams, in designs for diverse stakeholder constituents with dynamic physical and social contexts, and in learning how to apply effective collaboration skills to solve complex design problems. The Core lll studio supports a positive and respectful environment for critical thinking and innovation conducted through the medium of architectural design. Respectful collaboration, information sharing, experimentation, and engagement among teaching assistants, instructors, students, and administrative staff are encouraged.

Additional opportunities to both learn about and participate in issues related to leadership and collaboration include *4.189 Preparation for MArch Thesis*) and *4.222 Professional Practice*. *Preparation for MArch Thesis* understands that a thesis entails overtly independent work. Yet the course simultaneously recognizes that the best thesis works are independent endeavors that nonetheless are reliant on a range of voices and perspectives: peers, mentors, instructors, advisors, readers, and likely a range of non-academic voices. To this end, students work with and through a range of groups as they develop their thesis.

Preparation for MArch Thesis is pursued in multiple ways [a] in class; [b] in content groups, and [c] under the guidance of a Thesis Advisor. The class follows several different formats ranging from workshop sessions, through working groups to individual meetings and progress presentations. Thesis Content Group ("Cogs") or groups of 4 to 6 students focus on smaller and more targeted conversations within the thesis cohort. The Cog groups identify and

develop a Commons: a body of methods, readings, and projects to outline an area of discourse and practice over the course of the semester and establish a disciplinary vocabulary and conversation. Cogs are required to meet weekly and prior to the class meeting with the Teaching Assistants. Participation includes prompt class attendance and being part of the in-class and working group discussions. The collaborative approach is expressed in the thesis projects themselves, many of which are conducted in pairs or groups of multiple students.

4.222 Professional Practice Covers the many practical, structural, legal, and ethical questions that define professional practice. The course's aim is to do so through discussion, exploration of scenarios and case studies, and group-based exercises that allow students to actively learn through role-play.

Collaboration is indispensable to contemporary multidisciplinary environments and necessarily extends out beyond the internal workings of a given practice. *Professional Practice* exposes students to the opportunities and challenges that working with others poses, and to find ways to excel as a collaborative group by identifying and harnessing individual talents.

The panel discussions and profiles featured in the course are most valuable and successful with a high level of student participation. The richer the interrogation by students, the more valuable the result. Beyond the specific groups tasked with a particular event, all students are expected to actively participate in the investigations and Q+A sessions and to be present during the entire class session.

Throughout their studies, MArch students are given ample opportunities to continue and foster their leadership and collaboration skills, specifically through pedagogical assignments and initiatives. MArch students engage with their peers as teaching assistants in studios, as well as other mentorship-oriented roles. Each year, during a four-week long period in January, many students lead classes and seminars over the Independent Activities Period (IAP). During IAP, students are encouraged and supported by the Department in curating intensive classes, workshops, and seminars that build on their personal interests and research, and that expand on the Department's curricular offerings. Lastly, each year two graduating MArch students are awarded a departmental teaching fellowship for the following academic year, in which they join the faculty and teach several classes throughout the year.

Assessment

The larger potential for leadership and collaboration in our students is a core goal of our learning and teaching culture, and are discussed regularly by faculty at retreats, meetings, and curricular planning sessions. We observe and keep track of how this ability evidences itself in studio outcomes, in our studio culture, and in related activities such as success in entrepreneurship (for example through the MITdesignX program). As a core goal of our teaching and learning culture, leadership and collaboration are also regularly assessed as part of individual student and course outcomes, subject to the procedures outlined in 5.3 Curricular Development.

PC.7 Learning and Teaching Culture—How the program fosters and ensures a positive and respectful environment that encourages optimism, respect, sharing, engagement, and innovation among its faculty, students, administration, and staff.

Program Response:

A culture of respect, engagement, and innovation is enacted at MIT not episodically, but holistically and continuously through pedagogy, departmental initiatives, reviews, and research support. Within reviews, a culture of respect is established through our Review Value Statement, shared with students, faculty, and guest critics. As outlined by NAAB requirements, this document is a key part of our articulation and communication on Studio Culture.

The review and studio discourse at MIT Architecture: Values and Goals

The review is a core space of studio culture, and an expression of our culture as a Department. As well as an important moment for students to engage with each other, faculty, and professionals, it is a place where essential values and ideas of the discipline get discussed and demonstrated through the lens of student work. We enact the values of our community in the form and character of that discussion—in its openness, transparency, and quality.

Holding a review is itself a creative act, and an evolving part of our design culture. While specific rules may not be appropriate to every review, the goals below outline our expectations and overall tools for creating the best discussion in a variety of settings and contexts, according to our community's underlying values of respect, courtesy, equity and inclusion.

What these goals attempt to navigate, amongst other dynamics, is the fact of the review as a situation where different participants have, or perceive themselves as having, different amounts of power and autonomy over a discussion that is important to all. The more we appreciate and address these dynamics, the more we can produce review discussions that advance both individual understanding and learning, and the goals of our community as a whole.

The Values and Culture of Reviews at MIT

● *A review is not an evaluation of a student's project academically, but an opportunity to reflect upon the larger significance of the project and to provide context and feedback from those not intimately familiar with the work. The review is an opportunity to expand the discourse surrounding the work beyond the studio itself and to encompass a range of perspectives to aid the student in contextualizing their work within broader creative and research landscapes.*

● *MIT is a space of plurality that embraces a wide range of approaches to any discipline, whether it be architecture, design, art, technology, computation, or other creative or research discipline that benefits from the critique model.*

● *MIT maintains a culture of positive, robust, and serious attention that reflects a respect for the student's effort, time, and care that went into the work. At final reviews, or at other significant landmarks, positive support is often expressed through applause; but, at all times, it should express itself through attention, care, and active engagement with students, colleagues, and the overall conversation.*

Goals for review conveners

In convening a review discussion, we are framing an intellectual and creative context within a disciplinary context — creatively, geographically, professionally, and otherwise. We are setting the limits of the discussion positively — framing what kind of discussion and attention would be most rewarding and relevant to all participants. This work can be quite literal in setting up the structure and goals for a specific discussion. It can be quite

abstract in framing the intellectual and creative context for the discussion. As instructors, we also sometimes must play an essential role in setting limits in other ways — particularly if a comment falls outside the bounds of our community goals for reviews, or if the discussion is proceeding in a way that is unhelpful to the student in their work. At such moments, our intervention and articulation of values is essential to preserve the character of discussion and engagement we seek to ensure.

Goals for reviewers

Reviews are both wide-ranging in the context they provide, and constantly rooted in the work under discussion, and the perspective and attention of the student participants. They also provide a deliberate diversity of voices and comments; work by participants to broaden and open the discussion to others is particularly essential and valuable. The goal of comments on students' work is that they are grounded in the specifics of the work presented, as well as a larger disciplinary context, and they arrive at the ear of the student so they will be understood and appreciated. Positivity, engagement, and a respect for the different context and cultures in which both students' experiences, and their projects are grounded is essential to the success of the conversation.
Goals for students

Like any participant, students have a responsibility to help create the most supportive and engaged environment as possible for the review. This expresses itself, for example in the attention and support of classmates for the whole review. When a student's work is under discussion, they have the floor, and are encouraged to ask for clarifications and specific examples if any feedback is not clear. If students have concerns during a review, it is important that we hear them — either at the time if appropriate or possible, or as specific feedback afterwards, which we commit to provide a space and opportunity for within each studio, and in the department as a whole. We also commit to deliberate and appropriate follow-up to any such concerns with all parties involved.

As we have learned, such documents are essential to the formation of a positive departmental culture, not so much for their continued existence as guidance — itself crucial — but also for the many conversations that arise around their collaborative creation. In the case of the studio value statement above, the process of writing covered several months and more than eight separate meetings with relevant groups of students and faculty.

Support of Innovation

The Department of Architecture provides extensive funding to a high proportion of students. In the AY2021, out of a total 202 active graduate level students, 149 total students held at least 1 teaching or research position – 73.76% of graduate students. In addition to this number, a further 25 students (12.38% of all graduate students) held hourly positions within the Department. Overall, of the total graduate student body, 86% are supported in research, teaching, or funded work through the Department.

This section offers a description of the design studios where MArch students spend a majority of their time; how the community is involved in creating and maintaining a positive learning environment; and policies and practices related to social equity and diversity within the Department.

The design studios of the Department of Architecture at MIT are the centerpiece of architectural culture for the MArch program. The primary goal of studio learning is to develop synthetic design thought set in motion by processes that integrate the vast range of issues relevant to the making of humane, enriching, and culturally critical built environments. A balance between the engagement in specific concerns of design (for example, building

performance, formal organization, or the "making and materials") and integrating diverse and sometimes disparate strategies and tools (such as computation versus hand-based techniques) permeates studios at every level, where the learning objectives reflect this complex mix. Students are expected to wade into the complexity of formulating their own design strategies and positions in the context of a rapidly changing world while continuously and explicitly addressing the question of values.

The discourse of the design studios critically depends on a respectful environment that allows freedom of intellectual exploration and presentation. The culture of the design studios at MIT has a long history of cultivating a respectful and positive learning environment that is consistent with the description of an appropriate studio culture as stipulated by the NAAB. The design faculty works actively at every level to establish and maintain an environment that allows the free exchange of ideas with a high level of discourse and criticality. In doing so, a variety of worldviews, ideologies, cultural perspectives, and even disparate political and economic positions are allowed to flourish. This has produced a learning environment that allows for collegial and positive discussions of the values that students and faculty bring to the studio.

The Department is committed to maintaining a pedagogically ethical framework, as defined by the NAAB. We agree with the support of an environment that promotes the fundamental values of “optimism, respect, sharing, engagement, and innovation between and among the members of its faculty, student body, administration, and staff.” Students with concerns about their interactions with faculty have recourse to the Head and established Institute resources including ombudspersons and the Dean of Graduate Education.

Intellectual integrity is the hallmark of any investigative activity in science, engineering, and design that seeks effective pathways when facing novel challenges. Honesty in sources and influences, effective and rigorous organization of ideas and use of tools, and consistency of purpose based on clear intentions form the basis for intellectual integrity as defined here. The Department expects that students and faculty alike engage at the highest levels of design exploration within a robust framework of intellectual integrity. This attribute of studio culture is also particularly appropriate within the institutional setting of MIT. Architectural proposals – whether in the studio or in the profession -- share key attributes with the work of scientists, engineers, and others working in open-ended investigative projects. Producing work that is original, rigorously formulated, and relevant to contemporary society is an important value that Architecture shares with all departments at MIT. Therefore, our department asserts that intellectual integrity ranks among the most important attributes of the environment of the design studio.

Also, fundamental to the design studio environment is the active stewardship of *cultural literacy*. The origin of many of our students and their families, whether directly or indirectly, is the most immediate representation of the diversity of our academic community, both faculty and students. These students bring a diverse set of interests and perspectives that reflect emerging global debates regarding the built environment. The design studios actively engage this flux of diverse human interests and perspectives. The Department has many examples of studios that venture far and wide, both geographically as well as intellectually, in considering the active role of global cultures in defining this evolving debate. Therefore, we believe it is essential to include cultural literacy as an explicit component of the studio culture policy. Both intellectual integrity and cultural literacy are key aspects of professional practice as well. Studio instructors at MIT are keenly aware of the importance of transposing the positive academic context of respect, intellectual integrity, and cultural literacy into professional careers. Through the IAP internship program, available to MArch students as well as undergraduate architecture majors, students are introduced to a diversity of professional contexts in which their own values are tested and often called upon. The design studios serve as a critical link between abstract discussions of a positive and respectful studio design environment and the working of architectural firms.

The MIT Architecture Graduate Handbook is an online information guide developed and regularly updated by the Department of Architecture (https://architecture.mit.edu/). The handbook is a comprehensive guide to the Department organization, registration, financial aid, and other useful information to enable students to navigate their way around MIT. In addition, it includes the NAAB statement, MIT's Nondiscrimination Policy, MIT's Policy on Harassment, and a statement on academic Honesty.

Design Studio Culture Policy

The Department of Architecture fosters an environment that is open to innovation and encourages students to pursue individual and collective initiatives. As the Department is horizontally distributed in its organization, students feel empowered to engage faculty and resources across disciplines. This promotes
a hands-on learning environment that allows for unmediated access to fabrication modes and critics. Through collective student participation –mediated by the Architecture Student Council –students can organize around shared interests, further discourse, host events, and promote intra- departmental exchange. The entrepreneurial culture of the Department instills a spirit of self-discipline and prepares students for their futures.

Student Organizations

A culture of respect, engagement, and innovation is reinforced outside the classroom and studio by way of several student organizations.

NOMAS (National Organization of Minority Architects Students)

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

ASC (Architecture Student Council)

The Architecture Student Council (ASC), is the student organization of the Department of Architecture at MIT. The student council is composed of representatives from all of the Architecture Department's degree programs along w./two elected co-chairs. The council works in close collaboration with the Department's leadership, faculty, and staff to advocate on the student body's behalf and to foster a culture of support, collaboration, and openness.

The Department Head and other senior leadership meet with the student body regularly. Such town hall meetings are typically organized by the ASC. Remote during the pandemic, these town halls have developed as a particularly essential channel of two-way communication, involving sometimes-anonymous questions and essential communication about student needs and department policy. Post-pandemic, the Department Head and other senior leadership routinely attend student happy-hours and more informal gatherings as an important tool for engaging students around day-to-day concerns and aspirations.

The ASC is also involved with the Open Houses for our admissions calendar, organizing information events, hosting potential students, and organizing a Q&A session without the presence of faculty.

archREFS (Resources for Easing Friction and Stress) is a group of graduate students trained in conflict management and mediation, and in support of the student community of MIT's Department of Architecture. archREFS main role is to listen without judgement, act as a sounding board, provide coaching as students think through possible resolutions, connect students with other helpful resources, and help students deal with stress and conflict, however big or small. archREFS does this with confidentiality and anonymity, meaning archREFS does not share any information with others nor take any action about the conversation students have with them without a student's explicit consent, except in the unusual situation of imminent risk of harm to self or others.

More Groups

Beyond the Department of Architecture, MIT has 500+ recognized student groups. Student groups range from 68 ethnic and cultural associations, 38 musical, theater, and dance groups, 23 religious organizations, 15 activism groups, and many more: including Black Graduate Student Association (BGSA), LatinX Graduate Student Association (LGSA), American Indian Science and Engineering Society (AISES).
Visit MIT's Impact and Opportunities site to learn more.

Assessment

As well as the regular assessment outlined in section 5.3, our Learning and Teaching culture is regularly assessed by two important additional mechanisms.

First, in collaboration with the ASC, the Department conducts regular quality-of-life surveys alongside town halls and other mechanisms outlined above. Because these are distributed by students, to students, and results are shared anonymously, they serve as an essential mechanism to understand and improve learning, teaching, and community-building in the Department.

Secondly, the Department's Strategy and Equity team (described elsewhere), including Department Diversity, Equity and Belonging Officer Lauren Schuller, have an explicit mandate to understand and improve the quality of our intellectual and creative community. As well as collaborating on surveys and student engagement as outlined above, the S&E team is responsible for a range of initiatives to constantly gauge and better craft a supportive and inclusive learning environment in the Department.

PC.8 Social Equity and Inclusion—How the program furthers and deepens students' understanding of diverse cultural and social contexts and helps them translate that understanding into built environments that equitably support and include people of different backgrounds, resources, and abilities.

Program Response:

The MIT Department of Architecture is actively committed to achieving social equity and inclusion within the pedagogies, initiatives, composition, procedures, and culture of the school. This is central to our mission, values, and identity as a department and as a community. As noted in section 2 (Shared Values of the Discipline and Profession) and given the privileged role the Department plays in the education of architects, designers and researchers, we are especially committed to creating an environment that welcomes, includes, and empowers all members of our community.

These core values are not only part of our administrative, hiring and admission policy, but also play a significant role in shaping the Department's curricula and course offerings. Our department's pedagogy centers issues of social equity and inclusion, throughout the Core Studio sequence as well as through our HTC (History, Theory and Criticism) courses and Research Studios. *Core I* centers on the design of a public space for a mode of assembly, allowing students to design spaces for protest, for civic engagement, for education, and more, situated within a landscape that serves a diverse urban population. This is further developed in *Core II* with the development of a civic institution in support of an urban community. The Core Studio sequence concludes with *Core III*, which operates in direct dialogue with specific local communities ranging from African immigrant communities to indigenous tribes or communities of disadvantaged fishermen. Through the design of a seaweed farm and community food center, implicated and interrelated questions of identity, socioeconomics, history, and viable pathways for food and economic security for each community are addressed and engaged through each design proposition. Within the HTC sequence, *4.210 Positions* has restructured the presentation of architectural history and theory under Ana Miljački's leadership, now foregrounding tools and frameworks to converse respectfully across differences. These are further supported by Research studios led by various faculty such as Oana Stanescu, whose course *4.184 Blueprints of Justice* focused on imagining the future for the hybrid, virtual, and physical spaces of justice within the Massachusetts Court System, grounded by dialogues with the Stanford Legal Design Lab and the Department of Support Services for the Massachusetts Trial Court's Office of Court Management. Ana Miljački's *4.154 Collective Architecture Studio* explored the history and legacy of Roxbury, the heart of Boston's African American community, and a region of Boston which suffered the dire consequences of redlining, the Federal Housing Administration's discriminatory mortgage insurance policies, swindling contract mortgages, widespread vacancies, and neglect. The studio engaged the Dudley Street Land Trust, as well as other members of the local community in exploring various modes of collective architectural authorship.

Additional electives allow students to explore these issues further, whether through historical research or design. For instance, Huma Gupta's *4.S65 Decolonial Ecologies* examines the relationship between political ecology, ecological crises, and the process of (de)colonizing rural, urban, and extraterrestrial spaces. In this seminar, students were asked to critically analyze contemporary proposals for decolonial ecologies, ranging from ecology thinking in architectural design to indigenous climate plans. Other offered electives included: *4.236[J] Structuring Low-Income Housing Projects in Developing Countries*, which Examines the dynamic relationship between beneficiaries, government, and funder, and puts an emphasis on cost recovery, affordability, replicability, user selection, and project administration; *4.182 Architectural Design Workshop — Gay for Pay — Designing Architecture for Queer Economies*, which explores alternative economies and financial arrangements through the lens of queer practice; and *4.s63 Special Subject — Queer Space*, which examines the long histories and current states of queerness and invites students to reflect on their own experiences, regardless of personal identities, sexuality, gender, or otherwise.

Assessment

In the summer of 2021, a graduate student team completed a survey of syllabi content (readings, authors) for required and restricted elective courses in the MArch and SMArchS programs, using a methodology supported by our area librarian, Kai Smith. It was condensed and presented for discussion to the faculty in Fall '21 by Associate Department Head for Academics, Timothy Hyde. A student team is working on reformatting the full survey in a way that it can be reused for future annual or biannual surveys. Professor Hyde will continue discussion with faculty and students on the survey next year, ways to incorporate more diverse, inclusive materials, and how to teach with critical, in-depth engagement with these materials.

A Values and Goals statement for studio, thesis, and other class reviews was revised and developed last year and is featured on our department's About web page. In addition, a collection of demographic data on final review guest critics continues on a semester basis, and in support of NOMAS's semesterly Reviewer Report.

Following the Department Head's initiative, the Department has begun to model new curricular prototypes for impactful intersections of research, teaching, and community impact. The first of these, a three-year collaboration with DUSP on studio teaching and policy workshops centered on climate justice, began this spring under the leadership of Professor Miho Mazereeuw, Professor of the Practice Mary Anne Ocampo in the Department of Urban Studies and Planning, and MIT Architecture Visiting Lecturer and MITdesignX Social Entrepreneur in residence Lisbeth Shepherd. Initiatives planned for 2022-23 include an expansion of this curricular model to further projects and a program of collaboration with HBCU institutions centering on our connection with Tuskegee University through the historic leadership there of MIT's first Black graduate, architect Robert Robinson Taylor.

3.2 Student Criteria (SC): Student Learning Objectives and Outcomes

A program must demonstrate how it addresses the following criteria through program curricula and other experiences, with an emphasis on the articulation of learning objectives and assessment.

SC.1 Health, Safety and Welfare in the Built Environment—How the program ensures that students understand the impact of the built environment on human health, safety, and welfare at multiple scales, from buildings to cities.

Program Response:

Topics of health, safety and welfare within the built environment are integrated throughout the MArch curriculum, with a focus on how students understand these factors in design problems across the Core Studio sequence, taught in successively tighter integration with the Building Technology course sequence from Core I to Core III.

Within the first semester of the MArch program, Christoph Reinhart's course, *4.646 Environmental Technologies in Buildings,* covers topics of thermal and visual comfort, as well as healthy/circadian lighting. To gain a hands-on understanding of thermal comfort theories such a predicted mean vote and adaptive thermal comfort, students carry out an assignment in which they measure indoor environmental conditions in two situations, one which they consider thermally comfortable, the other uncomfortable. They then compare their personal assessments to those of ASHRAE 55, the main thermal comfort standard in North America. This teaching exercise was developed, and its effectiveness demonstrated in collaboration with Prof. Stefano Schavion from UC Berkeley.

For visual comfort, students learn how to carry out high dynamic range (HDR) photography to conduct glare and visual comfort studies using their personal digital cameras. The underlying pedagogy encourages students to conduct measurements in spaces that they like or dislike to gain a deeper understanding of how indoor environmental conditions, which they learn to simulate in other parts of the BT curriculum, are perceived by building occupants. Students are exposed to circadian lighting theory using Solemma's Adaptive Lighting for Alertness tool (https://www.solemma.com/alfa)

4.152 Architecture Design Core Studio II, led by Cristina Parreño, introduces topics of design around access and safety through considerations of circulation and architecturally scaled public spaces within the design of a civic building situated in an urban context. Students are exposed to health, safety, accessibility, and welfare at the building, neighborhood, and urban scales through the adaptive reuse of an existing civic building (the Strand Theater in Dorchester). *Core Studio II* begins to explore access and safety in design through the lens of social needs within the surrounding context of the project in rehearsal for additional engagement with these topics in *4.153 Architecture Design Core studio III*.

Architecture Design Core Studio II's address of these topics is continued in *4.153 Architecture Design Core Studio III* (co-taught by Sheila Kennedy, J. Jih, and Rami el Samahy) with studio projects addressing issues of welfare and safety at the scale of buildings and their surrounding environments. Health and safety as important matters of concern extend from the human scale in architectural design to larger, interconnected environmental and societal ecologies. Here, choices of materials and systems of construction in a student's design prompt learning and discussion around the abundance or scarcity of material resources, their anticipated duration as well as the labor dynamics of who will build them and how. In *Core III* students develop specific understandings of egress and life safety in the design of stairs, ramps, railings, parking, and accessible pathways, in building programs that are intertwined in ecologically sensitive landscape environments, where often it may be best to limit private vehicular access.

Additionally, holistic understandings of health, safety, and wellness at multiple scales from the building to the city to larger dynamic natural systems are provided by *Core III*'s orientation with a choice of sites, each centering on and potentially serving a different regional community (indigenous, immigrant, community food bank, etc.). Correspondingly, with the *Core III* building programs, students are encouraged to address the intersection of industrial process and natural system (wine making, sustainable fish industries, regenerative seaweed

harvesting, aquaculture etc.) across a range of health and welfare needs that expand the architect's responsibility to consider not only the building's obligations to local building codes, but also the greater role that architecture may play in enabling a community's food sovereignty, and supporting food security and community as well as ecological health.

Assessment

Going forward, SC.1 health safety and welfare literacy and responsibility will be regularly assessed through the process described in Section 5.3.

SC.2 Professional Practice—How the program ensures that students understand professional ethics, the regulatory requirements, the fundamental business processes relevant to architecture practice in the United States, and the forces influencing change in these subjects.

Program Response:

Both intellectual integrity and cultural literacy are key aspects of professional practice. Studio instructors at MIT are keenly aware of the importance in transposing the positive academic context of respect, intellectual integrity, and cultural literacy into professional careers. Through the IAP internship program, available to MArch students as well as undergraduate architecture majors, students are introduced to a diversity of professional contexts in which their own values are tested and often called upon. The design studios serve as a critical link between abstract discussions of a positive and respectful studio design environment and the working of architectural firms.

Students are given many opportunities to discern and respect the project-specific influences on architectural design exerted by culture, technology and existing development patterns and to make design decisions that strengthen what is of value and lessen apparent burdens. In this way, design is more than an unconstrained exploration of form but a direct response to the human condition and an assertion of the role of the architect to advocate for the highest expression of this response by professionals in other disciplines. For example, architects more than engineers are trained to consider how the form and fabric of a building can augment and at times replace environmentally and financially costly mechanical services.

Professional Practice 4.222 led by Bob Mohr and Rebecca Berry introduces students to topics of professional ethics, business practices and models, particularly through case studies which highlight contemporary issues and exigencies ranging from the COVID-19 pandemic to social justice and equity. To quote Rebecca Berry, "The class focuses on what actually happens once you're a practitioner, in other words, things like contracts, fees, and clarifying why these things matter. For example, why does it matter how you structure a practice? How does that affect how we can practice and the differences that we can make in our communities and trying to turn it more into a question of looking at the big picture issues within the profession. And I always love the way that, Bob for instance, says "let's not talk about fees, let's talk about how you make a living." That's the real question – how do you get paid for your work? How can that be fair? How does that affect how we compensate our employees and the bigger picture questions, rather than it just being about purely the nuts and bolts of the profession?"

With respect to client expectations, a session in the professional practice class is devoted to ethics: readings are assigned, a lecture given and case studies on ethical dilemmas are presented and discussed at length. A portion of the ethics lecture focuses on the value of diversity in the profession and how architecture firms must reflect the communities that they serve.

The course features lectures and modules on practice management, contractual relationships, and the construction of architectural fees. Additionally, the course hosts numerous guests – many of them influential in the field – that depict a wide-ranging and diverse profession, and a broad definition of architectural practice. Panel discussions focus on important topics that practitioners currently face, such as equity, housing, and climate responsibility. These discussions explore not just the "what" of practice, but the "how" - how good ideas can be implemented within a complex legal and regulatory environment characterized by multiple stakeholders.

This is further supplemented by the introduction of regulatory frameworks and energy related code and performance requirements in *4.464 Environmental Technologies in Buildings* taught by Christoph Reinhart, a leader in his field. The class has dedicated curriculum on policy frameworks surrounding occupancy, building code, and energy systems, with a focus on decarbonization.

Finally, our vertically integrated *Core III* studio grounds students in a hands-on understanding of the dynamics between elements of professional practice through the integration of a wide range of stakeholders, consultants, and practitioners in the studio's pedagogical process. Students are put into direct conversation with structural and environmental engineers, façade consultants, material specialists and landscape architects, both in reviews and in consultation within studio sessions.

Assessment

Going forward, SC.2, Professional Practice, will be regularly and continuously assessed according to procedures laid out in section 5.3 of this document.

SC.3 Regulatory Context—How the program ensures that students understand the fundamental principles of life safety, land use, and current laws and regulations that apply to buildings and sites in the United States, and the evaluative process architects use to comply with those laws and regulations as part of a project.

Program Response:

Life safety, land use, and building regulations are integrated throughout the curriculum. First presented through *4.464 Environmental Technologies in Buildings (Reinhart)*, this course introduces students to notions of regulatory and quantitative frameworks that measure and drive performance in the environmental, energetic, solar, and climatic performance of buildings. The course particularly focuses on the evaluative processes (simulative modeling) architects may use to comply with defined energetic and performative needs. Particular building regulations that are covered in class are ASHRAE 90.1, the standard underlying the building energy code for most states, IESNA LM 83 for daylighting and glare requirements as well as ASHRAE 55 for thermal comfort. In all three cases, the standards are critically discussed, and students learn how to test their design's compliance with these standards for energy, daylighting, electric lighting and thermal comfort. It should be stressed that these stars are also used for compliance testing with green building rating systems such as LEED.

