

**Harvard Graduate School of Design  
Department of Architecture**

## **Architecture Program Report for 2018 NAAB Visit for Continuing Accreditation**

### **Master in Architecture**

Undergraduate degree outside of Architecture + 105 graduate credit hours  
Related pre-professional degree + 75 graduate credit hours

**Year of the Previous Visit:** 2012

**Current Term of Accreditation:** At the July 2012 meeting of the National Architectural Accrediting Board (NAAB), the board reviewed the *Visiting Team Report* (VTR) for the Harvard University, Graduate School of Design.

As a result, the professional architecture program:

### **Master in Architecture**

Was formally granted a six-year term of accreditation. The accreditation term is effective January 1, 2012. The program is scheduled for its next accreditation visit in 2018.

Submitted to: The National Architectural Accrediting Board  
Date: 7 September 2017

**Program Administrator:**

Ryan Jacob  
Phone: 617.496.1234  
Email: [rjacob@gsd.harvard.edu](mailto:rjacob@gsd.harvard.edu)

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

K. Michael Hays, Chair, Department of Architecture  
Phone: 617.496.6770  
Email: [mhays@gsd.harvard.edu](mailto:mhays@gsd.harvard.edu)

**Chief Academic Officer of the Institution:**

Mohsen Mostafavi, Dean  
Phone: 617.495.4364  
Email: [Mohsen\\_Mostafavi@gsd.harvard.edu](mailto:Mohsen_Mostafavi@gsd.harvard.edu)

**President of the Institution:**

Drew Faust  
Phone: 617.495.1502  
Email: [President@harvard.edu](mailto:President@harvard.edu)

**Individual submitting the Architecture Program Report:**

Jon Lott, Director, Master in Architecture Degree Program  
Assistant Professor of Architecture  
Phone: 617.496.1234  
Email: [jlott@gsd.harvard.edu](mailto:jlott@gsd.harvard.edu)

**Name of individual to whom questions should be directed:**

Ryan Jacob, Coordinator, Master in Architecture Degree Program  
Phone: 617.496.1234  
Email: [rjacob@gsd.harvard.edu](mailto:rjacob@gsd.harvard.edu)

**All physical mail should be sent to:**

Department of Architecture, Harvard Graduate School of Design  
Gund Hall  
48 Quincy Street  
Cambridge, MA 02138

## Table of Contents

	<u>Page</u>
<b><u>PART ONE: INSTITUTIONAL SUPPORT AND COMMITMENT TO CONTINUOUS IMPROVEMENT</u></b>	1
<b><u>Section 1. Identity and Self-Assessment</u></b>	1
I.1.1 History and Mission	1
I.1.2 Learning Culture	2
I.1.3 Social Equity	6
I.1.4 Defining Perspectives	7
I.1.5 Long Range Planning	11
I.1.6 Assessment	13
I.1.7 Progress since the Previous Visit	16
<b><u>Section 2. Resources</u></b>	19
I.2.1 Human Resources and Human Resource Development	19
I.2.2 Physical Resources	24
I.2.3 Financial Resources	27
I.2.4 Information Resources	29
I.2.5 Administrative Structure & Governance	34
<b><u>PART TWO: EDUCATIONAL OUTCOMES AND CURRICULUM</u></b>	38
<b><u>Section 1. Educational Realms and Student Performance Criteria</u></b>	38
<b><u>Section 2. Curricular Framework</u></b>	47
II.2.1 Institutional Accreditation	47
II.2.2 Professional Degrees & Curriculum	47
<b><u>Section 3. Evaluation of Preparatory Education</u></b>	48
<b><u>Section 4. Public Information</u></b>	
II.4.1 Statement on NAAB-Accredited Degrees	55
II.4.2 Access to NAAB Conditions and Procedures	55
II.4.3 Access to Career Development Information	55
II.4.4 Public Access to APRs and VTRs	55
II.4.5 ARE Pass Rates	55
II.4.6 Admissions and Advising	55
II.4.7 Student Financial Information	56
<b><u>PART THREE: ANNUAL AND INTERIM REPORTS</u></b>	57
<b><u>Section 1. Annual Statistical Reports</u></b>	57
<b><u>Section 2. Interim Progress Reports</u></b>	57
<b><u>PART FOUR: SUPPLEMENTAL MATERIALS</u></b>	58

## **PART ONE: INSTITUTIONAL SUPPORT AND COMMITMENT TO CONTINUOUS SELF-IMPROVEMENT**

### **PART ONE, SECTION 1: IDENTITY AND SELF-ASSESSMENT**

#### **I.1.1 History and Mission:**

For over eighty years, the Graduate School of Design (GSD) has both pioneered and exemplified excellence in the practice of design, education for the design professions, and design-related scholarship. As a professional school with established programs in architecture, landscape architecture, urban planning, and urban design, the GSD trained many of the twentieth century's foremost practitioners and scholars. Building on its history at the fore of the design professions and its position in a premiere academic institution with international reach, the GSD remains committed to educating its graduates to assume leadership roles in a rapidly changing twenty-first-century world.