Following this, life safety and questions of egress are introduced and rehearsed in Core II (Parreno) before being taught in detail through the vertically integrated Core III Studios (*4.151*, Kennedy, Jih, Samahy) and integrated Building Technology course by Caitlin Mueller. Students are introduced to the regulatory context surrounding buildings, including notions of egress and life safety in the design of stairs, ramps, railings, parking, and accessible pathways, in complex, institutionally scaled building and landscape environments. During this semester, students undergo a redlining phase in which final deliverables are checked for issues of code compliance.

Students are further introduced to the evaluative processes that architects use to consider and comply with regulatory frameworks for land use, buildings, and sites, through the introduction of potential sites, each with significantly differing qualities ranging from adaptive re-use of industrial buildings to considerations surrounding indigenous land, working waterfront sites, or urban infill lots.

4.123 Architectural Assemblies (Simmons) exposes students to regulatory influences on design through the lens of institutional and commercial scale building facades and assemblies. The evaluative processes architects use to address these issues are foregrounded by Simmons' use of detailed case studies that trace the iterative development of architectural assemblies and facades over the course of each project.

Legal and professional landscapes of the profession are addressed in Bob Mohr and Rebecca Berry's *4.222 Professional Practice*.

4.222 *Professional Practice was* organized and taught by Bob Mohr and Rebecca Berry in fall 2021 and covers the regulatory environment. The first lecture presents the context of practice in the United States. Students are introduced to the professional organizations and regulatory agencies that govern architectural practice, including AIA, NOMA, NCARB, NAAB, ACSA, and individual state Licensing Boards. Time is devoted to the AXP and ARE, and other aspects involved in the path to becoming a licensed architect in the United States.

The course explores how the making of architecture is undertaken in collaboration with other allied disciplines as well as numerous and varied stakeholders. Panel discussions feature practitioners in both conventional and "alternate" modes of practice who have had success in navigating a complex and multi-layered legal and regulatory condition. Through these lectures and discussions, students learn how architects can and do have an influence on re-defining and improving the regulatory landscape.

The AXP program is given particular attention and students are encouraged to start their NCARB file if they haven't already. As MIT's AXP Coordinator Manager of Special Projects Paul Pettigrew has offered advice and guidance to students throughout the Department of Architecture when they've had questions about the AXP process and licensure.

Assessment

Going forward, SC.4 Regulatory Context will be regularly and continuously assessed according to procedures laid out in section 5.3 of this document.

SC.4 Technical Knowledge—How the program ensures that students understand the established and emerging systems, technologies, and assemblies of building construction, and the methods and criteria architects use to assess those technologies against the design, economics, and performance objectives of projects.

Program Response:

The Building Technology (BT) Program at MIT is a group of students, faculty, and staff working on design concepts and technologies to create buildings that contribute to a more humane and environmentally responsible built world. Our work ranges from fundamental discovery to full-scale application. Strategies employed toward these ends include integrated architectural design strategies, resource accounting through material flow analysis and life cycle assessment, structural design and optimization, building and urban energy modeling and simulation, human comfort analysis, control design, and engineering, and other technologically informed design methods. MArch students interested in any of these strategies will be challenged to address topics of clear and important relevance to the future of the built environment through creative and analytically rigorous approaches either within their required building technology classes, by way of building technology elective classes, or by way of research opportunities in the labs of MIT Architecture Building Technology faculty.

Research areas supervised by the faculty address innovative materials and assemblies, emerging and nontraditional building materials, low-energy and passive building energy strategies; innovative analysis and modeling of historic structures; performance-driven computational design approaches; and various issues of energy and material resources at the urban scale, including urban environmental sensing, the urban heat island effect, and urban metabolism. Students taking classes or researching within the areas of building technology can engage with active and ongoing research projects while pursuing their own intellectual and career agendas. These projects change regularly, and individual faculty and research lab pages are the best resources for finding current research position opportunities.

The MArch Building Technology sequence *4.646 Environmental Technologies in Buildings, 4.462 Introduction to Structural Design,* and *4.463 Building Technology Systems: Structures and Envelopes form* an integrated sequence with the resulting content first being applied by MArch students in *4.153 Architecture Design Core Studio III*. In *4.123 Architectural Assemblies*, true to MIT's motto, *Mens et Manus* (Mind and Hand), students actively produce building construction prototypes and experiments.

4.464 Environmental Technologies in Buildings is, as noted earlier, the study of the thermal, luminous, and acoustical behavior of buildings. The course examines the basic scientific principles underlying these phenomena and introduces students to a range of technologies and analysis techniques for designing comfortable indoor environments. Students are challenged to apply these techniques and explore the role energy, light and sound can play in shaping architecture. The course introduces students to the art and science of lighting buildings along with rules of thumb and computer-based methods for analyzing daylight within and around buildings. The third part of the course is dedicated to the principles of heat storage and heat flow into and out of buildings. Basic manual and computer-based methods to predict the energy use of buildings are discussed. The course format consists of semiweekly lectures and weekly labs. Individual and group assignments as well as in-class presentations and exercises will help students to study the use of environmental technologies in contemporary buildings.

4.462 Introduction to Structural Design emphasizes the historical development of structural form and the evolution of structural design knowledge, from Gothic cathedrals to long-span suspension bridges. Students investigate the behavior of structural systems and elements through design exercises, case studies, and load testing of models. Students design structures using timber, masonry, steel, and concrete and gain an appreciation of the importance of structural design today, with an emphasis on the environmental impact of large-scale construction. The course covers: equilibrium analysis and design of structures; properties of construction materials; environmental assessment of materials; analysis, design and behavior of beams, columns, trusses, frames, arches; and structural systems. The laboratory exercises include site visits, materials testing, and model building. The semester culminates with a design project for a long-span roof presented to invited critics.

4.463 Building Technology Systems: Structures and Envelopes addresses advanced structures, exterior envelopes, and building material systems with a focus on building performance and environmental impact of design strategies across these systems. Addresses spanning systems, floor systems, lateral systems, vertical systems, and foundations, and a range of structural materials and their properties. 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. Environmental systems for active and passive conditioning are also reviewed in relation to integrated building design. State-of-the-art computational methods and tools are introduced and utilized for structural, envelope, and environmental system design.

4.153 Architecture Design Core Studio III is co-taught with *4.463 Building Technology Systems: Structures and Envelopes* led by Professor Caitlin Mueller and her team. *Architecture Design Core Studio III* gives students the chance to explore and test the development of an architectural design proposal with an integrated understanding of a building's technical performance and how a design proposal responds to climate change in the Anthropocene. The *Architecture Design Core Studio III* semester is structured as a single project organized around four design modules with required deliverables that present a particular scale and lens by which architecture is designed and understood. Constructive Systems: Convention & Transformation addresses learning and innovating through worked precedents; Massing, Movement & Space considers massing and circulation demonstrated in the design of a large-scale section of a selected program space; Unpacking the Wall addresses relationships in the design of a project's building envelope and public image; Synthesis is an opportunity to step back, reflect and foreground the key ideas and representations for the design development students 'architectural design proposals. At the completion of Core Studio lll students understand the fundamental principles of life safety, land use, and current laws and regulations that apply to buildings and sites in the United States, and the evaluative process architects use to comply with those laws and regulations as part of a project. Students use the medium of architecture to think about the world around them, developing a holistic understanding of the dynamic between built and natural environments which may be operated upon through the consideration of constructive and material systems, building resilience, and performance (PC3). In this, architecture functions not to *solve* grand challenges – such as decarbonization, inequity, or food security-- but as a means of identifying priorities, strategies, and actions that can constitute possible new forms of activism and agency for architecture.

4.123 Architectural Assemblies is a framework geared towards the development of innovative architectural systems, with a specific focus on the building envelope. Delivered through project case studies, Architectural Assemblies presents an overview of materials, processing methods, and their formation into building systems across cultures. Normative and advanced design-delivery techniques will be examined through projects utilizing conventional documentation and BIM coupled with both conventional procurement and file-to-factory processes. A holistic understanding of the architectural-building cycle enables participants to build upon the recent history of design and construction to make informed decisions towards developing both conventional and innovative building systems.

Assessment

Going forward, SC.4 Technical Knowledge will be regularly and continuously assessed according to procedures laid out in section 5.3 of this document.

SC.5 Design Synthesis—How the program ensures that students develop the ability to make design decisions within architectural projects while demonstrating synthesis of user requirements, regulatory requirements, site conditions, and accessible design, and consideration of the measurable environmental impacts of their design decisions.

Program Response:

A strategy of highly integrated, collaborative learning is at the heart of the MArch program at MIT, particularly between the *Core Studio* sequence and the *Building Technology* sequence which see a progressively intertwined relationship over the course of the series. As such, many courses overlap and collaboratively touch on various accreditation elements. This is especially true of the Design Synthesis and Building Integration Student Criteria.

We progressively prepare students for a high-level exercise in design synthesis (occurring in *Core III*) through the entire Core studio series which incrementally escalates the quantity, scale, and complexity of elements to be synthesized.

(Section PC.2 also touches extensively on this topic.)

Within *Core I*, students design a space for assembly in response to a self-identified social need or event, situated within the public space of a park. User requirements are defined through an analysis of the particular mode of assembly. The given site, a Frederick Law Olmsted Park, undergoes analysis to extract and understand site conditions. During this semester, students are exposed to the measurable outcomes of building performance through *4.464 Environmental Technologies in Buildings (Reinhart),* focusing on daylighting, climate, and carbon counting.

Within *Core II*, students expand to the urban scale, through the insertion of a publicly oriented institution within a dense neighborhood in response to a community need. During this semester, students are exposed to structural performance through a series of case studies and hands-on structural test-to-failure design exercises, previewing the ultimate levels of design synthesis required in *Core III*.

Within *Core III*, the scope of design synthesis is expanded to the scales of indigenous communities, autonomously administered lands and governance practices, and concerns of regional food sovereignty and security, intersecting with technical demands for environmental and climate performance, as well as material considerations of sustainability and constructability within those contexts. *4.463 Building Technology Systems: Structures and Envelopes (Mueller)* is taught in close collaboration with *4.151 Core III*, with teaching

assistants and faculty often jointly reviewing and critiquing work. *4.463* functions as an integrated structural and design curriculum in support of *Core III*, providing a pedagogical space for the examination of structural and building performance, carbon counting, and assembly logics through the analysis of each student's studio project.

Assessment

Particularly manifest in the public exhibition of student design work, SC.5 is an important touchstone for all our studio work and its assessment. Going forward, SC.5 Design Synthesis will be regularly and continuously assessed according to procedures discussed in section 5.3 of this document.

SC.6 Building Integration—How the program ensures that students develop the ability to make design decisions within architectural projects while demonstrating integration of building envelope systems and assemblies, structural systems, environmental control systems, life safety systems, and the measurable outcomes of building performance.

Program Response:

The three-semester sequence of progressively integrated Architecture Design Core Studios and Building Technology classes includes:
1st Year Fall

4.151 Architecture Design Core Studio I, 21 units, (prereq: permission of instructor)
4.464[J] Environmental Technologies in Buildings, 9 units, (prereq: none)

1st Year Spring (4 Classes 48 Units)

4.152 Architecture Design Core Studio II, 21 units, (prereq: *4.151*)
4.462 Introduction to Structural Design, 9 units, (prereq: permission of instructor)

2nd Year Fall (4 Classes 48 Units)

4.153 Architecture Design Core Studio III, 21 units, (prereq: *4.152*)
4.463 Building Technology Systems: Structures and Envelopes, 9 units, (prereq: *4.462* or permission of instructor)

A strategy of highly integrated, collaborative learning is at the heart of MIT's MArch program, particularly between the *Architecture Design Core Studio* sequence and the *Building Technology* sequence. *Architecture Design Core Studio* sequence and the *Building Technology* sequence students see a progressively intertwined relationship between architectural design and building technology over the course of the series. The Architecture Design *Core Studio* sequence and the *Building Technology* sequence culminate in the comprehensive *4.153 Architecture Design Core III* studio which is completely integrated with *4.463 Building Technology Systems: Structures and Envelopes*.

Architecture Design Core Studio III 4.153 is the concluding studio of the MArch core program at MIT. As an integrated studio, it is co-taught with *4.463 Building Technology Systems: Structures and Envelopes* led by Professor Caitlin Mueller and her team. *Architecture Design Core Studio III* gives students the chance to explore and test the development of an architectural design proposal with an integrated understanding of a building's technical performance and how a design proposal responds to climate change in the Anthropocene.

As noted elsewhere, the semester is structured as a single project organized around four Design Modules with required deliverables that present a particular scale and lens by which architecture is designed and understood. Constructive Systems: Convention & Transformation addresses learning and innovating through worked precedents; Massing, Movement & Space considers massing and circulation demonstrated in the design of a large-scale section of a selected program space; Unpacking the Wall addresses relationships in the design of a project's building envelope and public image; Synthesis is an opportunity to step back, reflect and foreground the key ideas and representations for the design development students' architectural design proposals.

Architecture Design Core Studio III students are assessed for each Design Module based upon the following criteria: Quality of design concept and design development at the site, building, and detail scales; Ability to establish an iterative design process that draws on research to explore & synthesize design options; Ability to understand and engage with the program and needs of seaweed harvesting communities in Maine; Ability to integrate structural, enclosure, climate, and architectural design strategies; Ability to understand the carbon impacts related to choices of building materials and construction systems; Self-Reflective capability, i.e., the student's capacity to reflect upon and critique her/his own work.

The Architecture Design Core Studio III teaching team utilizes three methods of evaluation: 1. Quantitative Evaluations of Building Technology integration in students 'architectural design projects is conducted through students 'understanding of section, construction assembly and construction detail drawings in their studio projects and through their BT problem sets; 2. Qualitative Evaluations are conducted through presentations and discussions of students 'studio work tracking the development of each students 'design process, design research skills, and understanding of design integration across scales in architecture. In distinction to conventional "architecture juries" where students listen and experts talk, this studio pursues more discursive formats that seek to engage students, faculty, external guests, and members of two Maine communities in conversation on students 'design projects; 3. Self-Reflective and Peer Evaluations foster reflection on student design work so that students are encouraged after each project discussion to formulate a key question and list the first steps that they will initiate to respond to that question. The flexibility of the SEAs micro-projects and intermeshing of material research/experimentation paired with design representation and documentation provide space for self-evaluation and transitions between scales in architectural design.

4.643 Building Technology Systems: Structures and Envelopes addresses advanced structures, exterior envelopes, and building material systems with a focus on building performance and the environmental impact of design strategies across these systems. As noted elsewhere, *Building Technology Systems: Structures and Envelopes* addresses spanning systems, floor systems, lateral systems, vertical systems, and foundations, and a range of structural materials and their properties. 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. Environmental systems for active and passive conditioning are also reviewed in relation to integrated building design. State-of-the-art computational methods and tools are introduced and utilized for the structural, envelope, and environmental system design.

The focus of this subject is a semester-long design project, supported by ten short homework assignments. For MArch students in the *Core III* studio, this semester-long design project integrates with the *Architecture Design Core Studio III* studio project. Most assignments are submitted individually by students. Late assignments are not accepted unless extreme circumstances warrant an extension (must be arranged with TA 24 hours before the deadline). Homework is typically assigned in the lab on Fridays and is due 10 days later. Time in the lab each week will be devoted to completing portions of the homework.

At the end of *4.463 Building Technology Systems: Structures and Envelopes* , students are able to: 1. Explain the built environment's contributions to global climate change, and specifically distinguish between operational and embodied carbon emissions; 2. Estimate the embodied carbon emissions associated with building systems, especially the structural system, as a function of material and typological design decisions; 3. Articulate the key design features and considerations for structural systems in steel, reinforced concrete, and timber; 4. Reason about structural systems in a building in terms of force flow, hierarchy, and efficiency; 5. Design building structural systems at a conceptual level that integrates with architectural and programmatic goals; 6. Use analytical and digital tools to assess structural design concepts for architecture; 7. Explain the key performance functions of a building's exterior enclosure; 8. Analyze the performance of a building envelope design in terms of thermal resistance and hygrothermal behavior with hand calculations and digital tools; 9. Design a building envelope that meets performance targets and architectural goals for expression and materiality; 10. Understand options for active and passive conditioning systems, including their relative energy performance, their spatial and formal implications, and applicable climates; 11. Apply building technology concepts holistically in an integrated architectural design process with quantitative metrics and an intuitive understanding of building performance.

Assessment

Building Integration is included in the assessment criteria as laid out by individual course syllabi within the parallel and progressively intertwined Core Studio and Building Technology course sequence within the MArch curriculum. Requirements for Building Integration are most clearly defined in *4.153 Architecture Design Core Studio III*. These requirements are both integrated generally within the BT-Core III pedagogical structure and specifically through a redlining phase as part of a penultimate review to ensure appropriate integration particularly of life safety, accessibility, code, and other concerns. Work between these two teaching teams regularly touches on the assessment of SC.6 outcomes.

In addition, and going forward, SC.6 will be regularly and continually assessed by the process outlined in section 5.3.

4—Curricular Framework

This condition addresses the institution's regional accreditation and the program's degree nomenclature, credit-hour and curricular requirements, and the process used to evaluate student preparatory work.

4.1 Institutional Accreditation

The APR must include a copy of the most recent letter from the regional accrediting commission/agency regarding the institution's term of accreditation.

Program Response:

As part of a process of institutional accreditation, and as required by the New England Commission of Higher Education (NECHE), MIT undergoes a comprehensive evaluation every 10 years.

In June 2020, the Commission formally extended MIT's accreditation, requesting an interim report in Fall 2024, with the next comprehensive review scheduled for Fall 2029.

Confirmation of MIT's accreditation is available at:
https://accreditation.mit.edu/sites/default/files/images/2020%20MIT%20Reaccreditation.pdf

All relevant correspondence with the Commission is posted at:
https://accreditation.mit.edu/archives

Inquiries regarding MIT's accreditation status by the Commission should be directed to accreditation@mit.edu. Individuals may also contact:

New England Commission of Higher Education
3 Burlington Woods Drive, Suite 100
Burlington, MA 01803-4514
(781) 425-7785
info@neche.org

4.2 Professional Degrees and Curriculum

The NAAB accredits professional degree programs with the following titles: the Bachelor of Architecture (B. Arch.), the Master of Architecture (M. Arch.), and the Doctor of Architecture (D. Arch.). The curricular requirements for awarding these degrees must include professional studies, general studies, and optional studies.

4.2.1 Professional Studies. Courses with architectural content required of all students in the NAAB-accredited program are the core of a professional degree program that leads to licensure. Knowledge from these courses is used to satisfy Condition 3—Program and Student Criteria. The degree program has the flexibility to add additional professional studies courses to address its mission or institutional context. In its documentation, the program must clearly indicate which professional courses are required for all students.

Programs must include a link to the documentation that contains professional courses are required for all students.

Program Response:

The Master of Architecture is awarded upon the satisfactory completion of an approved program of at least 282 units and an acceptable thesis. The program requires three and one-half academic years of residence.

The professional MArch program is diverse and open-ended, with many views of appropriate research and practice of architecture available. Shared concerns include an interest in materials, fabrication, and technology; drawing and geometry; theory and criticism; sustainability and climate change; and culture in an age of rapid change and globalization.

These also include a commitment to design as it engages related disciplines aligned with architectural production, a view of the environment as an ecologically structured phenomenon, a regard for the fabrication processes of building, a perspective on new technologies and their impact on practice, and a concern for the spatial, temporal, social, and urban contexts of buildings. Given the varied perspectives from which the curriculum is conceived, an important aspect of the student's development is to be able to establish links between different areas of focus and its many disciplines.

The focus of the MArch degree program is through architecture design studios integrated with supporting subjects central to the curriculum. The professional curriculum specifies that a student study a range of subjects in several interrelated fields and students in the MArch program have considerable choices. Required and elective subjects taught by the various discipline groups within the Department and in other related departments offer a way of charting multiple paths for future professional possibilities. Therefore, students are expected to develop a cohesive structure for their individual educational interests within the MArch program at MIT beyond the core curriculum and toward the development of a design thesis.

282 credits + 24 credit thesis

63 Core Studio
63 Option Studios
27 BT Series/Core (3 courses)
27 HTC Series/Core (3 courses)
33 “Other” (Arch Skills, ProPrac, Assemblies, Thesis prep)
18 Restricted Electives with limited course options given (HTC & COMP)
27 Restricted Electives (COMP, URB, & ACT)
24 Open Electives

A minimum of 282 units of graduate-level coursework is required. Credit received for thesis (*4.THG*) registration does not count toward this minimum.

1st Year Fall (4 Classes 48 Units)

4.105 Geometric Disciplines and Architecture Skills, 9 units, (prereq: permission of instructor)
4.151 Architecture Design Core Studio I, 21 units, (prereq: permission of instructor)
4.210 Positions: Cultivating Critical Practice, 9 units, (prereq: none)
4.464 Environmental Technologies in Buildings, 9 units, (prereq: none)

1st Year Spring (4 Classes 48 Units)

4.152 Architecture Design Core Studio II, 21 units, (prereq: *4.151*)
4.462 Introduction to Structural Design, 9 units, (prereq: permission of instructor)
4.645 Selected Topics in Architecture: 1750 to the Present, 9 units, (prereq: *4.210* or permission of instructor)
4.117 Creative Computation, 9 units, (prereq: permission of instructor) (or)

4.511 Tiny Fab: Advancements in Rapid Design and Fabrication of Small Homes, 9 units, (prereq: permission of instructor) (or)
4.521 Visual Computing, 9 units, (prereq: none) (or)
4.567 Introduction to Building Information Modeling in Architecture, 9 units, (prereq: none)

2nd Year Fall (4 Classes 48 Units)

4.153 Architecture Design Core Studio III, 21 units, (prereq: *4.152*)
4.463 Building Technology Systems: Structures and Envelopes, 9 units, (prereq: *4.462* or permission of instructor)
4.xxx /11.xxx URB Elective, 9 units
4.607 Thinking about Architecture: In History and At Present, 9 units, (prereq: *4.645* or permission of instructor) (or)
4.612 Islamic Architecture and the Environment, 9 units, (prereq: permission of instructor) (or)
4.621 Orientalism, Colonialism, and Representation, 9 units, (prereq: permission of instructor), (or)
4.647 Technopolitics, Culture, intervention, 9 units, (prereq: permission of instructor)

2nd Year Spring (4 Classes 48 Units)

4.123 Architectural Assemblies, 9 units, (prereq: none)
4.154 Architecture Design Option Studio, 21 units (prereq: *4.153*)
4.241 The Making of Cities, 9 units, (prereq: permission of instructor) (If the student didn't take 4.607 or alternatives previous fall)
4.3xx ACT elective, 9 units
4.6xx HTC elective, 9 units

3rd Year Fall (4 Classes 45 Units)

4.154 Architecture Design Option Studio, 21 units, (prereq: *4.153*)
4.222 Professional Practice, 6 units, (prereq: permission of instructor)
MAS.xxx, 9 units
4.5xx Computation elective, 9 units (or)
X.XXX, Elective, 9 units

3rd Year Spring (3 Classes 39 Units)

4.154 Architecture Design Option Studio, 21 units, (prereq: *4.153*)
4.189 Preparation for MArch Thesis, 9 units, (prereq: permission of instructor)
X.XXX, Elective, 9 units

4th Year Fall (2 Classes 30 Units)

4.THG Graduate Thesis, 24 units, (prereq: permission of instructor)
X.XXX, Elective, 6 units

4.2.2 General Studies. An important component of architecture education, general studies provide basic knowledge and methodologies of the humanities, fine arts, mathematics, natural sciences, and social sciences. Programs must document how students earning an accredited degree achieve a broad, interdisciplinary understanding of human knowledge.

In most cases, the general studies requirement can be satisfied by the general education program of an institution's baccalaureate degree. Graduate programs must describe and document the criteria and process used to evaluate applicants' prior academic experience relative to this requirement. Programs accepting transfers from other institutions must

document the criteria and process used to ensure that the general education requirement was covered at another institution.

Programs must state the minimum number of credits for general education required by their institution and the minimum number of credits for general education required by their institutional regional accreditor.

Program Response:

General Studies

When students enroll in MIT's MArch program, the academic administrator reviews their final transcripts to see if they have already completed any required courses in the program. If so, students may not waive the credits, but they may waive the requirement. Instead of the required course, students can take an elective of their choice.

Transcripts for all relevant degrees, official or unofficial, must be uploaded to the application system. PDFs must be clearly readable and oriented correctly on the screen. Only those applicants who are accepted for admission will be required to send a hard copy of an official, sealed transcript (with English translation) from each school attended. Due to COVID-19, we are now accepting digital official transcripts sent directly from institutions or via a third-party service. Applicants are asked to not have official copies of transcripts sent to our office unless they are admitted. Certificates, study abroad, and community college transcripts do not need to be sent unless the courses are not also listed on their primary college transcripts. Non-English transcripts must be translated into English, and if necessary, signed by a licensed notary and accompanied by the original version. If students have taken studios, they must indicate this on the Test Scores/Experience/Electronic Portfolio section. Any discrepancy between the scanned transcripts and official transcripts may result in a rejection or withdrawal of our admission offer. Applicants are NOT required to send any supplemental material with their application by mail and only provide those documents required in the application.

The MArch program requires the following academic preparation:

1. A Bachelor's degree with high academic standing from a recognized institution or, in the judgment of the Department, the equivalent of this degree.
2. One semester of satisfactory study in college-level mathematics (such as algebra, geometry, trigonometry, pre-calculus, or calculus).
3. One semester of satisfactory study in college-level natural sciences (such as physics, biology, and chemistry).
4. Two semesters of satisfactory study in college-level humanities and/or social sciences.

Students may be admitted with limited deficiencies in 2, 3, or 4 above, but this deficiency must be removed prior to entry into the first year of graduate study in the Department. Prerequisites may be taken at any accredited institution of higher learning, including online courses. Natural science classes with a lab are not required. Upon completion, students provide an official transcript showing their final passing grade to the Department of Architecture. AP credit will be accepted if the undergraduate transcript includes institutional credit for each subject taken.

Transferring Into MIT

The graduate program does not allow transfer students to enter the program. Applicants who have begun another program may qualify to waive required courses they have already taken and instead take electives. There is no option to shorten the 3.5-year MArch program.

4.2.3 Optional Studies. All professional degree programs must provide sufficient flexibility in the curriculum to allow students to develop additional expertise, either by taking additional courses offered in other academic units or departments, or by taking courses offered within the department offering the accredited program but outside the required professional studies curriculum. These courses may be configured in a variety of curricular structures, including elective offerings, concentrations, certificate programs, and minors.

The program must describe what options they provide to students to pursue optional studies both within and outside of the Department of Architecture.

Program Response:

See 4.2.1. above.

NAAB-accredited professional degree programs have the exclusive right to use the B. Arch., M. Arch., and/or D. Arch. titles, which are recognized by the public as accredited degrees and therefore may not be used by non-accredited programs.

Programs must list all degree programs, if any, offered in the same administrative unit as the accredited architecture degree program, especially pre-professional degrees in architecture and post-professional degrees.

Program Response:

Bachelor of Science in Architecture (BSA)
Bachelor of Science in Art and Design (BSAD)

Master of Science Art, Culture and Technology (SMACT)
Master of Science Architecture and Urbanism (SMArchS)
Master of Science Building Technology (SMArchS)
Master of Science Design and Computation (SMArchS)
Master of Science History, Theory and Criticism (SMArchS)
Master of Science Aga Khan Program in Islamic Architecture (SMArchS)
Master of Science Building Technology (SMBT)

Ph.D. – Building Technology
Ph.D. – Design and Computation
Ph.D. – History, Theory and Criticism

The number of credit hours for each degree is outlined below. All accredited programs must conform to minimum credit-hour requirements established by the institution's regional accreditor. Programs must provide accredited degree titles, including separate tracks.

4.2.4 Bachelor of Architecture. The B. Arch. degree consists of a minimum of 150 semester credit hours, or the quarter-hour equivalent, in academic coursework in general studies, professional studies, and optional studies, all of which are delivered or accounted for (either by transfer or articulation) by the institution that will grant the degree. Programs must document the required professional studies courses (course numbers, titles, and credits), the elective professional studies courses (course numbers, titles, and credits), the required number of credits for general studies and for optional studies, and the total number of credits for the degree.

Program Response:

N/A

4.2.5 Master of Architecture. The M. Arch. degree consists of a minimum of 168 semester credit hours, or the quarter-hour equivalent, of combined undergraduate coursework and a minimum of 30 semester credits of graduate coursework. Programs must document the required professional studies classes (course numbers, titles, and credits), the elective professional studies classes (course numbers, titles, and credits), the required number of credits for general studies and for optional studies, and the total number of credits for both the undergraduate and graduate degrees.

Program Response:

See 4.2.1. above for a full description of MArch courses. In addition, a graphical version of our curriculum is attached as an appendix.

4.2.6 Doctor of Architecture. The D. Arch. degree consists of a minimum of 210 credits, or the quarter-hour equivalent, of combined undergraduate and graduate coursework. The D. Arch. requires a minimum of 90 graduate-level semester credit hours, or the graduate-level 135 quarter-hour equivalent, in academic coursework in professional studies and optional studies. Programs must document, for both undergraduate and graduate degrees, the required professional studies classes (course numbers, titles, and credits), the elective professional studies classes (course numbers, titles, and credits), the required number of credits for general studies and for optional studies, and the total number of credits for the degree.

Program Response:

N/A

4.3 Evaluation of Preparatory Education

The NAAB recognizes that students transferring to an undergraduate accredited program or entering a graduate accredited program come from different types of programs and have different needs, aptitudes, and knowledge bases. In this condition, a program must demonstrate that it utilizes a thorough and equitable process to evaluate incoming students and that it documents the accreditation criteria it expects students to have met in their education experiences in non-accredited programs.

4.3.1 A program must document its process for evaluating a student's prior academic coursework related to satisfying NAAB accreditation criteria when it admits a student to the professional degree program.

See also Condition 6.5

Program Response:

(Note: MArch applicants and admitted students can find the following information on the Department's website)

The MArch is the first professional degree preparing students for a career as an architect. The program takes 3.5 years, comprising six studios, followed by a semester working on a thesis. Courses are drawn from each of our discipline groups, as well as electives from the Department and throughout MIT.

The MArch program requires the following academic preparation:

• A Bachelor's degree with high academic standing from a recognized institution or, in the judgment of the Department, the equivalent of this degree.
• One semester of satisfactory study in college-level mathematics (such as algebra, geometry, trigonometry, pre-calculus, calculus).
• One semester of satisfactory study in college-level natural sciences (such as physics, biology, and chemistry).
• Two semesters of satisfactory study in college-level humanities and/or social sciences.

As noted above, students may be admitted with limited deficiencies in 2, 3, or 4 above, but this deficiency must be removed prior to entry into the first year of graduate study in the Department. Pre-requisites may be taken at any accredited institution of higher learning, including online courses. Natural science classes with a lab are not required. Upon completion, provide an official transcript showing the final passing grade to the Department of Architecture. AP credit will be accepted if the undergraduate transcript includes institutional credit for each subject taken.

Transferring Into MIT

The graduate program does not allow transfer students to enter the program. Applicants who have begun another program may qualify to waive required courses they have already taken and instead take free electives. There is no option to shorten the 3.5-year MArch program.

Review of Undergraduate Transcripts

Transcripts for all relevant degrees, official or unofficial, must be uploaded to the application system. PDFs must be clearly readable and oriented correctly on the screen. Only those applicants who are accepted for admission are required to send a hard copy of an official, sealed transcript (with English translation) from each school attended. Prospective students are discouraged from sending official copies of transcripts to our office unless they are admitted. Certificates, study abroad, and community college transcripts do not need to be sent unless the courses are not also listed on their primary college transcripts. Non-English transcripts must be translated into English, and if necessary, signed by a licensed notary and accompanied by the original version. If students have taken studios, they must indicate this on the Test Scores/Experience/Electronic Portfolio section.

When students enroll in the MArch program, the academic administrator reviews their final transcripts to see if they have already completed required courses in the program. If so, students may not waive the credits, but they may waive the requirement. Instead, students can take an elective of their choice. Additionally, students may qualify to TA for classes they have taken previously. Students will be granted access to an online TA application system before the semester begins. Some students will receive TAs as part of their admissions package. Students will be assigned to their TA position by the program area.

IELTS or TOEFL Score

Applicants whose first language is not English are required to submit either an International English Language Testing System (IELTS) score (Academic test) or a Test of English as a Foreign Language (TOEFL). The admissions committee regards English proficiency as crucial for success in all degree programs.

Prospective students must take IELTS/TOEFL if:

- They did your undergraduate studies in the US but are from a non-English speaking country you DO need to take the IELTS/TOEFL.
- They are from the US but were raised speaking another language, you DO need to take the IELTS/TOEFL.
- They do not need to take it if you were raised in a non-English speaking country but have spoken and been educated in English all your life.

Admitted applicants must request that an official copy of their test results be sent directly to MIT by IELTS International or Educational Testing Service. IELTS and TOEFL Scores must be no older than two years as of the date of application.

The minimum score required for the IELTS is 7 and the minimum TOEFL score is 600 (250 for computer-based test, 100 for Internet-based test). While either test score is accepted, the IELTS score is preferred. (HTC PhD requires a TOEFL score of 115.) If students' scores do not meet the minimum required for admission, we are not able to admit them. Applications with scores lower than 100 on the TOEFL or 7 on the IELTS, or missing test scores, will not be reviewed at all.

All students whose first language is not English are required to take the English Evaluation Test (EET) prior to registration at MIT. Even students who satisfy the IELTS/TOEFL requirement for admission may be required to take specialized subjects in English as a Second Language (ESL), depending on their EET results. These subjects do not count toward the required degree credits.

Curriculum Vitae

Some MIT fellowships are available to MIT Departments. The CV is used by our administrative staff to learn additional information about applicants to apply for MIT scholarships on their behalf.

Statement of Objectives

MIT's MArch program likes to know one important thing a prospective student imagines contributing to the world upon graduating with a Master of Architecture degree from MIT. Prospective students are alerted to the fact that we are less interested in their qualifications, and more interested in their trajectory, purpose, and their reason for dedicating themselves to the pursuit of architecture. Prospective students are asked why -now- is the right time for them to be in school. What do they imagine contributing to our community at MIT? How do they imagine we can best aid them in accomplishing that goal? As noted elsewhere, the small size of our program and its public purpose means that our key criteria are admitting the students best equipped to take advantage of MIT, and to whom MIT will be most transformative — not 'the best' according to more abstract criteria. For this reason, the statement of objectives is essential. Prospective students are asked to be as concise and deliberate as possible in two pages or less.

Portfolio

A digital portfolio is required of all MArch applicants, including those who do not have a previous architecture degree or background. The portfolio file is expected to be exported as a PDF for screen viewing. The applicant's file should contain no more than 30 pages with a file size not larger than 15MB. Two-page spreads are allowed, but each spread counts as one of the 30 pages.

Our goal is to constitute a diverse community that includes a wide range of interests and talents. We do this for many reasons, including our understanding that, particularly in a community like ours, we all learn from each other. To better understand a prospective student's creative voice and background, prospective students are asked to share a PDF portfolio that best reflects who they are. We review portfolios from a variety of backgrounds; we are seeking the potential to explore and engage architectural questions, but not necessarily previous experience with architecture. We want to understand a prospective student's potential to think and operate visually and in three dimensions, at any scale. Prospective students are asked to share with us any work that best illuminates how they perceive and structure the world that surrounds them. If some of their work cannot easily be understood in a static pdf, we request that prospective students include a link to a sample for review. This field is intended to augment the portfolio submission with audio files from composers and musicians, video files from performance art, interviews from journalists, etc. If time-based media is not central to a prospective student's work, prospective students are allowed to leave this field blank.

Evaluation of Student's Prior Academic Coursework

MArch students who have successfully completed the equivalent of one or more required architecture subjects outside MIT (or within MIT as undergraduates) may be given advanced credit for those subjects by submitting a petition for curriculum adjustment with as much relevant material as possible (including a transcript, syllabi, reading lists, problem sets, paper assignments, or portfolios). Petitions are submitted to arch@mit.edu before the first day of class each term and are then reviewed by the MArch Program Committee by the end of the first month of the term. The Committee is composed of one faculty member from each of the four discipline groups. Depending on the subject for which MIT credit is requested, students may substitute an elective in the discipline group or substitute a free elective. All requests must be resolved by the beginning of the penultimate semester.

Interviews

Interviews are NOT required for MArch applicants. While we cannot hold in-person tours, applicants can arrange for a student-led virtual tour of the Department.

4.3.2 In the event a program relies on the preparatory education experience to ensure that admitted students have met certain accreditation criteria, the program must demonstrate it has established standards for ensuring these accreditation criteria are met and for determining whether any gaps exist**.**

Program Response:

(Note: MArch applicants and admitted students can find the following information on the Department's website)

Evaluation of Student's Prior Academic Coursework

Please see 4.3.1 above

4.3.3 A program must demonstrate that it has clearly articulated the evaluation of baccalaureate-degree or associate-degree content in the admissions process, and that a candidate understands the evaluation process and its implications for the length of a professional degree program before accepting an offer of admission.

Program Response:

Please see 4.3.1 above

NAAB

5—Resources

5.1 Structure and Governance

The program must describe the administrative and governance processes that provide for organizational continuity, clarity, and fairness and allow for improvement and change.

5.1.1 Administrative Structure: Describe the administrative structure and identify key personnel in the program and school, college, and institution.

Program Response:

Administrative Structure & Governance

MIT's overall governance mechanism is its board of trustees, known as the Corporation. The MIT Corporation meets quarterly and consists of distinguished leaders in science, engineering, industry, education, and public service, and (as ex officio) the chairman, president, treasurer, and secretary of the Corporation. The Corporation appoints visiting committees for each academic department and other appropriate units within the institute; the visiting committees make recommendations to the institute administration and the Corporation concerning departmental activities and in turn provide counsel to the departments. The Institute's chief executive officer is the President. Senior academic and administrative officers of the Institute include the Chancellor, Provost, Executive Vice President, Associate Provosts, School Deans, Vice Presidents, Dean for Graduate Education, Dean for Undergraduate Education, Dean for Student Life, and Director of Libraries. Academic departments and divisions – each under the leadership of a head, director, or associate dean – are organized within six schools (School of Architecture and Planning; School of Engineering; School of Humanities, Arts, and Social Sciences; Sloan School of Management; School of Science); and the MIT Schwarzman College of Computing.

The School of Architecture and Planning has two academic departments: the Department of Architecture and the Department of Urban Studies and Planning. In addition, the School hosts the Center for Real Estate; the MIT Program in Art, Culture, and Technology; the Center for Advanced Urbanism; and the Program in Media Arts and Sciences.

Coordinating the activities of the faculty and the resources of the Department of Architecture is the administration, led by the Department Head and Associate Department Heads who have overall responsibility for the administrative life of the Department. The Department is organized into six discipline groups: Architectural Design; Building Technology; Design and Computation; History, Theory, and Criticism of Architecture and Art; Art, Culture, and Technology; and the Aga Kahn Program in Islamic Architecture. Each discipline group is coordinated by a tenured faculty member and is charged with its own governance on matters of teaching schedule and curriculum. Discipline groups form the core membership of search, promotion, and tenure committees in their sections; in the case of search committees with at least one representative from other groups in the Department.

Administrative entities also include the SMArchS and Undergraduate Programs. Discipline and/or program group directors together constitute a cabinet that serves the head in an advisory and coordinating capacity. This cabinet shares its membership with the Department's Committee on Graduate Studies, and meets regularly to discuss curricula, student performance, and issues related to Institute policies. On matters of faculty appointment, reappointment, and tenure including discussions regarding the nature of the five discipline groups and their coverage of the curriculum and research, the entire tenured faculty meets regularly with the Head and Associate Heads.

Assigned committees undertake specific administrative and academic tasks including admissions. In addition, faculty members regularly serve on Institute committees under the auspices of the faculty and the office of the president and teach First-Year Advisor Seminars.

Administrative staff includes the Administrative Officer (budget, personnel, space allocation), Fiscal Officer (accounting), Assistant to the Department Head, Administrator of Professional Programs (MArch, SMArchS, SMBT, and SMACT degree programs), Administrator of Academic Programs (undergraduate and Ph.D. programs), a Communications Strategist and a Diversity, Equity and Belonging Manager. The Department is well supported by the Department's Director of Technology, Network Administrator, and Webmaster. Admissions Specialist, Student Services Assistants, a Manager of Special Projects, and a Manager of Fabrication Facilities. Each discipline group has dedicated staff assistants whose duties vary slightly between sections but, in general, include preparation of faculty searches, promotion and tenure cases, course materials and schedules, monitoring of section and faculty research accounts, and providing general support to faculty and students.

A further explanation of roles detailed above follows.

The Department Head is the chief academic officer and senior faculty member responsible for all departmental administrative and academic business; overseeing Department budgets; making all recommendations regarding appointments, promotion, and tenure to the Dean of the School and the MIT Academic Council; serving as chairman of the faculty for policy discussions, and representing the Department at MIT functions. Ongoing management matters between the Department and the school are handled in regular meetings of the Head and the Dean. Overall policy for the School of Architecture and Planning is the responsibility of the School Council, chaired by the Dean, and of which the Department Head is a voting member. Nicholas de Monchaux was named Department Head effective 1 July 2020, arriving from UC Berkeley into this role following the two-year term of Andrew Scott (2018 - 2020), and the four-year term of J. Meejin Yoon (2014 - 2018), who departed to become Dean at Cornell University's College of Architecture, Art, and Planning.

Associate Heads provide extensive support to department administration. Terry Knight as Associate Head for Strategy and Equity, advises on equity matters. Timothy Hyde as Associate Head for Academics focuses on TA matters along with promotions and advising. In addition, the Department's Graduate and Undergraduate Officer, Leslie Norford, regularly meets with the Associate Heads as part of the Department's leadership team; he also advises the head on matters of undergraduate degrees.

Sheila Kennedy is the Director of the SMArchS program and coordinates the efforts of the various SMArchS degree programs, especially regarding admissions, building community, final reviews, and other administrative matters these students have in common. Liam O'Brien is the current director of the MArch Program and the Architectural Design discipline group. Paul Pettigrew is the program's NAAB Coordinator. The Academic Student Council (ASC) meets regularly to ensure the needs of students are being met and meets with the Administrative Officer several times a semester.

The Administrative Officer, Jacqueline Dufault, oversees the administrative operations of the Department including financial, personnel, space, financial aid, student-related, and other business matters.

The Fiscal Officer, Douglas Le Vie, reports to the Administrative Officer. He monitors non-personnel expenditures; processes payroll, scholarship payments, and student RA and TA appointments; processes academic appointments; and serves as a liaison between faculty and central administrative offices when necessary.

The Assistant to the Department Head, whose position we are hiring for, serves as the title suggests but has particular responsibility for the management of the Head's calendar; coordination of search, promotion, and tenure cases; mentoring information and junior faculty annual reviews; special events; and Institute reports.

The Manager of Academic Programs, Tessa Haynes, manages all student-services areas, from admissions through graduation, for Ph.D. and BSA/BSAS degree programs. In addition, the Administrator for Academic Programs oversees the preparation of the Department's information in the MIT Bulletin and coordinates the Department's course schedule and submission of grades to the Registrar.

The Graduate Administrator, Kateri Bertin, manages all student-services areas, from admissions through graduation, for the MArch, SMArchS, SMBT, SMACT, and SM Undesignated degree programs. In addition, she serves as the departmental contact for English as a Second Language (ESL), Special and Visiting Student's questions and registration, and Departmental authority on cross-registration at Harvard's Graduate School of Design.

The Communications Strategist, Amanda Moore, manages all the Department's communications strategies, including the Department lecture series, exhibitions, publications, website, online social media, and outreach of the Department.

The Computer Resources Manager (STOA), Matthew Harrington, serves as manager of the Department of Architecture computer resources that serve design studios and research facilities of the Department of Architecture with linkages to remote sites. The Computer Resources Manager and his team work closely with faculty and students to meet the needs for acquiring and installing network, hardware, and software. The Director of Facilities, James Harrington, directs the maintenance and renovation of departmental spaces and serves as the School's liaison to the Institute's Office of Environmental Health and Safety. The Department's Fabrication/Woodshop Facilities manager, Jennifer O'Brien, maintains fabrication equipment and trains students in its proper use.

Lauren M. Schuller, the Diversity, Equity & Belonging Officer, supports students and staff in the Department's ongoing work to grow and sustain an inclusive and equitable community.

5.1.2 Governance: Describe the role of faculty, staff, and students in both program and institutional governance structures and how these structures relate to the governance structures of the academic unit and the institution.

Program Response:

The MIT Faculty as a whole plays many key roles in the governance of the Institute, including stewardship of academic and educational matters, through its standing committees, monthly meetings, and procedures defined in Rules and Regulations of the Faculty (Additional information about MIT Faculty Governance can be found at https://facultygovernance.mit.edu/). The key role of the MIT faculty at the Institute level in proposing and approving academic requirements and regulations is mirrored at the departmental level as well. The key role of the MIT faculty at the Institute level in proposing and approving academic requirements and regulations is mirrored at the departmental level as well.

The full text of *Rules and Regulations of the Faculty* can be found here: https://facultygovernance.mit.edu/rules-and-regulations. The document establishes the roles and responsibilities of the Standing Committees of the MIT Faculty, governs its legislative processes, and states its regulations pertaining to the academic calendar, admissions, registration, grades, degrees, and more. The *Rules and Regulations of the Faculty* also describe the processes via which they can be changed by a vote of the Faculty. You will also find a more detailed guide to the term regulations – an expanded version of a subset of *Rules and Regulations* – that address important topics related to syllabi, midterms, scheduling assignments at the end of the semester, and final exams.

Governance of the Institute also involves policies and procedures, separate from *Rules and Regulations of the Faculty*, that are not decided upon by vote of the Faculty. Of particular importance is *MIT Policies and Procedures*, maintained by MIT's Academic Council, which applies to all members of the MIT community. MIT provides links to a handful of specific topics within *P&P* that could be of particular interest to faculty as well as a link to the MIT Faculty's Open Access Policy, and links to several offices that are relevant to certain types of research-related policies at the following address https://facultygovernance.mit.edu/policies-and-procedures

Role of Faculty, Staff, and Students in Department/Program Governance

The Department of Architecture has 14 committees, cabinets, and or councils including: Department Head Cabinet, Committee on Graduate Students (COGS), Strategy & Equity Committee, Lecture Committee, MArch Curriculum Committee, NOMAS Executive Council, SMArchS Committee, Student Cabinet, Undergraduate Curriculum Committee, AKPIA Search Committee, A+U Search Committee, A+U/SCC Search Committee, MArch Admissions Committee, and the SMArchS/PhD Admissions Search Committee. Additionally, the School of Architecture + Planning (SA+P) includes another 25 committees, councils, and user groups. At the institute level, MIT Department of Architecture faculty and staff 52 different committees and boards.

Curriculum Committee (See 5.3.1)

Program Directors work with faculty on best practices for conducting student learning assessments, consult with faculty on the assessment methods used in a particular program, establish a program-level assessment with the university, and monitor faculty compliance with both department and university assessments. Program Directors coordinate assessment activities with course faculty at the end of each semester during the MArch evaluation meeting during which MArch faculty coordinate their individual grading rubrics to aid in final grading and course assessment activities. At the conclusion of each semester, faculty and students present the work of their studios to the Department Head, Associate Deans, Program/Department Directors, and fellow MArch faculty for review.

Program Coordinators/Department Directors include: Timothy Hyde, HTC Director; Azra Akšamija, ACT Director; Sheila Kennedy, SMArchS Director; Liam O'Brien, MArch Director, John Ochsendorf, IDC Director; Nasser Rabbat, AKPIA Director; Christoph Reinhart, Building Technology Director; Larry Sass Computation Director; Rafi Segal, SMArchS Urbanism Director and Skylar Tibbits BSA & BSAD Coordinator.

Department Head Cabinet (Associate Heads, Program Directors, and Discipline Group Directors) includes: Nicholas de Monchaux, Department Head; Terry Knight, Associate Department Head; Timothy Hyde, Associate Department Head + HTC Director; Les Norford, COGS; Azra Akšamija, ACT Director; Sheila Kennedy, SMArchS Director; Liam O'Brien, MArch Director; John Ochsendorf, Director IDC; Nasser Rabbat, AKPIA Director; Christoph Reinhart, Building Technology Director; Larry Sass, Computation Director; Rafi Segal, SMArchS Urbanism Director; and Skylar Tibbits, BSA+BSAD Coordinator.

The Committee on Graduate Students (COGS) meets monthly to review policy, curricula, scheduling, and related issues across all graduate degree programs and to discuss proposals generated within the Department that may require review and approval at higher levels within the Institute such as degree names or creation of defined discipline groups. Members are senior faculty in the discipline and program groups, overlapping with the list above: in 2021 - 2022 key members were Les Norford (Chair) & Tessa Haynes (Staff).

MIT Department of Architecture Student Groups

Architecture Student Council (ASC)
The Architecture Student Council is the student organization of the Department of Architecture at MIT. The student council is composed of representatives from all our degree programs and two elected co-chairs. The council works in close collaboration with the Department's leadership, faculty, and staff to advocate on the student body's behalf and to foster a culture of support, collaboration, and openness.

National Organization of Minority Architects Students (MIT NOMAS)
MIT's Chapter of NOMAS is funded by the Department and plays a significant role in helping foster a welcoming and inclusive environment for students. As NOMAS describes itself, "As minority students and allies, we aim to provide a source of support and camaraderie through communal gathering, open discourse, and lasting mentorship. We challenge misconceptions surrounding minority representation and emphasize the importance of diverse communities through dialogues with the MIT community, lecture series highlighting minority designers and researchers, open letters and advocacy. We are in support of systemic change to an exclusive profession that for centuries has created barriers for those outside of the canon, but we also choose to exist as a space for dialogue, change and care."

MIT China SA+P (MIT CSAP)
MIT China SA+P (MIT CSAP) is a student-led organization that aims to serve MIT's School of Architecture and Planning and the school-wide community at large to establish bridges with the market, industry, and public in China on topics pertaining to the different areas of research and studies within the school: Architecture, Urban Studies and Planning, Art, Culture and Technology, Real Estate and Media Arts and Sciences. As the group describes itself, "We hope to capitalize on SA+P's expertise in design, visualization, curation, and communication to help expand MIT's influence in China, whose massive, ongoing urbanization process craves technologically innovative designs and products."

archREFS
archREFS (Resources for Easing Friction and Stress) is a group of graduate students trained in conflict management and mediation that supports the MIT Architecture student community. To help students manage stress and conflict, archREFS are available to listen, help think of possible resolutions, and connect to other MIT resources. archREFS is part of a network of REFS groups supporting individual departments across campus, archREFS is a confidential resource, meaning no information shared with them will ever be shared with others or acted upon without explicit consent or direction, except in the unusual situation of imminent risk of harm to self or others.

More Groups

Beyond the Department of Architecture, MIT has 500+ recognized student groups. Student groups range from 68 ethnic and cultural associations, 38 musical, theater, and dance groups, 23 religious organizations, 15 activism groups, and many more: including Black Graduate Student Association (BGSA), LatinX Graduate Student Association (LGSA), American Indian Science and Engineering Society (AISES).
Visit MIT's Impact and Opportunities site to learn more.

5.2 Planning and Assessment

The program must demonstrate that it has a planning process for continuous improvement that identifies:

5.2.1 The program's multiyear strategic objectives, including the requirement to meet the NAAB Conditions, as part of the larger institutional strategic planning and assessment efforts.

Program Response:

An Overview of the Strategic Planning Process at MIT Architecture

The strategic planning process and assessment mechanisms of the Department of Architecture are embedded within the ambitious and detailed planning and assessment structures of MIT itself, and its mechanism of Visiting Committees. This system is explained by MIT as follows:

> *Visiting Committees were established at MIT in 1875, and their recommendations have had a strong influence on the course of education and research at the Institute for over 120 years. The committees operate as advisory groups to the Corporation and the administration, offering appraisal, advice, and insight on each academic program and on other major activities at the Institute…*
>
> *The visiting committee system at MIT is among the strongest and most active at a major research university and provides valuable counsel on current activities and future directions. Each of the 30 visiting committees normally convenes every two years for a one-and-one-half day session.*
>
> *Committee recommendations and ideas are conveyed to the Corporation, senior administration, department heads and faculty through oral and written reports and on-going assessments. Committee members often visit departments on their own time to give lectures or meet with members of the departments.*
>
> *…Each committee typically includes 17 members, including five Corporation members, one of whom is chair; six alumni/ae nominees; and six members nominated by the President. Corporation members are assigned each year to visiting committees; many serve on the same committee for several years, providing valuable continuity and insight. Alumni/ae and presidential nominees are typically expected to serve for two meetings (a four-year term) and may be reelected for additional terms.*[4]

[4] See https://corporation.mit.edu/committees/visiting-committees

The visiting committee is widely credited with ensuring continued excellence across MIT's world-renowned departments and programs. While their exhaustive presentations and discussions occur once every two years, the process demands a coherent and updated strategic plan, and a robust articulation by each part of their department of their current goals, past and future indicators of success, and the structure and projected outcome of initiatives. The current membership of the Department of Architecture's Visiting Committee is here, and includes both current or former Deans of peer institutions (Amale Andraos, Renée Chow, and Sarah Whiting), and significant architectural practitioners (John Friedman, William Hanway, and Regine Liebinger), alongside members of MIT's Corporation. Architecture's committee is currently chaired by Alan Spoon, himself a member of the 8-person MIT Corporation Executive Committee.

Interleaving with the two-year cycle of the visiting committee, long-range planning in the Department of Architecture is calibrated each year in the different committees. These include:

- The cabinet (which also serves as the Department's Committee on Graduate Studies), composed of discipline group leaders and program directors, along with associate heads.
- Individual committees for each academic program
    - PhD in Building Technology
    - PhD in Design and Computation
    - PhD in the History and Theory of Architecture and Art
    - SMArchS committee
    - MArch Curriculum Committee
    - Undergraduate Curriculum Committee
- The Strategy and Equity Committee
- The student cabinet (ASC)
- Ad-hoc committees as needed; during the first pandemic summer, for example, ad-hoc committees were formed around the academic life of the Department (the cabinet plus student representatives), and the social and cultural life of the Department (a smaller group of students, staff and faculty).

Each of these groups is asked to identify both immediate and long-range goals pertinent to each cohort or program, and in response, we undertake changes to the program on a consistent basis for semesterly evaluation in line with longer-term goals. Discussions range from intellectual trends emerging from the discipline groups to bottom-up discussions emerging from student government and general faculty concerns.

The Department Head meets with the school's Dean approximately once a week to discuss strategic opportunities from the perspective of the Institute and the Provost's key agendas. The Head also meets weekly with the administrative staff in headquarters to monitor fiscal updates, spatial needs, course requirements and forecasting for the admissions season. Formal meetings of cabinet and committees are required to have meeting notes, which in turn are used as a basis for further discussions and feedback from each group.