Architectural history and design have been taught at Harvard University for more than a century, and programs at Harvard leading to the professional degree in architecture have received accreditation since the beginning of this process in 1940. In academic year 1971-72, the graduate Bachelor of Science degree in architecture was changed to the degree Master in Architecture, reflecting the general trend for graduate education to award the master's degree. Since then, the program has been organized into seven semesters of study, with a five-semester plan for students awarded advanced standing. The curriculum is centered on a series of design studios of increasing complexity, culminating in the completion of an independent master's thesis project. Courses in history and theory, visual and socioeconomic studies, science and technology, and professional practice provide students with a comprehensive, broad base of knowledge of the architectural profession.

The GSD was officially established in 1936, in recognition of the shared interests and collaborative relationship among the design professions, uniting city planning, architecture, and landscape architecture under one roof. Over the course of the next 50 years, under the leadership of deans Joseph Hudnut, Josep Lluís Sert, Maurice D. Kilbridge, and Gerald McCue, the school would double in enrollment size, expand its vision by creating programs in Urban Design and Design Studies, and move into the iconic Gund Hall. Peter Rowe and Alan Altshuler would serve as the school's fifth and sixth deans respectively, and would bring the school into the twenty-first century by expanding the school's global reach, founding the *Harvard Design Magazine*, and ensuring that emerging technologies and themes of sustainability, equity, and energy efficiency were integrated into all aspects of design education.

Mohsen Mostafavi was appointed the seventh dean of the Faculty of Design in 2008. Over the course of the past decade, Mostafavi's leadership has reinvigorated the GSD's intellectual climate and research capabilities; expanded its physical, financial, computer, and human resources; and strengthened its external relations. Among Dean Mostafavi's most important objectives has been to build the School's outreach, beginning with strengthening the School's ties to Harvard University, ending a period of perceived isolation between the GSD and its parent institution. Mostafavi has been an outspoken advocate for the role of design professionals in all aspects of public life and has launched a number of initiatives, including placing GSD faculty on university-wide advisory committees such as long-range planning for campus expansion, public space and facilities planning; overseeing the development of new cross-disciplinary concentrations within the Advanced Studies Program that bring faculty and experts to the GSD from across Harvard and other universities; and sponsoring students in their own initiatives to bring design awareness and service to underserved communities. Simultaneously, Dean Mostafavi has sought to strengthen both faculty and students' focus on design-related research; the production of new knowledge and new modes of understanding must be a critical activity within graduate design programs.

#### *Master in Architecture Program Mission Statement*

The GSD's Master in Architecture program prepares graduates for professional practice in the field of architecture by immersing them in critical discussions about the role of architecture in contemporary

society, while methodically guiding the development of skills in design, visual representation, building science and technique, and professional reasoning and judgment. The studio method of teaching remains at the core of the Master in Architecture degree program's pedagogy, with a dual emphasis on understanding conceptual principles and developing operational skills. Through structured project assignments, students develop their creative potential and sharpen their analytic and critical skills. The primary objective of the program is to assist students in developing a high level of excellence in architectural design.

The Department of Architecture is rich in diversity, creativity, and scholarship. An internationally recognized faculty, representing a broad spectrum of architectural practice and research, exposes students to many different design approaches while introducing them to issues and trends in contemporary architectural design. Central to the Department's philosophy is a commitment to design excellence that demands not only the skillful manipulation of form but also inspiration from a broad body of knowledge. Instruction and research encompass design theory, visual studies, history, technology, and professional practice. The Department benefits from the GSD's information infrastructure as a foundation for design exploration and communication, offering students new ways to access design references, model buildings, and present ideas. Intelligence, creativity, sensitivity, and a thorough knowledge of the arts and sciences are essential to achieving distinguished architecture. Architects draw upon knowledge and experience gained from the past while adapting to the changing needs of the modern world. As new ways of thinking have emerged in the profession, the demands on design grow increasingly complex and require new interpretation.