To calibrate longer-term planning, we regularly reach out to sister institutions to evaluate and compare the transformation of our program in relation to theirs; this is common in admissions, core requirements, faculty evaluations, facilities and resources, intellectual directions, as well as tenure processes. This approach to consultation became particularly important during the COVID-19 pandemic and the shift to remote education.) We also gather information regarding the transformation of programmatic needs on an annual basis through the ACSA meetings, and in relation to the NAAB process and its on-going transformation. MIT has an educational representative at the Boston Society of Architects, and this enables our faculty to reach out to a broader community, while also drawing them closer to our academic programs.

Our commitment to changes within the program is also channeled through a larger dialogue with the NAAB requirements; that is, the relationship between architectural education and the academic community, students, the regulatory environment, the profession and the public good at large.

An outline of current Departmental goals, progress, and metrics.

Our department's academic strengths emerge from its separate groups and programs, but its strength as a community, and greatest impact in the world, come from conversations that span across all of us. At the fore of our current strategic planning are intellectual discussions on the *Climate*, about *Diversity*, and about *Design* and its teaching at MIT. These thematic goals converge in strategic discussions and planning around our accredited MArch. program, whose requirements span every discipline group in the Department, and whose identity is at the core of the Department's collective project. As such, the facilities for the MArch program (shops, studios, and classrooms) have taken center stage in discussions about the Department's new home in the Metropolitan Warehouse.

A summary of context, current initiatives, and relevant metrics for each of these areas follows:

Addressing the Climate Crisis across the Department of Architecture

As noted in the Shared Values section (Environmental Stewardship and Professional Responsibility) the Department of Architecture at MIT not only recognizes the challenges brought about by the Climate Crisis as fundamental but embraces those as essential to the professional and cultural education of contemporary architects. Indeed, the recognition that the construction industry has played and continues to play an enormous role in creating, contributing, and exacerbating the climate crisis is one of the greatest challenges facing our students as future practitioners of architecture and as global citizens.

Within the Department of Architecture and within the MArch curriculum, we have implemented changes that center and expose the role of architecture in relation to the climate crisis. Whether through faculty initiatives and research, course offerings, workshops, or lectures, the Department is seeking to both model leadership in this domain, and to prepare its students to tackle the challenges they will face in their professional careers. In the space of our academic programs, work in recent years — particularly in conversation with NAAB and the accreditation process — have focused on tightly integrating our Building Technology sequence with our core studio sequence, culminating in the linked curriculum of the third semester of our core sequence, and a deep commitment to sustainability and building performance in the teaching of integrated design. Importantly, these initiatives go beyond the limits of the Department itself and foster collaborations between faculty and students both in the Department of Urban Studies and Planning, and across other departments and labs at MIT.

Above all, we believe that the collaborative efforts taken in our department both by faculty and students presents a path forward in addressing the challenges and opportunities brought about by the climate crisis. Many of our faculty and students (as elaborated in Section 2 and Section 3.1) provide a robust and diverse set of approaches to address these challenges.

As identified by section 5.2.2 below, it is important that strategic goals be related to metrics. Key metrics for our work on climate range from the direct — scope 3 emissions from the Department's travel and operations addressed as part of our current climate plan — to indirect, as measured in the content and focus of teaching and research.

Diversity, Equity and Belonging (DEB) in the Department of Architecture

A focused consideration of issues of race, inclusion, and equity in the Department of Architecture was inaugurated in March 2020 with the appointment of Professor Terry Knight as the first Associate Department Head with a DEB portfolio in the Department's institutional history.

As elsewhere, the murder of George Floyd on May 25, 2020, created an essential point of outrage, and shared conversation within the Department on equity issues, which we sought to engage and embrace as an opportunity for productive and long-lasting transformation. As noted at the outset of this letter, two initiatives in governance characterized the beginning of this work.

The first, beginning on June 8, 2020, was a series of Town Hall meetings with students, staff, and faculty to discuss proposals for community transformation. While, as in other academic institutions, students expressed their concern through making specific, itemized requests of the Department, our existing momentum allowed a convergence of these requests with our larger, departmental agenda, and a vital, shared discussion on priorities and possibilities.

The second initiative was the establishment of a Strategy & Equity (S&E) team in the Department of Architecture, staffed by ADH Knight and a staff and student representative, and joined regularly by the Department Head in its meetings. Our ongoing goal has been to evaluate, challenge, and change our administrative and community responses to issues concerning diversity, equity, and belonging (DEB). The team included Katharine Kettner and Mohamed Ismail as student representatives, and Inala Locke as a staff representative. In AY 2020-21, the team was supported by a part-time staff member borrowed from other department efforts. Work across that academic year and into the current one, led to the hiring of a dedicated DEB officer in the Department in the spring of 2022, Lauren Schuller. Lauren Schuller focuses on student issues, coordinates staff activities around this work, and provides coordination with new Assistant Dean for DEB and Student Support, Monica Orta at the School level.

Highlights of this work have included:

(See also PC.8 Social Equity and Inclusion & 5.5 Social Equity, Diversity & Inclusion)

Graduate Admissions

An essential goal for this department is to create, enhance, and support a more diverse body of students. Based on surveys of current students identifying potential barriers to application and other feedback from our community, revisions were made to the MArch and the SMArchS/SMBT/PhD applications, and the GRE (previously required), was dropped from all our application requirements, students were included in all admissions committees, and new anti-bias training for admissions committee members were introduced. Two new programs, the Applicant Mentorship Program (AMP) and ArchCatalyst, were developed to offer student peer-to-peer support for applicants from underrepresented backgrounds. While the identities of participants in these programs were kept confidential from the admissions process, we were delighted to discover in the programs' first year that over 1/3 of successful applicants participated in AMP or ArchCatalyst.

Curriculum

Faculty authorship and autonomy in developing course materials is a key principle in MIT's culture—as is our emerging commitment to a diversity of cultural and geographic perspectives. To encourage awareness and evaluation of course materials, we undertook a survey of syllabi content for required and restricted elective courses in the MArch and SMArchS programs, using a methodology supported by our area librarian, Kai Smith. These surveys are themselves the subject of a series of faculty and student discussions during the current academic year led by the new Associate Department Head for Academics, Timothy Hyde. At the same time as we address our existing courses, reviews and events through data collection and discussion, we have begun to model new curricular prototypes for impactful intersections of research, teaching, and community impact. The first of these, a three-year collaboration with DUSP on studio teaching and policy workshops centered on climate justice, began this spring under the leadership of Professor Miho Mazereeuw, Professor of the Practice Mary Anne Ocampo in DUSP, and MIT Architecture Visiting Lecturer and MITdesignX Social Entrepreneur in residence Lisbeth Shepherd. Initiatives planned for 2022-23 include an expansion of this curricular model to further projects and a program of collaboration with HBCU institutions centering on our connection with Tuskegee University through the historic leadership there of MIT's first black graduate, architect Robert Robinson Taylor.

Community, Climate, and Culture

Spearheaded by ADH Knight and the S&E team, our work on community, climate, and culture in the Department has been an important thread through all our efforts to remain connected and engaged with each other through a long period of remote work, and a staged return to campus across 2021-22. As well as surveys and engagements with faculty and students, this work has involved substantial conversations with our staff colleagues. As a result of these staff-related conversations, we have worked to clarify HR structures across the Department, engage in department-wide dialogue on an MIT-wide community initiative, the *Staff Monologues*, and convened a working group of staff and faculty to author a joint values statement on staff-faculty collaboration.

As part of our work on climate and culture within the Department, the S&E team has anchored an ongoing partnership with the consultancy *Courageous Conversation*, whose work centers on building tools for the creation of anti-racist communities. This partner was selected for their specific experience working with academic organizations, and their work with us has centered on a series of workshops with department leadership, with faculty, with staff, and with student groups, beginning in the spring of 2021 through this past fall. Our collaboration with *Courageous Conversation* will continue as we work to build an inclusive, anti-racist department. The S&E team helped set up a new peer-to-peer student support program (archREFS) and advocated for and achieved more robust inclusion of students in departmental governance and decision-making. Together with ADH for Academics, Timothy Hyde, and MArch Director, Professor Liam O'Brien, they are reviewing and planning improvements to student mentoring practices across all programs.

The S&E team, with the collaboration and support of the Department Head and many others in the Department, has made promising strides in fulfilling our department's commitment to diversity, equity, and inclusion. However, much work remains to be done. S&E continues to grow, learn, and respond to the rightful demands of students, staff, and faculty in 2020-21 and 2021-22. In recognition that this growth is an ongoing process, the Department looks forward to finding more equitable, inclusive, and respectful methods of practice, community-building, and care. The S&E team will aid in this process for the 2021–22 academic year and beyond, now in collaboration with the new SA+P Assistant Dean for DEB and Student Support, Monica Orta, and with newly hired department-level DEB officer, Lauren Schuller.

Key metrics for this work range from direct demographic data on admissions and acceptance at the student level, to survey instruments regularly used by both the Department and MIT to measure quality of life in the Department and our community climate.

Design across MIT (See also Shared Values of the Discipline and Profession: Design)

Design—across scales and disciplinary contexts—presents one of our best approaches to mitigating the effects of the climate crisis on communities worldwide. While the design of buildings, cities, and landscapes — all within the professional domain of faculty in the Department — presents one of the most important opportunities, so does the improved design of systems from large-scale infrastructure to nano-scaled medical devices. As MIT addresses itself to the enormous challenges of our time, the Department of Architecture has an important role to play as a citizen and contributor to a larger conversation on design across disciplines, and across MIT. At an institutional level, the landscape of design education across MIT represents one of the most important opportunities, and challenges, that we currently face.

Any successful cross-MIT initiative must be collaborative, and it was with this in mind that Dean Hashim Sarkis, along with Engineering Dean Anantha Chandrakasan, asked Professors John Ochsendorf and Maria Yang to convene a committee across MIT in 2020-2021 to discuss the future of design education at MIT, and how existing efforts—including our leading programs—could be better synthesized and connected. This work shaped a fundraising initiative leading to a transformative, $100 million gift that will create a new institution — the Morningside Academy for Design (MAD) — based in our new home in the Metropolitan Storage Warehouse. Most of this gift will go to create spaces in the Warehouse and create an endowment for long-term provision of student fellowships and research support across MIT. The governance and programs of the institution, however, are all being currently shaped, and the relationship between MAD and the Department, and our contributions through our design programs and teaching, is all a subject of current discussion.

What is clear at this point is that MAD presents an enormous opportunity for the Department to both grow, and share, its expertise across MIT. In addition, its activities present an essential opportunity for our focus on design as a tool to create equity and resilience to shape a transformative institution for all of MIT. How we resolve questions of governance, curriculum, and programming, however, is of pivotal importance to the future of this department and its role in MIT.

Key metrics in this area include enrollment in our interdisciplinary design major/minor (currently the #2 minor at MIT behind Computer Science), as well as the number and quality of collaborations between our faculty and colleagues across MIT.

Our commitment to Professional Education

As the first professional degree program in North America, our department has a particular responsibility to uphold the standards of accreditation in our program and provide leadership in the transformation of the profession.

As the conversations around our current accelerated review revealed, there is a tension at times between perspectives around research, climate and other strategic goals, and some portions of the accreditation requirements (some conversations in our most recent review, for example, turned on how a student's decision to deliberately omit extensive and code-suggested car parking in the design of a building in a remote and ecological site should be judged). Nevertheless, we recognize our deep and fundamental obligation not just to meet the requirements for professional education, but to try to show leadership in their adoption and advancement.

Leading into the current review, we have convened a set of key meetings and a strategic process to refine and re-imagine the Department's core studios to ensure an effective focus on integrated design. These are focused on an ongoing expansion of the role of integrated design in each of our core MArch studios, and greater integration with courses in building performance and construction at each of these levels — culminating in our existing integrated curriculum for Core III. In this work, we hope to model how the broad approach to Program and Student Criteria outlined in the 2020 guidelines can be effectively integrated into the forward-looking research culture of MIT, particularly as it relates to our larger strategic initiatives in climate, diversity, and leadership in design.

The most significant metric in evaluating the quality of our professional program is the accreditation process itself. In service of this goal, and considering the 2020 guidelines, we are integrating current Student and Program criteria into the regular discussions of our MArch. Curriculum Committee, as well as evaluation of these criteria into our semesterly review of student work amongst MArch faculty.

The Metropolitan Warehouse

Between 2019 and 2022, the Department of Architecture has gone from imagining a future home in the Metropolitan Storage Warehouse to debating and discussing individual spaces at a detailed and systematic level. Important questions — like the determination in Spring 2020 that all the Department's discipline groups and programs would go into the new building — have been resolved. Yet, at the same time, important questions related directly to concerns above — equity, climate, and design — have recently begun to reshape the project as well.

The largest portion of design work on the building was a long period of work during 2020 and 2021 in which architects Diller, Scofidio & Renfro and Leers Weinzapfel worked to aggressively refine and simplify the building's design as part of a large-scale program of value engineering.

In recent months, two important changes have been made to align the building with the important conversations outlined above on climate and design.

In the area of climate, a series of conversations amongst Department Head Nicholas de Monchaux, key faculty, and MIT administration across 2020 and 2021 related to the building's performance relative to climate goals — both our own as a department, and MIT's climate plan as it was announced in 2021. Thanks to key collaborations between our own Building Technology Faculty, MIT's facilities office, the Dean's Office, and Institute Leadership, this has resulted in an innovative plan for the building's cooling and heating. First, this new approach will allow the building of a key pathway to full electrification — and so take

advantage of a rapidly greening electrical grid for power here in Massachusetts. At the same time, it will allow the building to avoid substantial energy use in winter for heating through an experimental approach to using the campus' own chilled water return for heat energy, aiding the efficiency of the campus' whole energy system. Alongside the inherent virtues of repurposing large portions of the existing Met building, this approach will allow us to ensure that our new home represents our values as a community. Even more, this innovative approach to campus-wide energy use allows us to enact with the building's mechanical systems what we seek to do as an intellectual community as a whole — transform perspectives and approaches to architecture and energy across MIT, and globally.

The strategic work towards our new building will only be truly measurable once we are resident after 2025, but we are engaged in a robust collaboration between the architects, office of campus planning, and the Dean's office to ensure our goals for the project are well-represented in program areas, quality of facilities, as well as of course the design quality of the project as a whole.

5.2.2 Key performance indicators used by the unit and the institution

Program Response:

Metrics for individual strategic areas are noted in individual sections above. In addition, in its regular meetings with its Visiting Committee (a process explained below), as well as in the assessment of individual faculty, programs, and department goals, the Department relies on a key series of regular indicators. Some are internal to MIT, some are exclusive to the Department, and some are external. For academic programs and instruction, these indicators include course evaluations, student performance, and admissions numbers and yields to admissions offers. For research impact, these range from the simple quantity of research funding, metrics of publication, to the scale and the status of industry collaborations. In recent years, efforts around diversity and inclusion in the Department have focused on a combination of more and less tangible data — from demographics on admissions, to survey instruments around quality of life, community climate, and inclusivity.

Further details of each of these areas follow:

Course Evaluations

MIT's online subject evaluation system is an important tool for teaching and learning at the Institute. Student feedback helps instructors modify and improve their approach, pedagogy, and content of the subject for the future; departments assess faculty for promotion and tenure, gather data for accreditation, and make curricular changes; and other students make informed choices when selecting classes. Subject evaluation is an Institute-wide initiative, administered by Curriculum & Faculty Support in the Registrar's Office, with oversight by the Office of the Vice Chancellor. There are several evaluation periods each term, including two for sub-term subjects. Periods are aligned with the Academic Calendar and end before finals to ensure that responses are not influenced by final exams or grades. Responses are reported anonymously and only made available after final grades are posted.

Grading and Academic Performance

While grades in individual courses are used as a metric of individual performance, the key assessment metric for students and overall curriculum in the MArch program is the end-of-semester “evaluation meeting,” in which faculty across our MArch meet to assess student and course outcomes across our 3.5-year curriculum. This assessment is done in collaboration with key staff in Student Services, who help track follow-ups with individual students, as well as instructors and the program director, who takes responsibility for shifting and adjusting individual course outcomes.

Research funding and impact

Research impacts are measured by a range of metrics at MIT, including scale of funded research. In FY 2022 (July 1, 2021 - June 20, 2022) total funding for research in the Department of Architecture was $4.7M ($4.3M in sponsored research and $398k in internal MIT funding). Architecture faculty play a key role in research initiatives across MIT in climate and resilience, as well as computation and computation’s applications across disciplines.

The most significant assessment of research quality and outcomes are those by MIT, in two forms. First, and true of any institution, is the mentorship and tenure evaluation of faculty, which involves not only assessment within the Department, but also assessment by allied disciplines in the School Council, and by evaluation by the Institute-wide Academic Council for each stage of promotion. MIT’s promotion ladder includes such evaluations at the transition from Assistant Professor to Associate Professor without Tenure (AWOT), from AWOT to Associate Professor with Tenure (AWIT), and to Full Professor. Since the last NAAB visit in 2015, eight faculty teaching in the MArch program have successfully been appointed to tenure, with no unsuccessful reviews.

As noted already, alongside the evaluation of individual faculty members and their research impacts, MIT uniquely undertakes biannual evaluations of each department by a Visiting Committee (VC) as noted above, containing alumni, field experts, and representatives of MIT’s Corporation (board of trustees). While these exhaustive reviews touch on all aspects of department life and operations, the nature of MIT as an institution means that our research impact and outcomes are a primary topic of discussion and evaluation at each meeting, with specific recommendations and outcomes for improvement included in each report for action and subsequent evaluation.

Admissions yield and metrics

We track closely the number of students accepting admission versus those to whom a place is offered. In the last two years, our yield of MArch candidates accepting admissions has been over 70%. Since 2020, the Department has not negotiated or matched competing offers for admissions, which has negatively impacted this number from a (theoretically) higher amount. This is based in turn on two important assessment efforts; First, more general studies showing that merit-based tuition offers often favor less diverse candidates; and secondly, an internal assessment in 2020-2021 which showed no systematic relationship between ranking on admission to the Department and long-term academic success within the Department.

5.2.3 How well the program is progressing toward its mission and stated multiyear objectives.

Program Response:

A detailed summary of progress towards current institutional goals is outlined in the first section above, under “An outline of current Departmental goals.”

5.2.4 Strengths, challenges, and opportunities faced by the program as it strives to continuously improve learning outcomes and opportunities.

Program Response:

MIT Architecture operates from an exceedingly privileged position in terms of reputation, public exposure, and quality of admissions. As noted earlier in this document, our department has earned a #1 ranking for MIT in Architecture and the Built Environment for each of the last three years for MIT in the QS World University Rankings. Our faculty, both in their own practices and as part of global architectural events like the Venice Architecture Biennale, command significant attention for their work and research. And, as measured by admissions, we are amongst the most selective MArch programs nationally, with an acceptance rate of 3-5%, and over 70% of MArch candidates offered admissions choosing to matriculate at MIT.

Much of our work in the Department is to ensure that this larger reputation is not just maintained — but, more importantly, is deserved. And while we celebrate our successes—and the contributions of our students, staff and faculty that make them possible—we face continued challenges and opportunities in each of our areas of strategic focus, as well as in maintaining the day-to-day infrastructure that makes our work possible.

In our work on the Climate Crisis, we face local challenges at MIT in ensuring that the significant role of the built environment in the causes of climate change, and in the potential mitigation of its effects, is recognized and valued in MIT’s larger institutional work in this area. For example, while more than half of our faculty applied to MIT’s recent “Climate Grand Challenges” research program, only a single faculty member from our department is one of the 70+ faculty and researchers supported through five board projects selected (happily, Miho Mazereeuw is not just a participant, but a leader of one of the five teams.) And while this illustration focuses on research, not learning outcomes and opportunities explicitly, at MIT the two are inseparable—even in our professional programs. If MIT chose to focus its increasing concern on the climate crisis and its mitigation in proportion not just to the scale and budget of each of its current departments, but also weighted towards their relative contribution to both causes and potential mitigation, we would be an enormous beneficiary. Should this not be the case, both we, our students, and the prospects for meaningful solutions to climate change emerging from MIT will potentially suffer.

In our work on Diversity, Equity, Inclusion and Belonging, we have been challenged in the last several years by the lack of a DEIB plan for MIT as a whole; thankfully, at the time of writing this plan has just been published after a two-year drafting process. Much of our work on supporting a diverse student body and improving the experience of MIT for all our students depends on effective collaboration across the Institute, and we believe that this plan’s publication is an important step in this direction.

In our work on improving learning and teaching on design across MIT, we face an enormous opportunity and challenge with the launch of the $100m Morningside Academy of Design. While its relationship to our professional degree program will be limited so far to the provision of additional fellowships and potential integration with option studios, the resources and reach

of the Academy will significantly impact the quality of experience of all our students, especially once we are cohabiting in the studios and classrooms of the Met Warehouse. In this context, we face a challenge in developing and deploying effective methods of collaboration and coordination with the Academy to ensure this relationship develops to mutual benefit and success.

In our work to ensure the continued quality and compliance of our professional degree program, our largest challenges and opportunities emerge from the small scale of our program. At the cultural level, the intimate scale of this program, and a natural tendency to focus on the individual needs of each student, can sometimes distract from the importance of overall coordination on curriculum and learning outcomes across classes, cohorts, and the curriculum. The less complex and more student-focused criteria of the 2020 requirements are enormously helpful in this regard, as they can be more easily incorporated into existing mechanisms for student evaluation and curriculum planning for our MArch Program. At an institutional level, a recent focus on improving student funding to open access to MIT's resources more broadly and equitably, alongside a better accounting for our current, high yield in the admissions process, has resulted in smaller class sizes — which can lead to less consistency in outcomes. Supported by the SA+P Dean's Office, we are working diligently to re-grow our MArch cohort sizes over the next several years without reducing funding levels, through the provision of new fellowship awards, as our faculty agree that the most effective teaching and learning scale for our program is moderately larger than our current student population. (With this argument in mind, we have been able to provide for a larger, more optimally scaled program in our new facilities in the Met Warehouse.)

In our planning for the Met Warehouse in advance of a September 2025 move-in date, we face enormous challenges and opportunities in helping to make sure this new facility meets and exceeds our needs and expectations. As well as the challenge and opportunity provided by the Design Academy outlined above, we need to ensure that the fine-grained design and fitting-out of our teaching and learning spaces—studios, shops, and classrooms—closely match the goals of our faculty and the needs of our students.

5.2.5 Ongoing outside input from others, including practitioners.

Program Response:

As noted above, the Visiting Committee process at MIT involves significant contributions from outside experts and practitioners and is thus integrated into the highest-level consideration of departmental performance and budgeting at MIT.

Beyond the Visiting Committee, our active alumni association (MITArchA) holds regular meetings in the Department, and with the Department Head, providing feedback and suggestions on departmental goals. Since its inception this group has been headed by, and largely constituted by practitioners. Finally, our regular process of outside reviews — focused on, but not limited to our MArch program — provides an ongoing and active conversation between the work of our program and a larger community of teaching and practice.

The program must also demonstrate that it regularly uses the results of self-assessments to advise and encourage changes and adjustments that promote student and faculty success.

Program Response:

The Department's self-assessment is largely integral to and indistinguishable from its long-range planning, detailed in the previous section. Self-assessment of curricular offerings and their content begin with the discipline groups and lead to changes made collaboratively among groups under the guidance of the Department Head, particularly as needed to coordinate studios with other courses. Needs for such resources as space and equipment (notably fabrication facilities) are identified based on the Department's plans and the programs and the activities of peer institutions. Members of the Department's Visiting Committee provide helpful criticisms and recommendations during their biennial review.

5.3 Curricular Development

The program must demonstrate a well-reasoned process for assessing its curriculum and making adjustments based on the outcome of the assessment.

Programs must also identify the frequency for assessing all or part of its curriculum.

Program Response:

5.3.1 The relationship between course assessment and curricular development, including NAAB program and student criteria.

Program Response:

Prompted in part by the shift to the 2020 NAAB Framework, our process for assessing and adjusting our MArch curriculum has recently been re-imagined to integrate three existing forums for of curriculum development and evaluation—the MArch Curriculum Committee Meeting, the Evaluation Meeting, and the Core Summit Meeting. Each forum addresses our curriculum at a different scale; from that of program design to individual student outcomes, and everything in between. Each also contains a different balance of the continuous adjustment and projective implementation of the curriculum and its desired outcomes, and the evaluation of success in reaching these goals by current offerings.

MArch Curriculum Committee (1-3x per semester)

The most projective and wide-ranging discussions of our curriculum take place in the MArch Curriculum Committee, chaired by the MArch director and containing representatives from across the program's teaching area[5]. Meeting formally at least twice a semester, this group regularly monitors the relationship between the curriculum as a whole, MIT and NAAB requirements, curricular goals, and overall student outcomes. This coordination is intended to ensure that NAAB Program Criteria (PC's) and NAAB Student Criteria (SC's) continue to be covered in classes taken by all MArch students and to identify productive interactions of many of these courses with core design studios. Recent strategic changes to the MArch program reflect the new and current 2020 NAAB Conditions for Accreditation.

[5] Architectural Design, Building Technology, Design and Computation, Art, Culture and Technology, and History, Theory and Criticism of Architecture and Art. Members during the 2021 - 2022 academic year included: Brandon Clifford (Chair), Nicholas de Monchaux, Rania Ghosn, Ana Miljacki, Caitlin Mueller, Skylar Tibbits, Mark Jarzombek, Miho Mazereeuw, Azra Aksamija, Paul Pettigrew, Angela Loescher-Montal (MArch 2023), Kateri Bertin (ex officio)

Evaluation Meetings (2x semester)

Each semester is also characterized by a sequence of evaluation meetings. At the end of each semester, before student grades are submitted, but after the end of final reviews, the MArch faculty meeting gather to share outcomes from the semester, discuss challenging grading decisions, and evaluate on an ongoing basis the appropriate goals for the program, including Program Criteria and Student Criteria outcomes. As of the Fall of 2022, this meeting is preceded by a mid-semester pre-evaluation meeting by program leadership, following mid-term reviews, which identifies the need for any mid-stream communications with students or faculty regarding individual studios, and identifies a studio or studios to be invited to present exemplary work towards curricular and program outcomes at the end-of semester meeting for discussion. Emerging from the Evaluation meeting are action items for consideration by both the Curriculum Committee (related to requirements and relationships between courses across the program), and for the Core faculty, as noted below.

Core Summit (1x semester*)*

Each semester contains a 1–2-day meeting of faculty contributing to the three-semester core curriculum, including both studio and BT faculty responsible for Program and Student Criteria contained in this sequence. This meeting discusses outcomes revealed during the evaluation process each semester and produces adjustment to the core curriculum syllabi based on both these outcomes, and any shifts in NAAB criteria or their understanding. The meeting also assesses outcomes from the previous semester's core studios, and potentially adjusts content in upcoming semesters to ensure the inclusion of essential outcomes, including NAAB criteria.

As noted in section 5.2, MIT's online subject evaluation system is an important tool for teaching and learning feedback. Across the Institute, student feedback is used by faculty and instructors to implement changes to the content of their offerings as well to the pedagogical methods and approach.

5.3.2 The roles and responsibilities of the personnel and committees involved in setting curricular agendas and initiatives, including the curriculum committee, program coordinators, and department chairs or directors.

Program Response:

As noted above, MIT's governance structure is supported by a strong system of committees and councils: The Faculty, as one of the Institute's governing bodies, develops and carries out policy through the Standing and Special Committees of the Faculty; the latter also include the award committees and the Faculty Newsletter Editorial Board. Standing Institute Committees Appointed by the President hold responsibility for policy development and review in key areas, each reports to a senior officer. Other Institute Committees and Councils comprise other Institute-wide groups involved in policy development and review.

The Department of Architecture has 14 committees, cabinets, and or councils including: Department Head Cabinet, Committee on Graduate Students (COGS), Strategy & Equity Committee, Lecture Committee, MArch Curriculum Committee, NOMAS Executive Council, SMArchS Committee, Student Cabinet, Undergraduate Curriculum Committee, AKPIA Search Committee, A+U Search Committee, A+U/SCC Search Committee, MArch Admissions Committee, and the SMArchS/PhD Admissions Search Committee. Additionally, the School of Architecture + Planning (SA+P) includes another 25 committees, councils, and user groups. At the institute level, MIT Department of Architecture faculty and staff sit on 52 different committees and boards.

Curriculum Committee(s) (See 5.3.1)

Program Directors, including the MArch Director, work with faculty on best practices for conducting student learning assessments, consult with faculty on the assessment methods used in a particular program, establish a program-level assessment with the university, and monitor faculty compliance with both department and university assessment. Program Directors coordinate assessment activities with course faculty at the end of each semester during the MArch evaluation meeting during which MArch faculty coordinate their individual grading rubrics to aid in final grading and course assessment activities. At the conclusion of each semester, faculty and students present the work of their studios to the Department Head, Associate Deans, Program/Department Directors, and fellow MArch faculty for review.

Program Coordinators/Department Directors include: Timothy Hyde, HTC Director; Azra Akšamija, ACT Director; Sheila Kennedy, SMArchS Director; Brandon Clifford, MArch Director; John Ochsendorf, IDC Director; Nasser Rabbat, AKPIA Director; Christoph Reinhart, Building Technology Director; Larry Sass Computation Director; Rafi Segal, SMArchS Urbanism Director; and Skylar Tibbits BSA & BSAD Coordinator.

Department Head Cabinet (Associate Heads, Program Directors and Discipline Group Directors) includes: Nicholas de Monchaux, Department Head; Terry Knight, Associate Department Head; Timothy Hyde, Associate Department Head and HTC Director; Les Norford, COGS; Akšamija, ACT Director; Sheila Kennedy, SMArchS Director; Brandon Clifford, MArch Director; John Ochsendorf, Director IDC; Nasser Rabbat, AKPIA Director; Christoph Reinhart, Building Technology Director; Larry Sass, Computation Director; Rafi Segal, SMArchS Urbanism Director; and Skylar Tibbits, BSA and BSAD Coordinator

The Committee on Graduate Students (COGS) meets monthly to review policy, curricula, scheduling, and related issues across all graduate degree programs and in particular to discuss proposals generated within the Department that may require review and approval at higher levels within the Institute such as degree names or creation of defined discipline groups. Members are senior faculty in the discipline and program groups: in 2021– 2022 members were Les Norford (Chair) and Tessa Haynes (Staff).

5.4 Human Resources and Human Resource Development

The program must demonstrate that it has appropriate and adequately funded human resources to support student learning and achievement. Human resources include full- and part-time instructional faculty, administrative leadership, and technical, administrative, and other support staff. The program must:

5.4.1 Demonstrate that it balances the workloads of all faculty in a way that promotes student and faculty achievement.

Program Response:

The program's mission can be stated succinctly: to provide the highest quality programs of education and research in all areas of study and investigation where strength and competence have been developed, and to do so with a strong commitment to public service and to a diversity of backgrounds, interests, and points of view among faculty, students, and staff. Our human resource development efforts are focused on achieving this mission.

The Institute, including Architecture, hires faculty whose attributes are "creativity, professional competence and leadership, ability and desire to teach, and willingness to cooperate with other departments in promoting the work and welfare of the Institute as a whole (MIT

Policies) Reappointment, promotion and tenure reviews all have as their basis the reasonable belief that the candidate is the best available under the terms of the appointment. Review is expected to be sufficiently broad and objective to ensure the preservation of those standards of professional and academic attainment by which the rank is characterized both within MIT and at peer institutions.

In the last decade, the Institute has gone from appointing its first Institute Community and Equity Officer (ICEO) and issuing its first landmark report on faculty race and diversity, to a recent institute-wide Strategic Action Plan for Belonging, Achievement, and Composition under current ICEO John Dozier.

June 2010's landmark report on race and diversity at MIT, Chaired by Professor Paula Hammond (the "Hammond Report") provided a sweeping overview of necessary work in this area at MIT. As a result of the recommendations, the Dean of the School of Architecture and Planning, through the School-wide Diversity Committee (currently chaired by Professor Larry Sass of the Department of Architecture):

- Collects and reviews pre-search plans for all searches being conducted in the school, and then discusses them in the Dean's Council, summarizing the specific recruiting efforts being used to identify underrepresented minority candidates.
- Tracks searches and URM faculty appointments and reviews the short-list of invited candidates to ensure a diverse pool of candidates prior to inviting candidates to campus to interview.
- Reviews and approves all faculty search reports to ensure that every effort was made to recruit and consider under-represented minority and women candidates to the MIT faculty.
- Alerts and informs Visiting Committees to ask about URM hiring and retention, including asking specific questions about the Department's plan of action for recruiting URM faculty, to which they would be held accountable on the next visit.

This initiative has augmented an already strong commitment to taking explicit actions to increase the opportunities for minorities and women as members of the faculty. Diversity issues are actively addressed at the level of the School of Architecture and Planning and at the Department level. The chair of the School diversity committee works closely with the Dean, the Associate Dean, the Head of Architecture, and the Director of Human Resources for SA+P to coordinate and monitor faculty recruitment and hiring practices.
In addition, the departmental Diversity Committee issued a report on the diversity of our department in June of 2010, which helped to inform the school-wide diversity report published in September 2010.

In From 2018-2019, the Faculty Diversity Committee issued and revised a further landmark report on the retention of women and minority faculty, which issued further specific recommendations on childcare, flexibility in teaching schedules, spousal employment and other impediments to effective mentoring and retention of a diverse and fulfilled faculty. Since 2020, multiple specific recommendations of this report have been implemented, both for new hires and existing faculty — including support for childcare, spousal employment, administrative duties, and cohort hiring.

As noted above, MIT published its latest report in September 2022 called the MIT Strategic Plan for Belonging, Achievement and Composition. While the report title engages the latest language around DEI issues, it continues the direction of action outlined above. Indeed, the new title better reflects how MIT as an institution thinks about its community and its values. The report, which can be found here, lays out action steps to further MIT's commitment and moving forward with these values in mind.

The work of the departmental and school diversity committees, the Director of Human Resources and the faculty has been keenly focused on the recruitment of minority faculty. To do so, the general conduct of a faculty search is as follows. Before a search is launched, the Department submits to the Dean for approval a search plan that describes the position, outlines where the position will be advertised and other outreach efforts, who will serve on the committee, and who will serve as Affirmative Action Officer. As required by law, advertisements specify that “MIT is an Affirmative Action/Equal Opportunity Employer.” Additional proactive language is used as determined by the search committee. The position is advertised in professional journals and/or newsletters appropriate for the discipline or as recommended by SA+P Diversity Committee which reviews all search plans. The review process includes reading applications and developing a short list of candidates who are invited to the school for personal interviews and who may give a public presentation as well as meet with the committee and other representatives of the Department. A search report is prepared which documents the review process in compliance with the school’s Affirmative Action guidelines. Prior to creating a short-list of candidates to invite for an interview, the search committee must submit an interim search report to the School diversity committee for review. If the short-list does not contain URM candidates or women, the committee is asked to justify the omission and to describe the reasons that URM and female candidates were not selected. If the diversity committee judges the efforts of the search committee to be insufficient, then the search committee is required to make additional efforts before candidates are invited to campus for an interview.

At the conclusion of a search and before a proposed appointment is approved by the Dean, the Department Head submits to the Dean a detailed report on the results of the search. The report must contain a description of the position and a reference to the approved search plan, including special steps taken to locate minorities and women. The selection process is described, including the number of applicants and the number of minorities and women and their ranking, if ranked. The report states the principal reasons for selection of the proposed candidate over other candidates and includes a resumé. The finalist women and minorities who were not chosen are identified by name and resumé with specific reasons for nonselection; or if any were selected and they declined, their reasons are given. A statement of the Department's affirmative action progress is included. These procedures are followed regardless of the race or gender of the chosen candidate. Waivers of search in individual cases may be granted only by the Dean and only if unusual circumstances warrant such waivers.

Also, through support from the Office of the Provost, the Department is enabled to support diversity on the faculty through “targets of opportunity.” Faculty appointments in the past few years have yielded four women and one African-American under these auspices.

(See the 2010 report: http://web.mit.edu/provost/raceinitiative/report.pdf)

(See also 5.5 Social Equity, Diversity, and Inclusion)

Terms of faculty contracts are set by the Department Head, in cooperation with senior faculty of the relevant discipline group. Senior faculty in each discipline area confer with the Department Head every spring about the progress and prospects for scholarly and professional work and MIT career development of the tenure track faculty with the ranks of assistant and associate professor without tenure. The Department Head then meets individually with tenure track faculty to outline expectations and advise them. A letter summarizing these meetings is sent to the faculty member in the spring. Tenure-track faculty members are mentored by senior faculty members. Beginning in 2014 each tenure track faculty member will have two mentors, one in his or her discipline group and one outside the discipline group but with allied interests. This is intended to help make their work better known and understood outside their immediate set of colleagues while also spreading the

opportunity created by this role to a larger group of senior faculty members. While tenure track faculty are encouraged to see all faculty members as resources for advice and feedback, the mentors take on additional special responsibility for helping the junior person prepare for promotion and tenure reviews.

5.4.2 Demonstrate that it has an Architect Licensing Advisor who is actively performing the duties defined in the NCARB position description. These duties include attending the biannual NCARB Licensing Advisor Summit and/or other training opportunities to stay up to date on the requirements for licensure and ensure that students have resources to make informed decisions on their path to licensure.

Program Response:

Manager of Special Projects Paul Pettigrew AIA, NCARB, a licensed and practicing architect (Illinois & Michigan), is the MIT Department of Architecture's Licensing Advisor. Paul Pettigrew was approved by NCARB as MIT Architecture's Licensing Advisor on June 6th, 2020. Paul Pettigrew attended the NCARB Licensing Advisor's summer in 2021.

PC.1 Career Paths in Architecture are introduced to Master of Architecture students in 2 required classes, *4.210 Precedents in Architectural Practice*, and *4.222 Professional Practice*. *4.222 Professional Practice* gives a critical orientation towards a career in architectural practice. Through case studies, critical discussions on urgent topics, internal reflections, and role-playing exercises, the course challenges students to explore a range of legal, ethical, political, and professional questions they will face in practice.

In addition to in-class activities and content related to architectural licensure, Paul Pettigrew and the Department of Architecture organize each year an "Architecture Licensure Workshop." Two years ago, we coordinated with the Boston Society of Architecture (BSA) to identify our local AIA MA architect licensing advisor. At that time Gabriela Baierle was the AIA MA architect licensing advisor and was the co-chair of the BSA Emerging Professionals Network, one of the BSA's most active knowledge communities. Gabriela presented "Destination Architect: Creating Value in Your Career" covering topics such as How do I become a licensed architect, how soon can I start the process, and What is AXP/NCARB?

This past year, MArch students expressed an interest in hearing about the process of licensure from recent graduates. Two recent MArch alumna (Angeline Jacque MArch 2020 & Olivia Huang MArch 2018) spoke about their paths towards licensure. Two somewhat recent BSA alumnae (Lauren McClellan BSA 2011 & Man-Yan Lam BSA 2011) also spoke about their path towards licensure which included both their 4-year bachelor's degree from MIT and their Master of Architecture degrees.

Paul Pettigrew is in regular communication with students both through scheduled office hours and email communications throughout the year. Paul Pettigrew meets one-on-one with students to review their resumes, cover letters, and portfolios, and to brainstorm with them on which architecture firms in which cities/countries best align with their professional interests. Part of this process includes identifying licensed architects and MIT architecture alumni at firms students are interested in and providing students with alumni contact information so as to expedite the process of communication between student, licensed architect, and potential future employment.

5.4.3 Demonstrate that faculty and staff have opportunities to pursue professional development that contributes to program improvement

Program Response:

Tenure-track faculty members are regularly nominated for career development chairs and the Department has succeeded in having a tenure-track faculty member named to a chair every year since 2001. Generally, a faculty member holds a chair for three years and receives a generous annual discretionary fund. In addition, start-up funds for new tenure-track hires are provided to allow them to self-fund research initiatives quickly and effectively. The Department regularly nominates tenured faculty members for endowed chairs and other Institute awards and recognitions.

The Department of Architecture regularly solicits student letters of reference in promotion and tenure cases. Each semester students are asked to submit evaluations of the quality of that term's experience in studios and other subjects using the Institute's online subject evaluation site, which is accessible to all MIT students, faculty, and staff.

Faculty development opportunities supported by the Institute include: Humanities Arts and Social Sciences (HASS) grants, career development chairs, junior faculty research leaves, sabbaticals, and nominations for named professorships and Institute awards. Announcements of outside opportunities are regularly posted to faculty via email. The department maintains virtual bulletin boards and email listservs for the school where information may be found about competitions, calls for papers and proposals, and conferences.

Staff development opportunities include: training programs offered by the Human Resources Department, the possibility of auditing subjects or enrolling as Special Students at the Institute, nomination for School and Institute Awards, and the Institute's Tuition Assistance Program. At the departmental level, the Administrative Officer advises staff members about training opportunities and conducts regular staff meetings with guest speakers that expand staff knowledge and professional skills.

For the faculty, the Department employs several resources to assist each professor achieve his/her teaching and research goals. Sabbaticals and leaves are supported by the Department and the institute. These periods of leave are meant to provide faculty members with the time to pursue research and design activities and augment their skills and knowledge for the eventual benefit of their teaching and long-term intellectual growth and production.

Tenured faculty are eligible for sabbatical following six years of full-time service and may propose either a one-half-year leave at full salary or a full-year leave at half salary, subject to final approval by the Provost. On occasion, a faculty member's research or professional opportunities will lead to a request for an unpaid leave of absence. When commitments to teaching and other obligations are accounted for, the Department Head may recommend that such leaves be granted.

In addition, the Pre-tenure Research Leave program was established in 2000 to provide tenure-track faculty with the opportunity to take a one-semester leave with pay to conduct concentrated research. Proposals are submitted to the Department head and are subject to approval by the Dean of the School and the Provost. At least one junior faculty member per year has taken such leave.

Many department faculty members conduct significant outside consulting and professional activities. *MIT Policies and Procedures* states: "The obligation inherent in full-time service is difficult to define since, in academic life, it means far more than a stated number of hours per

week. In a context where faculty members have substantial freedom in arranging their professional lives, it implies a controlling interest, loyalty, and first responsibility to the Institute. This obligation, therefore, must remain loosely defined, depending upon principle rather than formula. When it has been necessary for practical reasons to be more specific, the Institute has generally granted full-time members of the faculty the privilege of devoting an average of about one day per week to their outside professional activities during the academic year and when receiving summer compensation."

The Institute's parental leave policy states that faculty members, regardless of gender, who wish to spend the majority of their academic time on the care of and responsibility for a newborn child or a child newly placed with them for adoption or foster care will be released from teaching and administrative duties for one semester at full pay, but they will continue to be expected to fulfill their thesis-advising responsibilities and sustain their research program. Institute rules on outside professional activities for full-time faculty will remain in force for those on such release. Also, it is expected that, normally, they will not increase their usual outside professional activities. Faculty members can take advantage of this policy in any term they choose within one year after the arrival of a child. Those seeking such release should notify their department heads in writing that they will spend most of their academic time on the care of the child over the period of the release. Such notification must be made as far in advance of the leave as possible (normally one semester's notification is required) so that steps can be taken to cover the faculty member's teaching obligations.

In recognition of the effects that pregnancy and childbirth can have on a woman's ability to perform all the tasks necessary and expected to achieve tenure, a woman who bears a child during her tenure probationary period will have that period automatically extended by one year. A second one-year extension for the birth of any additional child (or children) will be granted by the Provost upon request. As in all tenure cases, a tenure review can take place prior to the end of the probationary period and that possibility should be assessed annually.

Partners or adoptive parents who wish to request an extension of the tenure clock may submit a request in writing to the Provost, with copies to their department head and dean. These copies are for informational purposes only; only the provost can grant the request. In their requests, faculty members briefly explain their work and family situations and describe how their involvement and responsibility for the care of a child during its first year with the family is sufficient to have a significant impact on their research. No request for an extension of the tenure clock can be made during the year in which the tenure would normally be decided. Normally only one extension will be granted. However, in special circumstances, a second extension may be requested. In all cases, two years is the maximum extension allowed by this policy.

The development of new skills is critical to an engaged and effective faculty. With reference to computer competencies, MIT runs quick-start and longer-term classes that are available to faculty and staff. Faculty may apply to the Department Head for permission and support to attend training not offered by MIT. The Institute offers opportunities for faculty to improve their teaching styles through programs in which they are recorded in class and receive feedback from personal trainers.

The Department pays for one conference/professional meeting per year. Faculty may submit proposals for additional or extraordinary opportunities beyond that. Faculty have recently attended or participated as speakers at meetings conducted by the AIA, ACSA, ASHRAE, AIChE, and others. The Department also endeavors to support proposals to host conferences within the school, financially and administratively.

The Department solicits applications to MIT's Humanities, Arts, and Social Sciences (HASS) internal grant program. Grantees represent all discipline groups.

MIT supports a minimum of $15,000 per year for five years in startup funds to attract women and underrepresented minorities to the faculty; for people outside of those categories, the Department endeavors to find equitable startup funding from other sources. Not infrequently and often generously, the Provost provides funds.

As a result, our faculty maintains significant positions in architectural firms and other consulting businesses. Many current architectural design faculty members maintain their own practices or consult as architects and urban designers for established firms: Clifford, Garcia-Abril, Kennedy, Nagakura, O'Brien, Segal, and Daniels. In addition to meeting the demands of their practices and clients, faculty members stay current in their field by attending, organizing, or presenting papers at professional conferences.

5.4.4 Describe the support services available to students in the program, including but not limited to academic and personal advising, mental well-being, career guidance, internship, and job placement.

Program Response:

Academic and Personal Advising

Through the administration and faculty, the Department manages and delivers a diverse range of student support services that includes academic and personal advising as well as career advice and placement, including internships and regular evaluation of student progress through the Department. The degree administrators and student services team manage the first and most substantial advising of incoming professional students. They prepare a comprehensive guide of Institute and Department information and schedule a week of orientation activities. The MIT Libraries and STOA (MIT Architecture IT Office) offer their own orientations. Subsequently, students are assigned to faculty Registration Officers, who approve students' subject enrollments each semester and monitor progress in meeting curriculum requirements. Finally, the studio instructor has an important place in advising his/her students for any given term and often develops continuing mentoring relations.

Each MArch student is assigned a Registration Officer, who also serves as an academic advisor. The Registration Officer is a member of the architecture design faculty or is a faculty member with a professional architecture degree. The Department's Administrator for Master's Degree Programs advises MArch students on the degree requirements, monitors each student's progress towards fulfilling the degree requirements, and also provides each student with a degree audit every semester. The degree audit letter lists which subjects have been successfully petitioned to be credited, which taken at MIT, and which remain to be taken to complete the MArch degree. In the audit, students also receive notice of their studio eligibility for the next semester and the number of semesters of financial aid eligibility remaining to them. Students must complete all degree requirements to graduate. Receiving audits each semester prevents surprises or misunderstandings at the anticipated time of graduation.

At the end of each semester, following studio reviews, the Department Head meets with the studio faculty and Administrator for Master's Degree Programs to review students who have shown weakness in their studio work or deficiencies in other core coursework. It is the intention of these meetings to advise students on ways to improve their skills and successfully complete the required studio sequence. Options include more directed attention to skill-building in subsequent studios, repeating a studio, or taking time off to strengthen skills by working in a professional office. The Committee on Graduate Students (COGS) reviews recommended actions.

Mental Well-being

The Office of Graduate Education (OGE) has a Senior Associate Dean and Assistant Deans for Graduate Student Support and Advising, both of whom can provide support for students with a variety of issues, including faculty/student relationships, conflict negotiation, academic progress, interpersonal concerns, and a student's rights and responsibilities. The OGE deans also refer students to Mental Health Services and coordinate the medical withdrawal process. Towards the end of every semester, the Department sends an email reminding students of outreach, crisis, and wellness resources available to them through the institute.

The MIT Global Education and Career Development Center (GECDC) provides career counseling and guidance, internship and job postings, and can help students with job searches. The GECDC is comprised of two offices, the Career Development Center and the Global Education Office. The GECDC has a designated career counselor to advise Department of Architecture students and regularly advertises opportunities through email and their webpage.

Career Guidance

All graduate students are eligible for Department travel support to one professional conference per year, providing the student is taking an active part in the scholarly meeting (such as presenting a paper or chairing a panel).

The MIT Alumni Advisor Hub is an MIT provided service where MIT Architecture students and alumni go, sign up, and provide or receive career advice as both current MIT Architecture students and MIT Architecture alumni. Paul Pettigrew is an Alumni Advisor and has advised many MIT alumni who have reached out to me based on my Alumni Advisor Hub profile.

Paul Pettigrew meets one-on-one with students to review their resumes, cover letters, and portfolios, and to brainstorm with them on which architecture firms and which cities/countries best align with their professional interests. Part of this process includes identifying MIT architecture alumni at firms students are interested in and providing students with alumni contact information so as to circumvent the Human Resources person at these firms and/or the career/job online portals.

The following Career Development information and resources can be found on our MIT Department of Architecture website at the following link. These resources are updated annually to both verify that all of the links are working/current, to add new resources, and to remove dated or no longer relevant resources: (https://architecture.mit.edu/student-resources#career-development)

MIT's Career Advising & Professional Development (CAPD), located in Room E17-294, advises students on any part of the career development process, including career self-assessment, exploring career opportunities, searching for jobs, and managing careers. Undergraduate, master's, and doctoral degree students should make appointments with Career Development Specialist Tavi Sookhoo.

Specific resources related to architecture and planning careers are also available. Current job postings, internship postings, and micro-internship postings can be found on the MIT Handshake Page.

Internships

The Architecture Department's Manager of Special Projects, Paul Pettigrew, assists with the effort to place students in local, national, and international architecture firms to intern full-time for the entire month of January, the entire summer, and, in appropriate cases, earn academic credit. Paul Pettigrew assists with the effort to place students in local, national, and international architecture firms to intern full-time for the entire summer and, in appropriate cases, earn academic credit.

There are numerous ways for architecture firms/ alumni to connect with MIT architecture students for internship opportunities.

Prior to both winter IAP Micro-Internships (usually late October) and summer internship interviews/applications (usually late February) Paul Pettigrew sends an email to all the architecture firms in our database run by MIT architecture alumni or with MIT architecture alumni in senior leadership positions, requesting information about potential winter and/or summer internship opportunities.

Paul Pettigrew and the Department of Architecture coordinate with Tavi Sookhoo (Assistant Director of Career Prototypes) in the MIT Career Advising & Professional Development office about Micro-Internships, Campus Career Fairs, and additional workshop events, all of which typically include firms with alumni connections interested in hiring current MIT Architecture students for winter and/or summer internship positions.

As outlined in section PC.1 Career Paths, the Department provides extensive support to both internships and post-graduate job placements as detailed extensively in that section.

5.5 Social Equity, Diversity, and Inclusion

The program must demonstrate its commitment to diversity and inclusion among current and prospective faculty, staff, and students. The program must:

5.5.1 Describe how this commitment is reflected in the distribution of its human, physical, and financial resources.

Program Response:

As noted extensively in section 5.2.1 on "Diversity, Equity and Belonging in the Department of Architecture,", a focused consideration of issues of race, inclusion, and equity in the Department of Architecture was inaugurated in March 2020 with the appointment of Professor Terry Knight as the first Associate Department Head with a Diversity, Equity, and Belonging (DEB) portfolio in the Department's institutional history.

As outlined in this section's description of the Department's strategic goals, a significant investment of the Department's resources in personnel, information gathering, and administrative action have followed this commitment over the last two years. As described above, this investment has involved a transformation of Graduate Admissions, work examining our curriculum, work on community, climate, and culture, and the hiring of the Department's first full-time Diversity, Equity and Belonging Officer in February 2022 (Lauren Schuller.)

5.5.2 Describe its plan for maintaining or increasing the diversity of its faculty and staff since the last accreditation cycle, how it has implemented the plan, and what it intends to do during the next accreditation cycle. Also, compare the program's faculty and staff demographics with that of the program's students and other benchmarks the program deems relevant.

Program Response:

(See also Progress Since Previous Visit: Resources 1.2.1 Human Resources and Human Resource Development: Students, and section 5.2.1 on department strategy — "Diversity, Equity and Belonging in the Department of Architecture".)

Since our last NAAB accreditation cycle, the Department has engaged in a deliberate and long-term effort to improve its diversity, equity, and sense of community, including the presence of under-represented minorities and black students and faculty. As noted above, Terry Knight was appointed in 2020 as the Department's first Associate Department Head with a specific equity portfolio and a brief to address inclusion and representation at the staff, faculty, and student levels as well as the larger quality of community encountered by all within the Department. Terry Knight and Architecture Department Head Nicholas de Monchaux began their terms on June 1, 2020.

As described above as well, work across that academic year and into the current one led to the hiring of a dedicated Diversity, Equity & Belonging (DEB) officer in the Department spring of 2022, Lauren Schuller. Lauren Schuller focuses on student issues and coordinates staff activities around this work going forward as well as provides coordination with new staffing at the School level, Assistant Dean for DEB and Student Support, Monica Orta.

In terms of faculty demographics, our 42 full-time faculty and lecturers as of Fall 2020 include the following: 17 Female, 23 Male, and 2 non-binary, 18% of whom identify as URM. 7 full-time faculty have been hired to the tenure-track or long-term contracts during the last two years, including 5 female, 1 male, and 1 non-binary. Of these new faculty hires, 3 identify as URM, including 2 black and 1 LatinX. (The fourth identifies as Arab-American, which is not an official URM category at MIT.) At the School level, our Faculty Diversity Committee (FDC) continues to play a crucial role in monitoring hiring practices and search procedures to maximize diversity in this hiring pool. As a final component of our diversity efforts within the Department community, we are working with MIT's central HR and school-wide partners to help ensure similar attention to diversity in hiring at the staff level.

In the next accreditation cycle, and in line with MIT's larger Strategic Action Plan for Belonging, Achievement and Composition, the Department will continue to implement data-driven approaches to encouraging diversity in hiring, at the same time as it invests in the resources necessary to build an inclusive and supportive community for faculty from all backgrounds.

5.5.3 Describe its plan for maintaining or increasing the diversity of its students since the last accreditation cycle, how it has implemented the plan, and what it intends to do during the next accreditation cycle. Also, compare the program's student demographics with that of the institution and other benchmarks the program deems relevant.

Program Response:

As noted in 5.2.1's description of our strategic goal of "Diversity, Equity and Belonging in the Department of Architecture," our Strategy & Equity (S&E) team's work has addressed our admissions process. Specifically, this has meant the inclusion of our student body in the admissions process, as well as revisions to the process itself. Based on surveys of current

students identifying potential barriers to application and other feedback from our community, revisions were made to the MArch applications (as well as other programs offered in the Department and School). As part of these efforts and changes, the GRE (previously required) was dropped from all our application requirements, students were included in all admissions committees, and new anti-bias training for admissions committee members was introduced. Two new programs, the Applicant Mentorship Program (AMP) and ArchCatalyst, were developed to offer student peer-to-peer support for applicants from underrepresented backgrounds.

The Department will also be launching a new, customized graduate program application platform–Slate–this fall. Slate will include an outreach database, new text prompts for applicants that will be more welcoming to potential students from underrepresented backgrounds, and new text prompts for admissions committee readers that will highlight diversity and inclusion. We also understand that soliciting recommendation letters for applications can create barriers and inequities for minority applicants. An important question we aim to discuss next year is, therefore "Should recommendations be required, optional, or eliminated?"