The Master in Architecture program has established the following objectives for educating architects for the challenges of the twenty-first century: 1) promoting a continuous dialogue between faculty specializing in design, technology, history, and theory, aimed at building collective knowledge; 2) exploring and revising methodologies in architectural education that integrate building program, design, structure, material, and performance; 3) informing the discursive process of design and fabrication with a thorough knowledge of material properties, of engineering possibilities, and of the long-term impacts buildings and other built artifacts may have on our environment; 4) consciously promoting appreciation for the arts, particularly contemporary arts where the languages of artists and architects may intersect; and 5) enriching and broadening our common understanding of global culture. To achieve these goals – and through them, the holistic development of future leaders in the architectural profession – the curricular offerings of the Department of Architecture are supplemented and extended by offerings of other departments and the broader University, as well as by numerous extracurricular activities, internships, fellowships, and other opportunities for student engagement. For generations, the GSD has educated committed individuals who have assumed leadership roles in shaping the built environment. Today's graduates in Architecture continue this tradition by answering the challenges posed by contemporary society.

### **I.1.2 Learning Culture**

The general mission of the GSD is to promote the development of design excellence through teaching, learning, and research. Successful pursuit of this mission is predicated on the considerate behavior and integrity of all members in the academic community. Together, Harvard University, the GSD, and the Department of Architecture have developed (and continue to develop) extensive policies regarding standards of instruction, academic integrity, personal conduct, methods of receiving and responding to student evaluations, nondiscrimination, assistance for individuals with disabilities, counseling and assistance for students experiencing difficulties of any kind, and so on. The most important of these policies affecting the creation of a positive learning culture are outlined below; additional policies may be found in the GSD Student Policies found online in the Resource Center:

<http://www.gsd.harvard.edu/resources/gsd-student-policies>.

#### *Studio Culture*

The studio method of teaching remains at the core of the Master in Architecture degree program's pedagogy, with its dual emphasis on understanding conceptual principles and developing operational skills. Studios at the GSD are typically composed of up to twelve students under the direction of a design

instructor (professor, critic), who alternates studio sessions between 1) meeting individually with each student at his or her desk to discuss a project's development, and 2) holding group reviews and discussions, frequently with the input of another faculty member, critic, or consultant such as an engineer. Through structured project assignments, students develop their creative potential and sharpen their analytic and critical skills. The primary objective of the program is to assist students in developing a high level of excellence in architectural design.

The GSD's Dean, Department Chairs, and administration have developed written procedures and policies for core and option studios that are sent to all instructors before the semester begins. The Studio Culture Policy is updated periodically, a process that involves program administration, chairs, and the Dean of Students. Our studio culture policy is included below, and developed further in the complete document included in the supplementary materials section:

#### *Studio Culture Policy*

Harvard University and the Graduate School of Design aspire to provide education and scholarship of the highest quality—to advance the frontiers of knowledge and to prepare individuals for life, work, and leadership. Achieving these aims depends on the efforts of thousands of faculty, students, and staff across the University. Some of us make our contribution by engaging directly in teaching, learning, and research, others of us, by supporting and enabling those core activities in essential ways. Whatever our individual roles, and wherever we work within Harvard, we owe it to one another to uphold certain basic values of the community:

- Conscientious pursuit of excellence in one's work
- Respect for the rights, differences, and dignity of others
- Honesty and integrity in dealing with all members of the community
- Accountability for personal behavior

Achieving the mission of the GSD requires an environment of trust and mutual respect, free expression and inquiry, and a commitment to truth, excellence, and lifelong learning. Students, program participants, faculty, staff, and alumni accept these principles when joining the Harvard Graduate School of Design community. Community members have a personal responsibility to integrate these values into every aspect of their experience at the GSD. Through our personal commitment to these values, we can create an environment in which we all can achieve our full potential.

The goal of the GSD studio teaching method is to achieve a free exchange of ideas in an atmosphere of mutual respect. At the core of all of our activities at the GSD are our collective values of excellence, respect, honesty, integrity, and accountability. The GSD has adopted a Community Values Statement, provided below, which is regularly communicated to all members of the GSD community.