In terms of student demographics, the MArch program at MIT continues to attract the highest caliber of applicants. In academic year 2020, admissions received 468 applications (244 female and 224 male, including 54% international applicants), 21 were targeted, 45 admitted (62% W, 24% URM, 40% International), and 25 enrolled. In 2021, admissions were highly competitive, with a record number of applications (825). 21 were targeted, 30 admitted, and 22 enrolled (45% W, 32% URM, 32% International). In our view, this class of students are the most accomplished and the most diverse the program has welcomed to date.

Additionally, and as noted in section 5.2, in 2022-23 the Department plans to expand its curricular model to further projects and a program of collaboration with HBCU institutions centering on our connection with Tuskegee University through the historic leadership there of MIT's first black graduate, architect Robert Robinson Taylor.

5.5.4 Document what institutional, college, or program policies are in place to further Equal Employment Opportunity/Affirmative Action (EEO/AA), as well as any other social equity, diversity, and inclusion initiatives at the program, college, or institutional level.

Program Response:

The Massachusetts Institute of Technology is committed to the principle of equal opportunity in education and employment. The full policy is found at Section 9.3 Nondiscrimination and the Institute's policy against harassment is found at Section 9.5.

The Institute's policy against retaliation is found at Section 9.7.

The Institute, through its Affirmative Action Program, seeks to expand its efforts to guarantee equality of opportunity in employment and in education and to reduce underrepresentation and underutilization of minorities, women, individuals with disabilities, and protected veterans at MIT (Protected veterans are veterans who meet certain criteria set by the federal government.). For all categories of employment, the Institute's objectives are to achieve a representation of minorities, women, protected veterans, and individuals with disabilities that is at least in proportion to such individual's current availability and to provide them with new opportunities for career development that both stimulate and respond to their changing interests and aspirations. The Institute's Affirmative Action Plan (which may be reviewed in the Human Resources office) should be reviewed for further understanding of the

responsibilities assigned and the procedures developed to carry out the Institute's equal opportunity policy.

In furtherance of MIT's commitment to affirmative action in the employment of members of minority groups, women, protected veterans, and individuals with disabilities, MIT requires a thorough search of the relevant employment market for qualified candidates, including candidates who are minorities, women, protected veterans, and individuals with disabilities and to whom this policy applies.

Additional information about MIT's Equal Opportunity/Affirmative Action (EEO/AA) policies can be found at 7.1 Nondiscrimination and Non-retaliation Policies; Equal Opportunity and Affirmative Action Policies.

MIT's plan for belonging, achievement, and composition builds on the Institute's culture of excellence while enhancing diversity, equity, and inclusion within the MIT community. Diversity, Equity, and Inclusion programs across MIT include the following: Mind Hand Heart, Language Conversion Exchange, Disability & Access Services, Violence Prevention and Response (VPR), Office of Multicultural Programs, Ombuds Office, Office of Minority Education (OME), MIT Office of Engineering Outreach Programs (OEOP), MLK Visiting Professors & Scholars Program, LBGTQ+ Services, First Generation and/or Low Income Program (FLI), Office of Religious, Spiritual, and Ethical Life, MIT Women's League, MIT International Students Office, MIT Office of Graduate Education, MIT Spouses & Partners Connect, and SPXCE Intercultural Center & Social Justice Programming. Links for all these resources can be found on the MIT Institute Community & Equity Office website (ICEO).

5.5.5 Describe the resources and procedures in place to provide adaptive environments and effective strategies to support faculty, staff, and students with different physical and/or mental abilities

Program Response:

MIT Faculty and Staff with Disabilities

MIT is committed to the principle of equal opportunity and to providing effective and reasonable accommodation to employees with documented disabilities.

If an MIT employee is seeking accommodations for a documented disability, the MIT Disabilities Services and Medical Leaves Office (DSMLO) is available to help.

The DSMLO also coordinates accommodations for campus events. Event planners are encouraged to learn about available services and request assistance for upcoming events. MIT operates in accordance with the Americans with Disabilities Act (ADAAA), the Pregnant Workers Fairness Act of 2017, and any other applicable disability laws in providing reasonable work accommodations. Additional information about MIT faculty and staff disability services can be found on the MIT Human Resources website.

MIT Students with Disabilities

MIT's Disability and Access Services (DAS) considers faculty to be key partners in creating a welcoming and inclusive environment for MIT students with disabilities. DAS works with faculty and staff to ensure that MIT students with disabilities have equal access to all the Institute's programs, activities, and services.

The process used at MIT to ensure access to academic resources for students with disabilities is as follows:

In the case of students who have a diagnosis, this is determined by a medical provider who conducts a comprehensive evaluation of the student, the DAS engages in an interactive process with the student: reviewing documentation, considering the legal parameters of the Americans with Disabilities Act, and considering current best practices in the field.

Once accommodations are determined, MIT/DAS provides the student with a letter that describes the specific needs for accommodation.
MIT/DAS then advises the student to make an appointment to speak privately with each of their faculty, and to present the accommodation letter at that meeting. Currently, the student and faculty member discuss the accommodations that the letter outlines.

If faculty need help implementing the logistics of the accommodation of a student, then DAS recommends that faculty work with their department's Disability and Access Services (DAS) Liaison. The faculty DAS Liaison is often each department's academic administrator. Every department has one, and these staff are very helpful in making arrangements that can accommodate the student's needs, while maintaining the integrity of the academic program.

Faculty are welcome to contact Disability and Access Services with any questions at 617-253-1674 or send email to das-all@mit.edu. Additional information about how MIT accommodates students with disabilities can be found at the Division of Student Life website.

5.6 Physical Resources

The program must describe its physical resources and demonstrate how they safely and equitably support the program's pedagogical approach and student and faculty achievement. Physical resources include but are not limited to the following:

5.6.1 Space to support and encourage studio-based learning.

Program Response:

The MIT Department of Architecture is assigned 39,015 square feet of space. Over 90 percent of the space is concentrated in five contiguous buildings of the Main Group at 77 Massachusetts Avenue. The remainder is in two buildings within 10 minutes' walking distance.

In the Main Group, the Architecture Department branches out on two levels from the rotunda at MIT's main entrance and stretches out linearly down MIT's signature academic avenue, the Infinite Corridor. Around the core on the 4th floor, we have a café, design studios, and a classroom, which was converted into the "Long Lounge": an expandable classroom, lecture, and review space by way of operable/movable walls. The Long Lounge provides lecture seating for 100 persons and standing room for more.

The consolidation of both the graduate and undergraduate design studios into the Main Building Group was made possible by the construction of a mezzanine in our largest studio and the space-saving re-design of individual student workstations. Our student desks are now all just steps from lectures, review spaces, and fabrication shops.

The remaining satellite spaces in Buildings N10, N51, and N52 hold shop and research facilities. Both N10 and N51 have fenced outdoor areas suitable for full-scale construction. N52 includes an interior courtyard suitable for full-scale construction, reviews, and

exhibitions. N10 includes an interior high bay space used for both studio teaching and research. Building Technology maintains test chambers in N51 for HVAC research.

Each student registered for an architectural design studio is assigned a studio workspace with their instructor's group. This workstation includes a desk with a locker and chair. All Department students have use of the computers and peripherals located in Building 3, 5, and 7 studio areas during the academic year. Students access the studio spaces using their MIT ID cards.

Each person assigned a studio workstation is responsible for leaving the assigned space clean and undamaged by the cleanout date announced by the facilities manager at the end of each semester. Architecture studios and computer classrooms are closed over the summer for computer and facilities maintenance. Summer studio use is usually restricted to those students who are working with faculty members on research projects that require access to equipment and software not available elsewhere.

5.6.2 Space to support and encourage didactic and interactive learning, including lecture halls, seminar spaces, small group study rooms, labs, shops, and equipment.

Program Response:

Galleries

Currently, the Department offers several exhibitions and gallery spaces with rotating faculty and student exhibitions, including the Keller Gallery in MIT's Building 7 where most of the Department's spaces are located; Gallery 9, located in the lobby of Building 9, the main location of the Department for Urban Studies and Planning; The Weisner Student Gallery in MIT's Student Center, as well as several exhibition and presentation spaces at the Media Lab.

Lecture Halls

The main lecture hall housed within the Department of Architecture is the "Long Lounge," a classroom, lecture, and review space, expandable and transformable by way of operable/movable walls. The Long Lounge provides lecture seating for 100 persons and standing room for more.

Occasionally throughout the school year, lectures take place that require seating for more than 100 persons. For large attendance lectures, Huntington Hall, MIT's most significant lecture hall, and one of its largest at a capacity of 425 seats is used.

Seminar Spaces

The Architecture Department includes 6 studio spaces totaling 13,043 square feet, which function as both student workspaces and classroom teaching spaces.

In addition to studio classrooms, the Department of Architecture has classrooms of 268 square feet, (3-329) and 950 square feet (7-429, or Long Lounge) available for seminars and/or classes requiring a single large table for students and faculty to gather around, and a combination of digital monitors, whiteboards, and/or chalkboards required for teaching and presenting.

Small Group Study Rooms

The Department includes 2 Architecture student common rooms of 424 square feet (7-301) and 217 square feet (5-414).

Labs

Architectural research takes place in 14 individual spaces ranging in size from 88 square feet to 879 square feet. These 14 individual spaces are utilized as offices, labs, studio, and shop spaces totaling 4,952 square feet.

Shop

Architecture shops occupy 8 separate spaces in 3 different buildings and range in size from 88 square feet–1,798 square feet and a total 4,391 square feet.

The Architecture Shops provide equipment and software to assist students and faculty in fabricating physical models. The fabrication lab and a small workshop are in Building 3 at 77 Massachusetts Avenue in rooms 3-402, 3-410, and 3-412. The Woodshop is in Building N51 at 265 Massachusetts Avenue in room N51-160. For more information on workshop machines, resources, access, and hours visit archshops.mit.edu.

Shop staff are longtime 'makers' with extensive experience in a wide range of materials and processes. Shop staff are a resource not just for machine training, maintenance, rule enforcement, and supervision, but for all aspects of student work.

Students are encouraged to reach out to shop staff in the beginning stages of their projects, as shop staff can help students develop more efficient plans, identify appropriate materials and methods, and avoid many potential problems in addition to making sure they are working within fundamental shop and campus health/safety policies. There is no question that should not be asked - students are encouraged to check in with shop staff early and often.

Shop staff train a core group of student staff for monitoring and TA work as thoroughly and as often as possible - if students are interested in training, they are encouraged to contact shop staff and plan to make time in their weekday schedule to come in to learn.

There is a limited amount of scrap and other leftover material that the shops can keep for reuse in shop spaces - students are encouraged to check scrap bins in N51 or building 3, and in the flammable (spray paint) cabinets, for unclaimed scrap or spray paint. There are mixed collections of leftover hardware/fasteners in both shop spaces, as well. Students are asked to not take any other material out of storage in any shop space without checking with shop staff, first - not everything is free to use.

The shops sell a limited range of materials for student use. Available for sale in N51-160 (prices subject to change & payment must be made with the MIT Mobius app): Sheet Material (polystyrene insulation foam, Baltic birch plywood, American birch plywood, AC fir plywood, & MDF), Construction Lumber (2x4’s & 2x10’s), 2” Thick Hardwood (basswood, ash, maple, cherry, walnut, and white oak), and PETG for the Formech thermoformer.

The shops have several computers scattered throughout shop rooms, with general-purpose machines in the N51 office, and 3-412. Ubuntu machines are in 3-402A. In addition, there are several types of software students may want or need to have installed on a personal computer. Shops are currently using Rhino 7 and Mastercam 2021.

The shops have 2 full-service 3D printers including 3DS Projet 660 3DS powder printer - white powder, can print color, Stratasys F170 ABS (FDM)-F170 - white ABS material, and several self-service Sindoh FDM printers, which live in studio 5 and 3-412 (are spread throughout studio spaces temporarily, for spring 2021) White PLA is provided for the Sindohs. Students are encouraged to use the powder and ABS printer on the reservations page, and consult the tutorials page for more instructions.

Students pay a small flat fee for printing each semester, so the F170/Projet 660 are full-service-only machines. Students are encouraged to check tutorial pages and upload pages for more detail. Print jobs of excessive volume or for outside use must be funded. Powder prints are currently $4 per cubic inch and ABS prints are currently $3 per cubic inch (will include model and support material volumes).

All new shop users must first attend a 1-hour basic orientation for initial access and then continue with machine and software-specific training. Machine-specific tutorial pages are meant as a backup resource for trained users - they do not in any way suffice as machine training itself. Students must get machine training in person with shop staff to use machines - then ask for help and use the tutorial pages on the archshops.mit.edu site to supplement that training. It is a violation of shop policy for users to operate machinery they are not sufficiently trained on- always ask for help, even/, especially for little details that are easy to forget.

There are many shops on MIT's campus, which are accessible to many different subsets of the community. To find other shop resources in addition to what the Architecture shops can provide, students are encouraged to download and use the MIT Mobius app. Students can search campus shops by location or by machine. Students also need to make sure they are eligible for access to any other campus shop - most shops have some restrictions on who they can offer access to, and what type of work is allowed. The Hobby Shop is a campus shop that is open to the entire MIT community. The Deep/Metropolis are also campus shops that are open to all MIT affiliates.

Equipment

The Department’s support of digital fabrication was wholly transformed by renovation projects between 2010 and 2013. The space dedicated to the support of our CNC routers, waterjet, laser cutters, etc. has quadrupled. The Department maintains a traditional wood shop in Building N51 along with our largest CNC router, but all other digital fabrication gear plus a spray paint booth are located adjacent to the design studios in the Main Group. The fabrication shops are professionally managed and have state-of-the-art card access control, which is linked to the safety training of our student users.

Computational resources are provided by MIT’s Office of Information Services and Technology (IS&T) as well as by the School-wide computing resources group, STOA. STOA provides a range of computer hardware and software and facilitates access to other computational resources on campus for both the Department of Architecture and the Department of Urban Studies and Planning; advises users on equipment to purchase and manages the day-to-day operations of both departments' computing infrastructure. STOA maintains an environment in which information technology is available and easily accessible to serve required coursework, independent study, and research. It manages a complex computer network supporting Windows, Macintosh, and Linux operating systems.

Software provided includes office productivity suites, two- and three-dimensional computer-aided design (CAD), modeling, rendering, animation, video editing, multimedia, image processing, geographic information systems (GIS), and structural, heat and lighting analysis packages. Where software licenses allow, software is available for installation on student-owned computers without charge.

Hardware includes color and black-and-white laser printers, wide-format plotters, scanners (flatbed and slide), portable projectors and video equipment. Computers are in studios, classrooms, labs and other areas. Many areas are equipped with plasma screens or overhead projectors.

During the academic term, computer facilities are available 24 hours a day to students enrolled in either department's academic programs. In addition to the Departments' facilities, all MIT students have access to workstations in Athena clusters located throughout the MIT campus. All public cluster computers are 27" Apple iMacs. These Macintosh computers boot into both Windows 7 Professional (WinAthena) and OS X (MacAthena). There is also a Windows virtual machine (VM) available from the Mac side. We now have laptop workstations distributed across 9-524, 9-554, 9-556, and 10-485. Each workstation includes a keyboard (USB) and a 27" LCD display (VGA, DVI, HDMI, mini–Display Prot). All students need to do is provide a laptop.

STOA distributes VMware Virtual Machines (VMs) to those students with Macintoshes needing Windows-only applications AND runs a VMware VSphere cluster which hosts approximately 36 VMs providing essential services (web, database, licenses, etc.). All public cluster computers are available to all students across the School. This helps foster collaboration across the disciplines.

5.6.3 Space to support and encourage the full range of faculty roles and responsibilities, including preparation for teaching, research, mentoring, and student advising.

Program Response:

Renovation projects in recent years have allowed the Department to achieve its long-desired space objectives to physically support faculty preparation for teaching, research, mentoring, student advising, and community identity.

All faculty have an office where they can work and advise students. Many faculty have office space adjacent to their lab space and within their Academic Unit/Area, i.e., Design, Computation, HTC, AKPIA, Building Technology, and Urbanism. No matter how or where faculty office, all faculty have access to the University’s high-speed, wireless internet as well as to the college's printing equipment and supplies at no charge.

All faculty have access to and utilize both the Rotch Library of Architecture and Design and the entire University Library system. For additional information about Library, Research Resources, and digital resources available to faculty please see Section 5.8 Information Resources.

History, Theory and Criticism (HTC) faculty and staff currently occupy 2,557 square feet of office, reception, conference, and printing spaces on the third floor of the main building.

Building Technology faculty and staff occupy 3,029 square feet of office, conference, reception, storage, and kitchen space adjacent to Building Technology student research spaces and classrooms.

AKPIA faculty and staff currently occupy 932 square feet of office, reception, conference, and exhibition spaces on the third floor of the main building.

Architecture Design faculty and staff occupy 3,205 square feet of office, conference, reception, storage, and kitchen space along the corridor adjacent to student classrooms and

in a mezzanine, space dedicated to faculty offices and small conference areas available for faculty meetings and faculty advising with students and/or small student groups.

Computation faculty and staff currently occupy 1,863 square feet of office, reception, conference, and printing spaces on the third floor of the main building.

Architecture Research space totals 4,952 square feet spread out over 7 buildings and multiple office, shop, studio, and research areas.

The MET Warehouse

Currently, plans for the Department of Architecture's move to our new home in the Metropolitan Storage Warehouse include an approximate 11% increase in spaces dedicated to faculty preparation for teaching, research, mentoring, and student advising. As well as an increase in total area, these spaces will offer a contiguous and inter-related experience for faculty, staff, and students, as well as direct adjacency to unprecedented resources in making and prototyping through a partnership with the new Morningside Academy for Design (MAD).

Between 2014 and 2022, the Department of Architecture went from imagining a future home in the nearby Metropolitan Storage Warehouse to debating and discussing individual spaces at a detailed and systematic level. Important questions — like the determination in Spring 2020 that all the Department's discipline groups and programs would go into the new building — have been resolved. Yet, at the same time, important questions related directly to concerns about equity, climate, and design have recently begun to reshape the project.

The largest portion of design work was a long period of work during 2020 and 2021 in which Diller, Scofidio & Renfro and Leers Weinzapfel worked to aggressively refine and simplify the building's design as part of a large-scale program of value engineering. The new building diagram and envelope are cleaner, simpler, and more robust — yet involved the removal of expensive proposed cantilevers which then added to the pressure on square footage inside the building's envelope.

In recent months, two important changes have been made to align the future home of MIT's Department of Architecture building with the important departmental and Institute conversations on climate and design. In the area of climate, a series of conversations amongst the Department Head, key faculty, and MIT administration across 2020 and 2021 related to the building's performance relative to climate goals — both our own as a department, and MIT's climate plan as it was announced in 2021. Thanks to key collaborations between our own Building Technology Faculty, MIT's facilities office, the Dean's Office, and Institute Leadership, this has resulted in an innovative plan for the building's cooling and heating. First, this new approach will allow the building of a key pathway to full electrification — and so take advantage of a rapidly greening electrical grid for power here in Massachusetts. At the same time, it will allow the building to avoid substantial energy use in winter for heating through an experimental approach to using the campus' own chilled water return for heat energy, aiding the efficiency of the campus' whole energy system. Alongside the inherent virtues of repurposing large portions of the existing Met building, this approach will allow us to ensure that our new home represents our values as a community. Even more, this innovative approach to campus-wide energy use allows us to enact with the building's mechanical systems what we seek to do as an intellectual community as a whole — transform perspectives and approaches to architecture and energy across MIT, and globally.

As noted in the Shared Values section, this past year, the Morningside Academy for Design (MAD) was established through a $100 million gift from The Morningside Foundation, the philanthropic arm of the T.H. Chan family. MAD is a major interdisciplinary center that will build on the Institute's leadership in design-focused education and become a global hub for design research, thinking, and entrepreneurship. The new academy, which aims to foster collaboration and innovation on campus, will be housed in the School of Architecture and Planning. Launching in October 2022, MAD will collaborate in academic and research programs across MIT, especially between the School of Architecture and Planning and the School of Engineering. MAD and the new MET Warehouse project will provide a hub that will encourage design work at MIT to grow across disciplines among engineering, science, management, computing, architecture, urban planning, and the arts.

MAD will strengthen MIT's ongoing efforts to tackle pressing issues of global importance, such as climate adaptation, public health, transportation, and civic engagement. Related to our larger conversations on Design and the Design Academy, the Morningside gift allows us two essential opportunities that are transforming our outlook on the Met project even as I prepare this note.

First, and most importantly, the $30 million of the gift that is reserved for a physical home for the Academy will contribute to the Met's construction and fundraising goals, allowing us to dispense with the previously envisioned phased occupation of the Met building, and occupy the entire building envelope from its completion (estimated in 2025).

Secondly, the presence of MAD as a collaborative entity in the building will add enormous value to the Met's identity as a design hub for MIT — but this program needs its own legible place in the building, likely including not only our undergraduate design teaching spaces already slated as part of the building's program, but also dedicated spaces for meeting and offices.

Finally, the Academy will run the large, first-floor shop space in the new Met Warehouse through its new role administering the MIT-wide Project Manus. Through our close collaboration with MAD, we will reap particular benefit from the integration of these makerspaces with the dedicated shop spaces for architecture on additional floors.

Together, these two shifts — in the building's mechanical systems, and in its occupation by new, design-related programs — are presenting an important opportunity to sharpen and re-shape the Met's design before construction begins in earnest later this year. We will seek to push the values and goals of the Department into this conversation, particularly as they relate to our larger conversation on access and equity as well. The move to the Met Warehouse brings as its greatest advantage to us the opportunity for public, street-level access to Cambridge and its surrounding cities, and a point of exchange and interface with all the communities we serve. Over the next several years, we will work to refine our programming and teaching to be able to take maximum advantage of the Met's enormous opportunity.

5.6.4 Resources to support all learning formats and pedagogies in use by the program.

Program Response:

Library and Information Resources Collection

Rotch Library collection funding supports multiple formats for resources (including books, journals, films, videos, digital images, and digital and electronic resources) to meet the curricular and research needs of the School of Architecture and Planning. As a component of the MIT Libraries system, Rotch Library is one part of a network of library resources with shared collection development policies that support interdisciplinary research and learning.

Rotch collections (in print and digital formats) focus on teaching, learning, research, and discovery for the School of Architecture and Planning. Collections support the highest level of teaching and research done in each area of concentration. All periods and regions of the world are collected with areas of special emphasis based on faculty research and curriculum. The collection has strengths in global architectural history, computation and design, urban history and geography, art history, American architecture (especially housing), and Boston and the New England region.

(See Section 5.8 Information Resources for additional resources and support data)

IT Support:

The Department of Architecture has recently created a dedicated IT support group named STOA. STOA provides a range of hardware and software expertise and manages the day-to-day operations of the Department of Architecture's technology infrastructure. STOA is available to advise members of the Architecture community on equipment and application purchasing, platform and application support, and access to computing and technology resources.

(See Section 5.8 Information Resources for additional resources and support data)

If the program’s pedagogy does not require some or all of the above physical resources, the program must describe the effect (if any) that online, off-site, or hybrid formats have on digital and physical resources.

Program Response:

Hybrid Formats and the COVID-19 Pandemic

In 1865, MIT created the first academic program in Architecture in North America. Borrowing and inventing professional education at the same time, our department centered from then to now on a single physical space—the studio—through which a series of intense exercises, conversations, and relationships cemented an architectural education. Many things have changed, but this hands-on approach to learning has not. This meant that the move to remote education in March of 2020 represented an existential challenge. Our community’s response to this challenge shaped much of what we learned in the years of adaptation that have followed.

First, we learned that the space of the studio could work virtually— sometimes, and in some ways. With support from MIT’s central Information Systems and Technology department (IS&T), the provision of remote learning via Zoom, Canvas, Miro, and other digital collaboration tools proceeded at MIT as it did at many other learning institutions. The fact that we were at that point in a transition between a longtime IT collaboration with the Department of Urban Studies and Planning (CRON) and a new IT organization (STOA) designed to better serve our department-specific needs produced initially challenging, but ultimately very useful.

A dedicated digital staff helped us adapt our remote infrastructure quickly to best meet the needs of architectural teaching and learning.

Second, like many institutions, we found a simple translation of all our activities to a virtual realm was not inherently productive. From interminable Zoom meetings and class sessions to awkward large-group happy hours, very little of the 'real' architecture of our community could be translated literally to the virtual realm. This produced both an opportunity for experimentation, and the need for structures and conversations that could help spread best practices throughout the Department's teaching mission.

Third, we found a particular challenge in engaging and teaching about objects, environments, and cities when we were not able to engage with each other in physical space. In the pandemic's first year, many of our students ended up engaging with us and each other from different cities, countries, and time zones. Beyond the inherent difficulty in engaging with each other across distance was the absence of one of the most fundamental experiences of architectural and design education—shared, physical experience. Even for Masters and PhD students working on research and writing projects, the inability to access libraries and archives, let alone shared spaces for focused work and study, proved an existential challenge.

Perhaps most importantly, along with our inability to experience together the physical substance of our work and study, we also found ourselves unable to experience together that ineffable quality of experience that connects cities and communities worldwide—moments that are unplanned, ambient, serendipitous, and delightful. Particularly for students isolated at home, or in separate apartments and living situations, this quality of pandemic life threatened one of the most valuable qualities that a dense and active creative environment provides and sustains.

Adaptations to remote and hybrid architectural education during the pandemic

In response to all these challenges, the Department engaged in an interrelated set of initiatives that continue to inform our teaching, research and learning to this day.

As we entered the summer of 2020 the Department began a program of experimentation in curriculum and teaching focused on new approaches to remote education and research, and to sustaining our community of teaching and learning. The Summer Work and Pedagogy program, or SWAP, addressed the unprecedented cancellation of both MIT's own summer travel and research programs, along with the more traditional internships on which our students rely for professional education. Strategically deploying a portion of the Department's financial reserves, this program provided summer employment to over 60 Master's-level students while providing 14 separate summer workshops to over 120 students. These experimental workshops involved guest faculty (such as sculptor Tom Sachs), contributions by permanent faculty such as Mark Jarzombek and Les Norford, and several successful workshops taught by and for students on topics from architecture and science fiction to experiments in at-home fabrication. The SWAP program was an essential investment at a challenging moment and has been adapted to support students in increasingly traditional summer work and internships in 2021, and the upcoming summer as well.

Alongside these initiatives in teaching and learning, the Department began a series of initiatives in governance as well. Committees of students, staff and faculty were formed to discuss values and priorities in re-assembling our curriculum and community in what we knew would be a remote-first environment in the fall of 2020 (lasting ultimately into September of 2021). Alongside the challenges of the pandemic, events following the murder of George Floyd in Minneapolis on May 25th, 2020 brought an intense focus to questions of equity and access within MIT and all our shared institutions. While we already had in place a

list of priorities and initiatives in this space accompanying the appointment of Terry Knight as Associate Department Head for Strategy & Equity (begun alongside my own tenure as Department Head), this moment involved the rapid convening of a series of Town Halls to address and discuss these efforts across our whole community that were unprecedented in their transparency and urgency. This larger program of work is discussed in its own dedicated section of this letter below. But it is important to note here that it remains grounded in this open and representative mode of governance, including the creation, in June, 2020, of a representative Strategy and Equity team — consisting of a faculty, student and staff representative — to guide and prioritize each step in our work of creating a more open, inclusive, and impactful department.

Reinventing ourselves in 2020-2021

In the fall of 2020, the Department committed itself to a model of hybrid education which we continued throughout the academic year. Accessing campus in three-hour shifts under a program of testing and contact-tracing provided by MIT, each student who requested a studio desk was given one in our department's on-campus spaces, alongside access to shops and making spaces during these windows as well. At the same time, to allow decisions about campus access to be based on individual preference, and to equitably accommodate the large group of students not able to be present in Cambridge, all our instruction took place online.

These circumstances led to a follow-on series of initiatives in publication, pedagogy, programming, and outreach, from which we are still drawing lessons. *Imprint*, a student-curated publication showcasing student work across the Department, was a way to allow students to understand and engage each other's work outside the limitations and invisibility of virtual classrooms and workspaces. *WAWD?*, a student radio station, was begun by students in the spring of 2020 to begin to replicate the ambient environment of the studio. Supported by the Department, it became an essential gathering space for ideas and voices. Our lecture series, which had historically been a disaggregated series of talks centered on individual groups and programs, became a shared online series, attracting thousands of community members, alumni, and members of the public to online talks and discussions. (This outreach continues to this day, with more than 3500 people tuning in, alongside 150 in the Long Lounge, to witness a NOMAS-sponsored lecture from Fred Moten).

In the spring of 2021, as remote learning continued through the one-year anniversary of the pandemic lockdown, we brought a special urgency to new initiatives in pedagogy and student engagement as well — for example, a spring option studio in our MArch program where students constructed their own, small-scale CNC machines from off-the-shelf parts, used those to build temporary, adaptive experiments to improve the quality of their remote spaces, all while receiving remote critique from visiting critics based throughout the US and abroad.

Despite all these adaptations, and the resources MIT was privileged to bring to bear to improve hybrid learning outcomes for our students, it remains clear to all that the learning outcomes of first-year students in 2020-2021 did not compare to those of in-person students in previous years. This is particularly relevant to the current review as students in the most requirement-intensive and integrated part of our curriculum (Core III) were the same group that experienced Core I and Core II through entirely remote teaching.

5.7 Financial Resources

The program must demonstrate that it has the appropriate institutional support and financial resources to support student learning and achievement during the next term of accreditation.

Program Response:

The Department of Architecture has funding from three primary sources from which we manage our educational objectives: base General funds (an annual operating budget allocation from the Institute, ($12.5M); endowed funds ($8.3M in principal on which we earn an annual expendable income of $2.5M); and recurring financial aid contributions from other units at MIT (such as the SA+P Dean's Office, Office of the Provost, and Dean for Graduate Education, $1.5M). In addition, the Department has a few non- interest-bearing funds, in which the FY22 available revenue was $319K, for a total department-controlled budget of $16.8M. The Aga Khan Program for Islamic Architecture (AKPIA) is funded by an endowment ($2.3M in principal on which we earn an annual income of $1.1M), which must be devoted specifically to AKPIA activities. In addition, faculty members support their research objectives from funds under their direct control. FY22 expenditures in this category totaled $867K. {It should be noted that while the Program in Art, Culture and Technology remains a part of the Department of Architecture in terms of academic matters (subjects, majors, faculty, etc.), it operates somewhat independently on a financial level. Thus, funding related to ACT is not included in this document.}

We anticipate a growth rate of 3% per year in the coming years, sufficient to maintain our current activities. Adequate student financial aid to attract and support the best students is a high priority. At the master's degree level, we aim to accept 100% of the population with a minimum of 75% tuition support to all continuing master's degree students who may apply for one-year, merit-based, full-tuition fellowships. Master's degree students may compete for work opportunities throughout their degree program.

Our major competitors continue to be Columbia, Harvard, Princeton, and Yale. We have no definitive way of knowing why students choose to accept an offer from our competitors, but know that financial aid is only one of many reasons. Having said so, effective with the AY22 applicant pool we offered full-tuition and additional 10K fellowship stipend support to the premier candidates in the MArch and SMArchS Urbanism applicant pool.

At the PhD level, we now offer Twelve-month financial aid packages (full tuition, stipend, and medical insurance) for a period of five years for all our PHD Programs. Of our target goal of 40 PhDs, 30 are funded from departmental sources, and the balance from faculty-controlled funds. Most of the BT candidates also secure summer Research Assistantships.

Effects of the pandemic on department-wide financing.

MIT's covid-related budget cuts caused specific challenges for the Department in the last two years. While these have been resolved to some degree in the short term, this experience revealed a structural challenge for the Department within MIT's larger financial structure that is likely to continue to reappear in years to come.

Like every department across MIT, the Department of Architecture in April 2020 was asked to accommodate a 3% retroactive cut to its overall allocation from the Provost (the General Institute Budget allocation, or GIB). As outlined below, all these cuts needed to be made from operating expenses, which led to a disproportionate effect on the day-to-day experience of our students, staff, and faculty.

A contributing factor to these effects was the decision taken in 2020, not to let go of any lecturers or visiting faculty in the short period between these budget cuts and the beginning of the semester and reduce our staffing costs only by those who were already planning to move onto other projects or commitments. Particularly in the tensest and uncertain days of the pandemic, this was an essential commitment to our community—but it meant that the $6.7m of our Provost-allocated budget that goes to salaries and benefits was difficult to reduce other than through limited attrition, and a freeze on additional new hires. When added to the $4.6m of our overall budget committed to student tuition and fellowship support, this meant that the $384,000 in cuts came entirely from our 1.1m operating budget, to significant effect.

Together with competitive, one-time support from the provost to support remote teaching (totaling $166,000), cuts in funding across all our activities, and the loss of some budget areas like travel, we were able to sustain our programs and community through this first year of the pandemic.

Our largest financial challenges came with the second year of the pandemic, as the cuts made in April 2020 became permanent. While MIT's larger financial models accounted for this in the case of most departments through increased endowment payouts, this did not provide any additional funds to the few departments, like ours, whose endowments are small, and restricted to student support. To help avoid the provision of (what would be for MIT) extreme financial measures such as shop fees and access charges, the provost agreed to provide $96,000 of one-time support to avoid some of the unintended effects of this financial strategy on the Department. Nevertheless, a remaining, ~$300,000 gap from our 2019-2020 baseline operational budget proved a continued challenge throughout the year. Prospects and challenges from this situation are discussed further below, after a consideration of our student-support restricted endowments themselves.

Student funding at the Masters' level

We remain committed as a department to the goal of full tuition funding support for our students. This goal has been combined with work towards diversity and inclusion in re-shaping our admissions process and financial award systems. The last two years have seen a broad move away from closely ranking applicants in a way that has been historically tied to different levels of financial support.

In the 2019 admissions cycle, MArch. students received between 50% and 100% admissions fellowships that were largely dependent on admissions ranking. Beginning with the 2020 admissions cycles we committed to a baseline of 75% for incoming MArch. students, who pay tuition for 3.5 years. This was achieved through better control of the size of our incoming class through the introduction of an actively-used waitlist. In previous years, the availability of additional student support funds from our endowment funds had been used to increase MArch. class sizes, at a range of fellowship levels up to 30 or more, so this represented a substantial shift in strategy. While we do still offer a limited number of 100% fellowships for MArch. students, these are based on an assessment of financial need developed with MIT's undergraduate financial support office.

MIT has committed to a 30% increase in endowment payouts in the 2022-23 academic year. While this has no effect on operations, we have taken the opportunity in this area to invest further towards the full support of all students. In the 2022 admissions cycle, our baseline support for all our currently enrolled MArch. students will be at a 75% fellowship level, and our goal will be to sustain this as a model going forward.

2022-23 budgets and beyond

In recent months, several further pieces of our budget picture have changed. As a result of continued high performance, MIT's endowment payouts to departments have continued to increase. For us, this means only a continued increase in the funds we use (and must use) to support students, as outlined above, and not an increase in operational funds we use to serve those students. While, this year, we were the recipient of increases in our GIB allowance targeted at our successful efforts around Diversity, Equity, and Belonging (DEB), we remain challenged in returning to the level of operational activity—including travel, studio support, and other student-focused projects—that we were able to enjoy prior to the pandemic and its effects. We remain particularly conscious, as a result, that our financial structure is an outlier in that of MIT departments, and we remain particularly vulnerable to any ongoing financial strategy which continues to combine reductions in yearly funding to departments with increased endowment payouts — until such a time as we can secure such operationally-focused endowments for our own use. We look forward to making sure that the recent, welcome gift of the Department's first endowed professorship since 1979, dedicated to architecture's effects in mitigating the climate crisis, is also a landmark in a program of fundraising across all the Department's operations and activities.

5.8 Information Resources

The program must demonstrate that all students, faculty, and staff have convenient and equitable access to architecture literature and information, as well as appropriate visual and digital resources that support professional education in architecture.

Program Response:

Overview

The mission of the MIT Libraries is to advance knowledge by providing a trusted foundation for the generation, dissemination, use, creative engagement with, and preservation of information, in support of the MIT mission and so that it can be brought to bear on the world's great challenges and in the cause of social justice. Following the 2016 Report on the Future of Libraries and the publication of the New Urgency Vision in the midst of the pandemic, the MIT Libraries has continued to streamline and enhance our services in an effort to leverage an increasingly digital environment to provide core academic support and to improve the productivity of education and research within the MIT community and beyond.

The MIT Libraries provides access to more than five million items in print and digital formats, including electronic journals and books, images, maps, and video recordings. There are five libraries in the system – each with dedicated spaces for collaborative work and quiet study. The MIT Libraries is a member of the Ivy Plus Libraries Confederation which provides students, faculty, and researchers the ability to visit or request materials from 13 prestigious academic libraries. Our Interlibrary Borrowing services provide the ability to borrow articles and other materials from libraries worldwide – thereby expanding available resources and collaborative opportunities.

The Rotch Library of Architecture and Design is a specialized unit of the MIT Libraries with collections centered on architecture, including building technology, design technology, design and computation, and visual studies. Related subjects covered by the print, digital, and visual collections are the history, theory, and criticism of art and architecture; urban design and development; housing and community development; real estate; geographic information systems (GIS); film; and media arts.

Facilities

The Rotch Library is in the same building as the Departments of Architecture, Urban Studies and Design, and the Center for Real Estate – which allows for easy access to physical resources, in-person services, and the library's staff. Located within Rotch are collections and services that support the Department of Architecture including a physical map collection, visual collections, a GIS & Data Lab, a Limited Access collection, and the Aga Khan Documentation Center, part of the Aga Khan Program for Islamic Architecture at MIT and Harvard.

Once the Department moves to the MET Warehouse, a close connection with Rotch will be maintained through a reading room, and book collection/return area on the Warehouse's ground floor, compensating in large degree for a two-minute outside walk that will be required for access to the library from the new building.

The environment of Rotch Library is well-maintained. The library maintains print collection growth through occasional storage of some materials off-site, where it is easily accessible upon request. Equipment in the Rotch reading room includes a no-cost, self-service book scanner to allow easy copying of most library materials. There are many MIT-only computers and printers available as well. There are time-limited, guest-use computers and wireless connectivity throughout the library's space. Restrooms are available outside the library.

The overall library space is widely used for individual study. There is a large, well-lit reading room that is heavily used throughout the year. The space includes traditional study tables, areas for lounging, periodicals, and a collection of DVDs. There is also an exhibition space that is utilized by the MIT community that provides both visual interest and community connections.

Library and Information Resources Collection

Rotch Library collection funding supports multiple formats for resources (including books, journals, films, videos, digital images, and digital and electronic resources) to meet the curricular and research needs of the School of Architecture and Planning. As a component of the MIT Libraries system, Rotch Library is one part of a network of library resources with shared collection development policies that support interdisciplinary research and learning.

Rotch collections (in print and digital formats) focus on teaching, learning, research, and discovery for the School of Architecture and Planning. Collections support the highest level of teaching and research done in each area of concentration. All periods and regions of the world are collected with areas of special emphasis based on faculty research and curriculum. The collection has strengths in global architectural history, computation and design, urban history and geography, art history, American architecture (especially housing), and Boston and the New England region.

The collections of the Aga Khan Documentation Center (AKDC) are in Rotch, and its staff, although focused on this particular program, is integrated into MIT Libraries. AKDC collections concentrate on architecture, urbanism, art and visual culture in Muslim societies. AKDC is also responsible for curating content for the digital platform, Archnet Next (http://archnet.org/), which is "a globally-accessible, intellectual resource focused on architecture, urbanism, environmental and landscape design, visual culture, and conservation issues related to the Muslim world."

Many early donations by faculty, alumni/ae, and private collectors form a rare books collection (Limited Access) of some importance. Included are European publications dating from the sixteenth to the nineteenth century, as well as the professional library of Charles Bulfinch. Ongoing donations and active collecting continue to augment this collection of rare books with a current emphasis placed upon the acquisition of artists' books and other engineered books.

Collections funding comes primarily through Institute funds with some funds coming from endowment and gift funds. The funds are adequate to support collection needs.

Rotch Library Collection

	MIT Libraries holdings	**Rotch Library holdings**[6][7]
Books, scores, theses, tangible media (DVD, CDROM, VHS, microform, etc), pamphlets	2,127,466	108,525
Ebooks (including theses, scores, and streaming media)	1,814,110	8,229
Print journal volumes	477,786	15,422
Ejournals	148,253	1,989
Print Maps	101,125	5,126
Electronic maps and GIS files	6,181	1,953
Slides, plates	210,425	150,000

	FY20 expenditure	FY21 expenditure[8]
Rotch Library	$ 368,840	$ 282,967

[6] Art, architecture, and urban planning collections are located at the Rotch Library and in local and remote storage facilities with delivery available to students, faculty, and researchers.
[7] Ebook and Ejournal counts for "Rotch Library" are best estimates and may be undercounted due to data quality.
[8] Expenditure fluctuation due to COVID pandemic

Community Engagement and Exhibits

The MIT Libraries' approach to community engagement is based on connected learning, in which student interests and social connections are leveraged to promote learning via hands-on projects and exhibits.

As an example, librarians lent considerable expertise to a student-led initiative, "BIPOC in the Built," which has become a model of interest to other academic institutions. This contribution to shared knowledge was a Wikipedia edit-a-thon which supported students of color in adding quality information to Wikipedia about Black, Indigenous and People of Color contributors to the built environment.

In addition, librarians solicit and support the MIT community in curating exhibits in the Rotch Library. These have included a built pavilion installation based on the local mining of material waste streams, a poetry exhibit that strengthened the voices of communities of color through striking poetic and visual language to bridge the gap between the sciences and the humanities, and a large-scale textile series mapping the urban fabric of Black neighborhoods in the Boston area.

IT Support:

The Department of Architecture has recently created a dedicated IT support group named STOA. STOA provides a range of hardware and software expertise and manages the day-to-day operations of the Department of Architecture's technology infrastructure. STOA is available to advise members of the Architecture community on equipment and application purchasing, platform and application support, and access to computing and technology resources.

STOA maintains an environment in which technology is easily accessible to serve required coursework, independent study, and research. STOA manages a complex computer network supporting Macintosh, Windows, and Linux operating systems.

Software provided includes Microsoft Office, the Adobe Creative Cloud suite, CAD, modeling, rendering, animation, video editing, multimedia, image processing, geographic information systems (GIS), and statistics. Where software licenses allow, software is available for installation on student-owned computers without charge.

Further, the program must demonstrate that all students, faculty, and staff have access to architecture librarians and visual resource professionals who provide discipline-relevant information services that support teaching and research.

Program Response:

Access to Architecture Librarians and Visual Resource Professionals

The Rotch Library offers the services of 12 staff – including librarians, professional staff, and support staff. A dedicated Architecture and Design Librarian serves as the MIT Libraries' expert on the research, learning culture, and information practices of the Department of Architecture, who selects and advocates for the discovery and acquisition of research materials within the disciplines of Architecture and Art. The Architecture and Design Librarian reports to the Program Head of the Liaison, Instruction and Reference Services department, is a participating member of the Arts and Humanities Community of Practice with fellow liaison librarians and is a member of the library team that serves the Department of Urban

Studies and Planning (DUSP), with disciplines that overlap with architecture. The Librarian also collaborates with the School of Architecture and Planning and outside contributors to develop a robust and engaging exhibits program within Rotch Library.

Teaching & Learning

The MIT Libraries' contribution to teaching and learning is both curricular and co-curricular. In addition to teaching on topics such as navigating library resources, research skills and strategies, scholarly publishing practices, and managing information, the teaching librarians contribute to important student outcomes in design and social justice issues related to information about the built environment. Using innovative pedagogies ranging from edit-a-thons to active learning sessions, library teaching adds to student understanding of how knowledge is created and organized, how systems can incorporate bias, and how to participate in addressing bias in knowledge creation. Teaching by librarians also addresses visual literacies across cultures, discovery and management of spatial data, discovery and use of archival materials, and new forms of knowledge sharing such as social media and zines.

Teaching venues include class visits, stand-alone workshops, collaborative learning events based on hands-on activities, presentations at orientation events, online presentations, web-based tutorials, and informal teaching through participation in departmental events.

Consultation Services

The MIT Libraries' consultation services are based on expertise, access, and spaces. The Architecture and Design Librarian's expertise includes engagement in the local public arts community, a background in libraries and museums, and extensive academic library experience supporting architecture, art, design and urban planning disciplines. Services provided by the MIT Libraries have expanded to include access to in-depth assistance in person or online via appointment, email, or online chat, as well as through online tutorials and subject guides to help library users learn how to find, organize, and use information on specific topics. Rotch Library also offers appointments and drop-in access to data management and GIS services.

Collections

The Architecture and Design Librarian has the primary responsibility of overseeing collection decisions. Developing and optimizing the MIT Libraries' resources for the Department is a collective effort that involves input from faculty and students, both directly via suggested purchases and donations, and indirectly via discussion about research and curricular goals. Additionally, the librarians analyze usage data, curricula, and research interests to further develop collections that are relevant and multi-modal (in print and digital formats). While our journals, serials, and images are increasingly digital, we continue to build a strong print collection of journals and monographs when resources needed by the architecture community are only available in print.

6—Public Information

The NAAB expects accredited degree programs to provide information to the public about accreditation activities and the relationship between the program and the NAAB, admissions and advising, and career information, as well as accurate public information about accredited and non-accredited architecture programs. The NAAB expects programs to be transparent and accountable in the information provided to students, faculty, and the public. As a result, all NAAB-accredited programs are required to ensure that the following information is posted online and is easily available to the public.

6.1 Statement on NAAB-Accredited Degrees

All institutions offering a NAAB-accredited degree program or any candidacy program must include the exact language found in the NAAB Conditions for Accreditation, 2020 Edition, Appendix 2, in catalogs and promotional media, including the program's website.

Program Response:

The language found in the NAAB Conditions for Accreditation, 2020 Edition, Appendix 2, Statement on NAAB-Accredited Degrees, is provided in its entirety in the following location:

College website at: https://architecture.mit.edu/student-resources#naab-accreditation

In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year term, an eight-year term with conditions, or a two-year term of continuing accreditation, or a three-year term of initial accreditation, depending on the extent of its conformance with established education standards.

Doctor of Architecture and Master of Architecture degree programs may require a non-accredited undergraduate degree in architecture for admission. However, the non-accredited degree is not, by itself, recognized as an accredited degree.

The Massachusetts Institute of Technology, Department of Architecture offers the following NAAB-accredited degree programs:

Master of Architecture (MArch) non-pre-professional degree + 327 units.

Next Accreditation Visit: 2023.

6.2 Access to NAAB Conditions and Procedures

The program must make the following documents available to all students, faculty, and the public, via the program's website:

a) Conditions for Accreditation, 2020 Edition
b) Conditions for Accreditation in effect at the time of the last visit (2009 or 2014, depending on the date of the last visit)
c) Procedures for Accreditation, 2020 Edition
d) Procedures for Accreditation in effect at the time of the last visit (2012 or 2015, depending on the date of the last visit)

Program Response:

The MIT Department of Architecture website's NAAB accreditation page (https://architecture.mit.edu/student-resources#naab-accreditation) provides links to the NAAB website, links to NAAB publications, MIT Department of Architecture NAAB documents, NCARB/ARE links, and links to statements and/or policies on learning and teaching culture and diversity, equity, and inclusion:

- NAAB Website
- Conditions for Accreditation, 2020
- Conditions for Accreditation, 2014
- Procedures for Accreditation, 2020
- Procedures for Accreditation, 2012

6.3 Access to Career Development Information

The program must demonstrate that students and graduates have access to career development and placement services that help them develop, evaluate, and implement career, education, and employment plans.

Program Response:

Evaluate and Implement Career, Education, and Employment Plans

All MArch students take two classes related to Career Development. *4.210 Cultivating Critical Practice* and *4.222 Professional Practice*. These classes provide essential insights on career development are described above in section PC.1

Career Development

As described at length in sections PC.1 and 5.4.4., the Department supplies a range of dedicated resources for career development, internships, and job placement.

6.4 Public Access to Accreditation Reports and Related Documents

To promote transparency in the process of accreditation in architecture education, the program must make the following documents available to all students, faculty, and the public, via the program's website:

a) All Interim Progress Reports and narratives of Program Annual Reports submitted since the last team visit
b) All NAAB responses to any Plan to Correct and any NAAB responses to the Program Annual Reports since the last team visit
c) The most recent decision letter from the NAAB
d) The Architecture Program Report submitted for the last visit
e) The final edition of the most recent Visiting Team Report, including attachments and addenda
f) The program's optional response to the Visiting Team Report
g) Plan to Correct (if applicable)
h) NCARB ARE pass rates
i) Statements and/or policies on learning and teaching culture
j) Statements and/or policies on diversity, equity, and inclusion

Program Response:

The MIT Department of Architecture website's NAAB accreditation page (https://architecture.mit.edu/student-resources#naab-accreditation) provides links to the NAAB website, links to NAAB publications, MIT Department of Architecture NAAB documents, NCARB/ARE links, and links to statements and/or policies on learning and teaching culture and diversity, equity, and inclusion:

- NAAB Interim Progress Report 2017
- NAAB Interim Progress Report 2020
- NAAB Most Recent Decision Letter
- NAAB Architecture Program Report 2014
- NAAB Visiting Team Report 2015
- NAAB Optional Response to Visiting Team Report 2015
- ARE Guidelines
- NCARB ARE Pass Rates
- Statement and/or Policies on Learning and Teaching Culture
- Statements and/or Policies on Diversity, Equity, and Inclusion

6.5 Admissions and Advising

The program must publicly document all policies and procedures that govern the evaluation of applicants for admission to the accredited program. These procedures must include first-time, first-year students as well as transfers from within and outside the institution. This documentation must include the following:

a) Application forms and instructions
b) Admissions requirements: admissions-decisions procedures, including policies and processes for evaluation of transcripts and portfolios (when required); and decisions regarding remediation and advanced standing
c) Forms and a description of the process for evaluating the content of a non-accredited degrees
d) Requirements and forms for applying for financial aid and scholarships
e) Explanation of how student diversity goals affect admission procedures

Program Response:

(The following information related to Master of Architecture Degree Program admissions has been adapted from what prospective MArch applicants can find on our MIT Department of Architecture website https://architecture.mit.edu/graduate-admissions.)

In response to the challenges of teaching, learning, and assessing academic performance during the global COVID-19 pandemic, MIT adopted the following principle: MIT's admissions committees and offices for graduate and professional schools took the significant disruptions of the COVID-19 outbreak into account when reviewing students' transcripts and other admissions materials as part of their regular practice of performing individualized, holistic reviews of applicants.

In particular, as we review applications currently and, in the future, we will respect decisions regarding the adoption of Pass/No Record (or Credit/No Credit or Pass/Fail) and other grading options during the unprecedented period of COVID-19 disruptions, whether those decisions were made by institutions or by individual students. We also expect that the individual experiences of applicants will richly inform applications and, as such, these experiences have been and will continue to be considered with the entirety of a student's record.

Ultimately, even in these challenging times, our goal remains to form graduate student cohorts that are collectively excellent and composed of outstanding individuals who will challenge and support one another.

a) Application Forms & Instructions

Previously, there were two application systems for the Department of Architecture. One for the MArch program and the other for all SM and PhD programs. Moving forward, there will be one application system, as we transition from GradApply to Slate (link not currently available).

b) Admissions Requirements: Admissions-Decisions Procedures, including Policies and Processes for Evaluation of Transcripts and Portfolios (When Required); and Decisions Regarding Remediation and Advanced Standing

(Fall/Winter 2021 – 2022) Admissions Timeline

September 15: Applications open for all programs

January 7: Applications close for all programs

December 23 – January 3: Staff on break (no email responses during this time)

March 15 – April 1: Application results released

April 15: Decisions due from admitted students

There are no rolling admissions. Applications for all degrees are reviewed in January for programs beginning the following September.

Contact Us

If students have reviewed the admissions information on the MIT Architecture website and find that they have additional questions, we have developed an interactive form to help students better understand our programs: Architecture Admissions Information Portal.

Graduate Tours

The Department of Architecture currently offers scheduled online consultations with admissions staff and students, all of whom answer questions about our programs.

To arrange a tour, prospective applicants/students are asked to please complete a Tour Request Form.

Institute Tours

The Institute offers regularly scheduled student-led campus tours. A self-guided MIT Mobile Campus tour app is also available. For details prospective students can go to http://institute-events.mit.edu/visit/tourshttp://institute-events.mit.edu/visit/tours.

Transferring Into MIT

Our Master of Architecture program does not allow transfer students to enter the program. Applicants who have begun another program may qualify to waive required courses they have already taken and instead take electives. There is no option to shorten the 3.5-year MArch program.

Once Admitted

We send all notifications of admission and waitlist status by email, and many students will also receive telephone calls, beginning in early to mid-March and running until April 1. All admitted applicants will have until April 15 to let us know if they accept our offer. If we do not receive notification that an admitted student has accepted our offer by April 15, the offer is rescinded. Since we may not hear from some admitted applicants until April 15, those admitted from waitlist status may not receive notification of admission before April 15.

We send admissions letters to admitted and waitlisted applicants along with a link to a response form. Those planning to enroll will need to have official, unopened copies of their transcripts sent to our office before enrolling. Due to COVID-19, we are now accepting digital official transcripts sent directly from institutions or via a third-party service.

Additional information for newly admitted students is provided by the Institute: http://web.mit.edu/admissions/graduate/admitted_students.htmlhttp://web.mit.edu/admissions/graduate/admitted_students.html

Council of Graduate Schools Resolution Regarding Graduate Scholars, Fellows, Trainees, and Assistants

Acceptance of an offer of financial support (such as a graduate scholarship, fellowship, traineeship, or assistantship) for the next academic year by a prospective or enrolled graduate student completes an agreement that both student and graduate school expect to honor. In that context, the conditions affecting such offers and their acceptance must be defined carefully and understood by all parties.

Students are under no obligation to respond to offers of financial support prior to April 15; earlier deadlines for acceptance of such offers violate the intent of this Resolution. In those instances, in which a student accepts an offer before April 15 — and subsequently desires to withdraw that acceptance — the student may submit in writing a resignation of the appointment at any time through April 15. However, an acceptance given or left in force after April 15 commits the student not to accept another offer without first obtaining a written release from the institution to which a commitment has been made. Similarly, an offer by an institution after April 15 is conditional on the presentation by the student of the written release from any previously accepted offer. It is further agreed by the institutions and organizations subscribing to the above Resolution that a copy of this Resolution or a link to the URL should accompany every scholarship, fellowship, traineeship, or assistantship offer.

When students enroll in the MArch program, the academic administrator will review their final transcripts to see if they have already completed required courses in the program. If so, students may not waive the credits, but they may petition to waive the requirement. If approved, students can take an elective of their choice.

Graduate Admissions

- Letters of recommendation (3–4)
- Transcripts for all relevant degrees
- IELTS or TOEFL score (if English is not your first language)
- Curriculum Vitae
- Statement of Objectives
- $75 application fee
- Portfolio
- The GRE is NOT required for any Architecture program

Letters of Recommendation

Letters from instructors are preferred unless students have been working for several years, in which case supervisors may be included. The application can be submitted on the deadline with fewer than three letters, but students should remind their instructors to complete their recommendation letters.

We encourage students to ask for three letters of recommendation but do not penalize applicants for missing letters; applications with fewer than three letters will be considered without a penalty. Applicants should notify their recommendation letter writers as early as possible to let them know they will be requesting letters. This will give recommenders time to prepare and submit their letters by the deadline. When applicants enter the information for their recommenders, the system will send recommenders a notification by email.

If an applicant's recommender has trouble with the online system, be sure to complete their contact information and have them email the letter to arch@mit.edu. In this case, make sure that the applicant has completed the form in the system with their information and check whether the applicant has waived their right to view the letter. The applicant should inform their recommender of their choice.

Applicants should return to their online application to check the status of their letters and remind their recommenders. Application review begins about a week after the deadline, so any letters not received by then will not be viewed.

Transcripts

Transcripts for all relevant degrees, official or unofficial, must be uploaded to the application system. PDFs must be clearly readable and oriented correctly on the screen. Only those applicants who are accepted for admission will be required to send a hard copy of an official, sealed transcript (with English translation) from each school attended. Due to COVID-19, we are now accepting digital official transcripts sent directly from institutions or via a third-party service. Please do not have official copies of transcripts sent to our office unless you are admitted. Certificates, study abroad, and community college transcripts do not need to be sent unless the courses are not also listed on your primary college transcripts. Non-English transcripts must be translated into English, and if necessary, signed by a licensed notary and accompanied by the original version. Any discrepancy between the scanned transcripts and official transcripts may result in a rejection or withdrawal of our admission offer. Applicants should NOT send any supplemental material with their application by mail and only provide those documents required in the application.

IELTS or TOEFL Score

Applicants whose first language is not English are required to submit either an International English Language Testing System (IELTS) score (Academic test) or a Test of English as a Foreign Language (TOEFL). The admissions committee regards English proficiency as crucial for success in all degree programs. To meet the admissions deadline, it is recommended that candidates take the IELTS or TOEFL on the earliest possible date. NOTE: Official scores do not need to be sent unless applicants are admitted and intend to enroll.

Applicants must take IELTS/TOEFL if one of the following applies:

- Applicants did complete their undergraduate studies in the U.S. but are from a non-English-speaking country.
- Applicants are from the U.S. but were raised speaking another language.

Applicants do not need to take IELTS/TOEFL if they were raised in a non-English speaking country but have spoken and been educated in English all their life.

Admitted applicants must request that an official copy of their test results be sent directly to MIT by IELTS International or Educational Testing Service. IELTS and TOEFL Scores must be no older than two years as of the date of application. To avoid delays, applicants should use the following codes when having their TOEFL scores sent to MIT:

- Institutional Code: 3514
- Department Code: 12

The MArch minimum score required for the IELTS is 7 and the minimum TOEFL score is 600 (250 for computer-based test, 100 for Internet-based test). While either test score is accepted, the IELTS score is preferred. If an applicant's scores do not meet the minimum required for admission, we are not able to admit the applicant. MArch applications with scores lower than 100 on the TOEFL, lower than 7 on the IELTS, or missing test scores will not be reviewed at all. If applicants do not think they need to take this test, see the previous question. We will NOT have access to an applicant's "My Best Scores" from ETS. We will see all test scores applicants have sent to us.

All admitted students whose first language is not English are required to take the English Evaluation Test (EET) prior to registration at MIT. Even students who satisfy the IELTS/TOEFL requirement for admission may be required to take specialized subjects in English as a Second Language (ESL), depending on their EET results. These subjects do not count toward the required degree credits. (Currently under review but accurate for previous semesters).

Curriculum Vitae

Some MIT fellowships are available to MIT Departments. The CV is used by our administrative staff to learn additional information about admitted students and to apply for MIT scholarships on their behalf.

Statement of Objectives

We would love to know one important thing each applicant imagines contributing to the world upon graduating with a Master of Architecture degree from MIT. As applicants share their thoughts with us, please also know that we are less interested in an applicant's qualifications and more interested in their trajectory, their purpose, and their reason for dedicating themself to the pursuit of architecture. Why is now the right time for an applicant to be in school? What does an applicant imagine contributing to our community at MIT? How does an applicant imagine we can best aid them in accomplishing that goal?

Applicants are asked to be as concise and deliberate as possible in two pages or less.

Interviews

Interviews are NOT required for MArch applicants. While we cannot hold in-person tours, applicants can arrange for a student-led virtual tour of the Department, by completing a Tour Request.

Application Fee

A non-refundable Application Fee of $75 USD is required of each applicant submitting their application. Applicants will need to submit a credit card number on the Architecture Graduate Application to process this fee. If an applicant has a financial hardship, they may apply for an Application Fee Waiver.

Portfolio

A digital portfolio is required of all MArch applicants, including those who do not have a previous architecture degree or background. The portfolio file should be exported as PDF for screen viewing. The file should contain no more than 30 pages with a file size not larger than 15MB. Two-page spreads are allowed but each spread counts as one of the 30 pages.

Admissions-Decisions Procedures, Including Policies and Processes for Evaluation of Transcripts and Portfolios, and Decisions Regarding Remediation and Advanced Standing

Our goal is to constitute a diverse community that includes a wide range of interests and talents. We do this for many reasons, including our understanding that, particularly in a community like ours, we all learn from each other. To better understand an applicant's creative voice and background, applicants are asked to share a PDF portfolio that best reflects who they are. We review portfolios from a variety of backgrounds; we are seeking the potential to explore and engage architectural questions but not necessarily previous experience with architecture. We want to understand an applicant's potential to think and operate visually and in three dimensions, at any scale. Applicants should share with us work that best illuminates how they perceive and structure the world that surrounds them. If some of an applicant's work cannot easily be understood in a static PDF, applicants are asked to include a link to a sample for review. This field is intended to augment the portfolio submission with audio files from composers and musicians, video files from performance art, interviews from journalists, etc. If time-based media is not central to an applicant's work, there is no problem with leaving this field blank.

Admissions are considered blind, with student names redacted. In general, when we use the term "background," we are talking about the previous education of the applicant. Our goal is to reach roughly 1/3 full architecture background, 1/3 zero architecture background, and 1/3 in the middle. This middle category is the trickiest. This mid-group could be a fine arts major as they have studio experience but not architecture… or landscape or interior architecture. Or they could be a student that did 'arch studies'. If we are unsure, we look at the transcript and count the number of architecture studios taken: 6 is full and 2 would be mid.

We score applicants relative to similar applicants; for example, we do not compare a non-architectural portfolio against that of a student with prior disciplinary experience.

Background (arch / non-arch): 3/4 of this pool identifies as having an 'Architecture' background. That would include what we identify as mid-background but only leaves 1/4 non-background. We like a balance of 1/3 of each, so we are a bit off target. We might be a bit more generous to non- and mid-background candidates or try to find those exceptional cases in each pool and score them highly.

Our policy on admissions – regarding ethnicity, gender, and demography – does not pursue specific numbers, but the admissions committee does seek to build a diverse student body. This is a slightly more difficult metric to get numbers on early in the review process. In our most recent applicant year, 31% of the pool self-identified as something other than white and 62% were international; additionally, 55% were female and 45% were male (as identified).

3/4 of all applicants identified as having an 'Architecture background,' including what we identify as mid-background, leaving 1/4 as non-background. We would like a balance of 1/3 of each, so at the beginning of the review process, we were a bit off target, prompting us to be a bit more generous to non- and mid-background candidates and look harder for exceptional cases that were scored more highly in each pool.

Admissions take place over the course of three rounds of review.

Round 1: In the first round, admission committee members are each randomly assigned applications. Every applicant is scored by one faculty member and one 'student' member in each round. The aggregate of those two scores guides the Admissions Chair in determining a cut line for the second round (after acting as a catch-net for a variety of anomalies).

Portfolios are ranked from 1–5 (1 is low and 5 is high) relative to the other applications the admissions committee is viewing. The admission committee is asked to keep in mind the background of the candidate. The best way to think about this is that the portfolio submission is scored here, and everything else is scored in the file. Another way to approach this is that the file evaluates how the candidate 'thinks', and the portfolio evaluates how the candidate works, draws, makes, etc. For candidates without architecture backgrounds, we evaluate the portfolios on their merits – not on their competency in architecture. Is this candidate teachable? Is the visual work aligned with the way they think? Are they able to work through issues visually? For students with “backgrounds,” this category often boils down to personality. Are we seeing work that mimics studio professors' work? Are we instead seeing work that is the beginning of an individual pursuit?

Round 2: 280 applicants were moved on to round 2, meaning each admissions committee member received about 20 applications to review (10 for the 1/2 load faculty). In round 2, each applicant was distributed to a new pair of reviewers (1 faculty member and 1 student). Admissions committee members were asked to score their pool of assignments relative to each other, from 1 to 5 evenly, and to not score these candidates relative to what we saw in Round 1. The competition is steeper in round 2, and applicants who may have received a 4 score in Round 1 might have received a score of 1 in round 2.

The admissions committee has fewer candidates to review in round 2 vs. round 1, which allows for a closer reading of candidates’ statements, portfolios, and transcripts. At this point, the admissions committee pays more attention to whether portfolio work is individual, largely group work, or professional. Student statements are looked to as the “highest lens” into how each candidate thinks.

Round 3: This round does not include student evaluators. Once again, the admissions committee is asked to score their group of 8 applicants relative to each other, ranging from 1–8. In addition to their scores, the admissions committee is asked to take diligent notes on their assigned group. The reason for this is that only one faculty member is assigned to each pool in this round, and in the final meeting, faculty collectively take stock of where we are, what the numbers should be, etc. The faculty then starts to identify candidates for discussion. As those candidates are raised, it is important to have a faculty member that has closely read the application and knows it extremely well. It does not mean a faculty member has to advocate for or against a candidate. Each faculty member serves as a knowledge base. Round 3 produces both an applicants-to-admit list and a list of applicants for the waitlist.

Credit for Previous Academic Work

MArch students who have successfully completed the equivalent of one or more required architecture subjects outside MIT (or within MIT as undergraduates) may be given advanced credit for those subjects by submitting a petition for curriculum adjustment with as much relevant material as possible (including a transcript, syllabi, reading lists, problem sets, paper assignments, or portfolios). Petitions are submitted to arch@mit.edu before the first day of class each term and are then reviewed by the MArch Program Committee by the end of the first month of the term. The Committee is composed of one faculty member from each of the discipline groups. All requests must be resolved by the beginning of the penultimate semester.

c) **Forms and a Description of the Process for Evaluating the Content of Non-Accredited Degrees**

The MArch is the first professional degree preparing students for a career as an architect. The program takes 3.5 years and consists of six studios, followed by a semester working on a thesis. Courses are drawn from each of our discipline groups as well as electives from the Department and throughout MIT.

The MArch program requires the following academic preparation:

1. A Bachelor's degree with high academic standing from a recognized institution or, in the judgment of the Department, the equivalent of this degree.
2. One semester of satisfactory study in college-level mathematics (such as, algebra, geometry, trigonometry, pre-calculus, calculus).
3. One semester of satisfactory study in college-level natural sciences (such as physics, biology, and chemistry).
4. Two semesters of satisfactory study in college-level humanities and/or social sciences.

Students may be admitted with limited deficiencies in 2, 3, or 4 above, but this deficiency must be removed prior to entry into the first year of graduate study in the Department. Prerequisites may be taken at any accredited institution of higher learning, including online courses. Natural science classes with a lab are not required. Upon completion, admitted students must provide an official transcript showing the final passing grade to the Department of Architecture. AP credit will be accepted if the undergraduate transcript includes institutional credit for each subject taken.

d) **Requirements and Forms for Applying for Financial Aid and Scholarships**

The philosophy of the Department of Architecture is based upon a desire to maintain a diverse student body and encourage those who have the interest and ability to succeed in the profession, regardless of their financial resources. The Department wants to make it possible for all our students to graduate with a debt no larger than they can reasonably expect to repay while working in their profession. Financial aid from the Department is in the form of direct tuition awards and Departmental employment. Additional resources and information is available from MIT's Student Financial Services Office.

Prospective students are asked to indicate whether they wish to be considered for financial support. No preference is given to either answer. If prospective students need money to attend grad school, they are asked to say "yes." If they say “no,” they will receive no aid from the Department. All of our departmental aid is distributed on a merit basis. The Department reviews admitted applicants to see if any additional MIT scholarships may apply. If an admitted applicant to an Architecture program is eligible for an MIT scholarship, the Department will apply on their behalf and detail any successful scholarship awards in the admission letter.

Financial aid awards for incoming students are on a merit basis and are made upon admission. Financial aid awards to Master's degree students are in the form of a partial tuition award. Master's degree students are also eligible to compete for work opportunities in the form of Teaching (once they’ve completed their Core studios) or Research Assistantships as well as hourly positions available in the Department.

Students are eligible for financial support from the Department, both tuition and/or departmental employment, for the period of the standard residency requirement of the degree program. For MArch students, the maximum number of semesters of eligibility is seven. Students in all degree programs must be registered as full-time resident graduate students for the period of the award and be in good academic standing to be eligible for continued financial aid. In all cases, students should refer to the details laid out in their offer of admission.

MIT realizes that their application fee may be challenging for some of the applicants we most want to apply. If applying fee provides any challenge in submitting an application, prospective students are asked to contact the Office of Graduate Education, so that we can consider and arrange a waiver. A fee waiver request is entirely independent of the admissions process itself and is not seen by the admissions committee.

Tuition

MIT tuition and fees are posted by the MIT Registrar's Office. TA, RA, and hourly rates are set by the Institute and the Department. Students are also assessed a Student Life Fee per year, which cannot be paid by MIT funds. The tuition component of a financial aid award is applied directly to the student's account in the Bursar's Office. Academic year awards are divided equally between the Fall and Spring terms.

Payment in full, or a satisfactory arrangement for payment, is due in advance of Registration Day of each term. Students may opt for a Bursary Payment Plan to pay tuition in monthly installments. This plan involves a finance charge.

The office of Student Accounts coordinates the billing and collects payment for the official Institute charges, including on-campus housing, medical insurance, tuition, and the Student Activity Fee. Questions or concerns about student accounts, billing, charges, and/or payments should be directed to the Student Financial Services / Student Services Center, 11-120.

Additional Fellowships

Students are asked to research additional fellowship opportunities by signing up for and checking out MIT’s online financial literacy platform iGrad. iGrad is where students find a searchable scholarship database. Students are also directed toward additional databases found at https://www.petersons.com/ and http://college.usatoday.com/2016/01/06/best-scholarship-resources/.

e) **Explanation of How Student Diversity Goals Affect Admission Procedures**

The Department of Architecture is committed to building a diverse, equitable, and inclusive environment. We are pursuing actions to increase the diversity of our student population and to create an environment that welcomes and empowers all members of our community. This work includes new initiatives in outreach, admissions, support programs, and increased student participation in department governance.

Our current population of students is a balance of half U.S.-based and half international students, representing over forty-five countries. 40% of our U.S.-based graduate students identify as POC. 56% of graduate students are women and 44% are men. The Department continues to work purposefully to improve these numbers in the belief that broad perspectives and multiple role models are necessary for the future of the architectural profession.

Applicant Mentorship Program (AMP)

The Applicant Mentorship Program (AMP) pairs prospective applicants with current students who can offer guidance and answer questions throughout the application process. We especially encourage applicants from underrepresented backgrounds and those lacking support or facing other challenges in their pursuits of graduate studies to sign up for AMP!

ArchCatalyst Program

Part of MIT's GradCatalyst program includes student-led workshops to help undergraduates plan their academic trajectories. This interactive webinar covers the unwritten rules to preparing for, applying to, and succeeding in graduate school. Sessions are open to anyone exploring the option of graduate education in architecture and similar fields.

6.6 Student Financial Information

6.6.1 The program must demonstrate that students have access to current resources and advice for making decisions about financial aid.

Program Response:

As of the 2021–22 academic year, all MArch students at MIT are offered financial aid in the form of either a 75 or 100% tuition scholarship, with the provision of a 100% scholarship given to approximately ⅓ of applicants, based on need. Admissions is need-blind. In addition, students receive a $10,000 stipend per year to defray additional costs associated with attending graduate school in Cambridge, MA. In making decisions about tuition and financial aid, students have access to estimates of the cost of living in Cambridge, MA prepared by MIT and available to all incoming graduate students.

Financial aid offers are guaranteed for the length of the residency requirement of the degree. To retain departmental funding, a student must be registered full-time, be in good academic standing at the end of each academic year, fulfill the Department's English as a Second Language requirement, and – in the case of MArch candidates – make satisfactory progress through the studio sequence. Students do not need to reapply each year to retain the offer made upon admission.

MIT tuition and fees are posted by the Registrar. Tuition awards are applied directly to a student’s Bursar account to reduce the cost of tuition. Stipends are paid directly to the student on a bi-weekly basis and are taxable by United States tax laws.

Student Accounts coordinates the billing and collects the payment of all official Institute charges, including on-campus housing, medical insurance, tuition, and the Student Activity Fee. Tuition payment in full, or a satisfactory arrangement for payment, is due in advance of Registration Day each term. Students may opt to pay tuition in monthly installments under the Bursary Payment Plan, but there is a finance charge for this plan.

MIT has a limit on the total amount of financial support a student may receive from/through MIT. All graduate students are limited to full tuition in any combination of external tuition awards, department tuition awards, or those associated with a Research or Teaching Assistantship. In the case when obtaining a Research Assistantship or external Fellowship results in exceeding this limit, it will supplant any tuition award offered under the program described above. The student will not forfeit eligibility for tuition support in other terms for which aid has been promised.

As well as the baseline of financial aid outlined above, all students are eligible to receive departmental employment, which can take the form of Teaching Assistantship or Research Assistant positions. Each semester, approximately ⅓ of applicants receive Teaching Assistantships. While MArch students are discouraged from taking TA positions in their first three terms, they regularly receive hourly employment as shop monitors or other employment in support of department activities.

The Department's Student Services team serves as a contact point for information about Financial Aid, and other financial support to students, coordinating with the MIT Office of Graduate Education (OGE), particularly in support of students facing financial emergencies or other emergencies needing financial support.

As of the 2022–23 academic year and the provision of at least 75% funding to all our MArch students, the Department will regularly reassess funding only for students whose financial circumstances have changed since they accepted an offer of admissions; however, we regularly arrange employment and other forms of support for students who share financial need.

6.6.2 The program must demonstrate that students have access to an initial estimate for all tuition, fees, books, general supplies, and specialized materials that may be required during the full course of study for completing the NAAB-accredited degree program.

Program Response:

MIT provides students with various tools to estimate the cost of their studies as well as manage their finances once they have been admitted. These tools are available publicly and online on the website of MIT's Student Financial Services. The website includes comprehensive information regarding tuition and living costs, estimate calculators, and financial management tools and resources. Moreover, MIT provides all its graduate students with access to iGrad, an online, personal financial management service that assists with budgeting and scholarships.

Additionally, help is available, and graduate students with families can apply for, a need-blind grant through the Office of Graduate Education to cover costs associated with childcare, healthcare, and housing. MIT and student leaders have worked together to make MIT a food-secure campus. Additional information about financial resources and food security resources can be found online. For matriculating students, the Office of Graduate Education (OGE) hosts Summer Walk-in sessions on financial literacy and related financial topics. Fellowships & Financial Literacy are handled centrally by the OGE's Fellowships Program Director & Fellowships Program Assistant. There is a regular Fellowships Newsletter, central site on Financial Literacy, consistent Financial Workshops, etc.

Shared Values, Program Criteria, and Student Criteria Matrix

Subject #	Subject Title	Term	Instructor(s)	Shared Values	Design	Env. Stewardship & Professional Respon	Equity, Diversity & Inclusion	Knowledge & Innovation	Leadership, Collab. & Community Engmt	Lifelong Learning	Program Criteria	PC.1 Career Paths	PC.2 Design	PC.3 Ecological Know. & Respon.	PC.4 History & Theory	PC.5 Research & Innovation	PC.6 Leadership & Collaboration	PC.7 Learning & Teaching Culture	PC.8 Social Equity & Inclusion	Student Criteria	SC.1 HSW in the Built Environ.	SC.2 Professional Practice	SC.3 Regulatory Context	SC.4 Technical Knowledge	SC.5 Design Synthesis	SC.6 Building Integration
												PC.1	PC.2	PC.3	PC.4	PC.5	PC.6	PC.7	PC.8		SC.1	SC.2	SC.3	SC.4	SC.5	SC.6
Key	Primary SV PC SC source																									
	Secondary SV PC SC source																									
	Fall 2021 Semester	**FA 2021**																								
4.105	Geometric Disciplines + Architecture Skills	FA 2021	Jih, J.		x			x		x			x		x			x								
4.151	Architecture Design Core Studio I	FA 2021	Clifford, Brandon		x			x		x			x		x	x	x	x							x	
4.151	Architecture Design Core Studio I	FA 2021	Landman, Jeffrey		x			x		x			x		x	x	x	x							x	
4.151	Architecture Design Core Studio I	FA 2021	Garcia, Deborah		x			x		x			x		x	x	x	x							x	
4.151	Architecture Design Core Studio I	FA 2021	Nahleh, Mohamad		x			x		x			x		x	x	x	x							x	
4.153	Architecture Design Core Studio III	FA 2021	Kennedy, Sheila		x	x	x	x	x	x			x	x	x	x	x	x	x		x		x	x	x	x
4.153	Architecture Design Core Studio III	FA 2021	el Samahy, Rami		x	x	x	x	x	x			x	x	x	x	x	x	x		x		x	x	x	x
4.153	Architecture Design Core Studio III	FA 2021	Jih, J.		x	x	x	x	x	x			x	x	x	x	x	x	x		x		x	x	x	x
4.154	Architecture Design Option Studio	FA 2021	Garcia-Abril, Anton		x			x		x			x		x	x		x							x	
4.154	Architecture Design Option Studio	FA 2021	Daniels, Yolande		x		x	x		x			x	x			x	x	x							x	
4.154	Architecture Design Option Studio	FA 2021	Pinochet, Diego		x			x	x	x			x				x	x	x							x	
4.154	Architecture Design Option Studio	FA 2021	Tessmer, Lavender		x			x	x	x			x				x	x	x							x	
4.154	Architecture Design Option Studio	FA 2021	Tibbits, Skylar		x			x	x	x			x	x		x	x	x						x		
4.210	Positions: Cultivating Critical Practice	FA 2021	Miljacki, Ana		x			x		x		x	x		x							x				
4.222	Professional Practice	FA 2021	Berry, Rebecca & Mohr, Robert			x		x	x	x		x				x	x					x	x			
4.463	Building Technology Systems: Structures and Envelopes	FA 2021	Mueller, Caitlin		x	x		x	x	x			x	x		x	x				x			x	x	x
4.464	Environmental Technologies in Buildings	FA 2021	Reinhart, Christoph		x	x		x		x			x	x		x					x		x	x	x	x
4.607	Thinking About Architecture: In History and at Present	FA 2021	Jarzombak, Mark					x		x					x	x										
4.621	Orientalism, Colonialism, and Representation	FA 2021	Rabbat, Nasser							x					x	x			x							
4.THG	Graduate Thesis	FA 2021	Garcia, Deborah		x			x		x		x	x			x						x				
	Spring 2022 Semester	**SP 2022**																								
4.117	Creative Computation	SP 2022	Killian, Axel		x		x			x			x			x			x					x		
4.123	Architecural Assemblies	SP 2022	Simmons, Marc		x			x		x			x		x	x								x		
4.152	Architecture Design Core Studio II	SP 2022	Parreno Alonso, Cristina		x	x	x	x	x	x			x	x	x	x	x	x	x		x		x	x	x	x
4.152	Architecture Design Core Studio II	SP 2022	French, Anda		x	x	x	x	x	x			x	x	x	x	x	x	x		x		x	x	x	x
4.152	Architecture Design Core Studio II	SP 2022	Illia-Sheldahl, Silvia		x	x	x	x	x	x			x	x	x	x	x	x	x		x		x	x	x	x
4.154	Architecture Design Option Studio	SP 2022	Bucci, Angelo		x	x	x	x	x	x			x	x	x	x	x	x	x		x	x	x	x		
4.154	Architecture Design Option Studio	SP 2022	Garcia, Deborah		x	x		x		x			x		x	x		x								
4.154	Architecture Design Option Studio	SP 2022	Goulthorpe, Mark		x	x		x		x			x	x	x	x		x						x		
4.154	Architecture Design Option Studio	SP 2022	Miljacki, Ana		x			x	x	x			x		x	x	x	x	x							
4.154	Architecture Design Option Studio	SP 2022	O'Brien, William		x			x		x			x			x									x	
4.154	Architecture Design Option Studio	SP 2022	Simmons, Marc		x	x			x	x			x	x		x	x				x			x		
4.154	Architecture Design Option Studio	SP 2022	Stanescu, Oana		x		x		x	x			x			x	x	x	x				x			
4.189	Preparation for MArch Thesis	SP 2022	Moe, Kiel, Nahleh, Mohamad		x		x	x		x		x	x			x		x	x			x				
4.241	The Making of Cities	SP 2022	Barrio, Roi Salgueiro			x	x	x		x				x	x	x			x							
4.462	Introduction to Structural Design	SP 2022	Ochsendorf, John		x	x		x		x			x	x	x							x		x		x
4.511	Advanced Projects in Digital Fabrication	SP 2022	Sass, Lawrence		x					x			x			x									x	
4.521	Visual Computing	SP 2022	Knight, Terry		x					x			x												x	
4.567	Introduction to Building Information Modeling in Architecture	SP 2022	Nagakura, Takehiko		x			x	x	x			x				x								x	
4.612	Islamic Architecture and the Environment	SP 2022	Gupta, Huma		x	x				x			x	x	x	x										
4.645	Selected Topics in Architecture: 1750 to the Present	SP 2022	Dutta, Arindam		x					x			x		x	x										
Subject #	Subject Title	Term	Instructor(s)									PC.1	PC.2	PC.3	PC.4	PC.5	PC.6	PC.7	PC.8		SC.1	SC.2	SC.3	SC.4	SC.5	SC.6

MIT Architecture

MArch Curriculum Fall 2021 - Spring 2022

1	2	3	4	5	6	7
4 Classes 48 Units	4 Classes 48 Units	4 Classes 48 Units	4 Classes 48 Units	4 Classes 45 Units	3 Classes 39 Units	2 Classes 30 Units

	Core			Options			Thesis
Design Studio	4.151 (21)	4.152 (21)	4.153 (21)	4.154 (21)	4.154 (21)	4.154 (21)	4.THG (24)
	Architecture Design Core Studio I	Architecture Design Core Studio II	Architecture Design Core Studio III	Architecture Design Option Studio	Architecture Design Option Studio	Architecture Design Option Studio	MArch Thesis
Architectural Studies	4.105 (9)			4.123 (9)	4.222 (6)	4.189 (9)	
	Geometric Disciplines + Architecture Skills			Architectural Assemblies	Professional Practice	Preparation For MArch Thesis	
Urbanism			4.xxx or 11.xxx Urbanism Elective (9)				
BT (Building Technology)	4.464 (9)	4.462 (9)	4.463 (9)				
	Environmental Technologies in Buildings	Introduction to Structural Design	Building Technology Systems: Structures & Envelopes				
COMP (Computation)		4.117 (9) or 4.511 (9) or 4.521 (9) or 4.567 (9)			MAS.xxx (9)		
ACT (Art, Culture, & Technology)				4.3xx (9) ACT Elective			
HTC (History, Theory, & Criticism)	4.210 (9)	4.645 (9)	4.607 (9) or 4.612 (9) or 4.621 (9) or 4.647 (9)	4.6xx (9) & 4.241 (9) (If no 4.607, 4.612, 4.621 Previous Semester)			
Electives	Positions: Cultivating Critical Practice	Selected Topics in Architecture: 1750 to the Present			x.xxx (9) or 4.5xx (9)	x.xxx (9) Elective	x.xxx (6) Elective