The intent of our Studio Culture procedures and policies is to provide clear guidelines and instruction to faculty and students, in keeping with our belief that studio instruction thrives only when an atmosphere of mutual respect is established, allowing a free exchange of ideas among all participants. Faculty and administration have worked closely with the Student Forum in developing these school-wide guidelines, as well as in the effort to supplement studio instruction with additional learning opportunities related to studio instruction. The full document can be found at the following URL:

<http://www.gsd.harvard.edu/resources/studio-culture-policy/>

#### *Evaluating and Discussing Studio and Learning Culture*

At the end of a term students are given access to digital studio and course evaluations; the Architecture Department later collects and compiles the information. The data and comments are distributed to both the Chair and the studio or course instructors. The Chair uses the material in planning future studios, courses, and in determining future teaching assignments. The data from course evaluations is printed and made available in the departmental offices for student reference. For Academic Year 2017-18, Course Evaluation forms are being revised so to include evaluations that are specific to different kind of instructional roles (core coordinator, studio instructor, seminar instructor, etc.). To ensure full participation

in the evaluation process, students are unable to access their grades for a given semester until they have submitted course evaluations for each course they were enrolled in.

In addition to the opportunity provided to students to comment on the quality of their education via Course Evaluations, students at the GSD have other means for providing collective feedback to the faculty and administration, including, most importantly, the Student Affairs Committee. The SAC is composed of elected representatives of the Student Forum, Program Directors from each of the GSD's departments, and the Dean of Students; it holds regular meetings once a semester, with follow-up sessions as necessary. The SAC also holds program-specific meetings between the student class representatives, the Chair, program director, and program coordinator. These meetings also occur once a semester. Recent topics of discussion and study have included semester scheduling, end of term feedback mechanisms, faculty policies for hiring student workers, and the conditions on the studio trays.

All members of the GSD community are invited to participate in Town Hall meetings, which encourage an open and respectful discourse regarding critically important issues such as culture, identity, and belonging. Dean Mostafavi regularly communicates to faculty the need for greater sensitivity around these issues. Students, including Student Forum Representatives, are invited to bring concerns regarding the GSD culture, studio and otherwise, to the dean, chairs, program directors, and other members of the GSD staff and faculty.

The Student Forum, the GSD's student-elected governance body, as a whole has monthly lunch meetings with the Dean. They set the agenda and raise any administrative or academic issues that they wish. The administration takes these issues seriously and works with the Forum to implement agreed upon changes. The structure of the GSD Student Forum is flexible, and has evolved over the years to reflect the primary interests of the student body. Today, the Student Forum is headed by six elected officers who oversee the forum's primary areas of initiative: academics, events, infrastructure, alumni relations, internal and external communications, diversity and inclusion, and funding. In order to keep informed of students' primary concerns, the Student Forum officers rely on volunteer class representatives from each of the GSD's academic programs – Architecture, Landscape Architecture, Urban Design and Planning, Master in Design Studies (MDes), and Doctor of Design (DDes). The Class Representatives determine the primary issues of their classmates, and set the agendas for meetings with departmental heads. The Student Forum Officers and Class Representatives come together to form committees centered on specific school-wide issues. These committees function sometimes as support for the Officers, and sometimes as “think tanks” for solving persistent issues such as the faculty advising system, professional development, and interdisciplinary issues at the GSD. The Student Forum committees are flexible, and can be formed and disbanded by the Officers depending on current student-wide interests. Policies, procedures, and resources are evaluated regularly, annually at a minimum, to adjust to the changing needs of the GSD student community.

#### *Independent Thesis Policies*

The requirements of the M.Arch Thesis Program approved by the Department of Architecture in 2009 and updated in 2017 reaffirm the basic premise of the Thesis Requirements established in 1981: that of requiring from the students a demonstration of their ability to successfully undertake independent work as a condition for graduation. Also reaffirmed is the premise established in 1992 that the Thesis Program constitutes “research in architecture.” As with prior revisions to the requirements of the Thesis Program, the 2017 revisions are intended to maintain proximity between the potentials of thesis work and contemporary concerns of the discipline of architecture. In particular, they aim to encourage students to gain advantage from the very wide range of resources, activities, and interests of the Graduate School of Design and its Faculty, and through these, to make thoughtful contributions to the discipline. An abbreviated description of the M.Arch Thesis Program appears below (for the purpose of addressing Learning Culture).

The Thesis Director (currently: Assistant Professor Andrew Holder) oversees the general operation and coordination of the Thesis Program. The Thesis Director reviews students' progress and organizes activities supportive of thesis development. The Thesis Advisor is a member of the Faculty who

supervises the student's research work during the Thesis Program. The relationship between the student and the Thesis Advisor is established at the beginning of the Thesis Program by a *common agreement* between the parties after they have discussed the intended research topic and methods and the Faculty member has accepted to act as the student's advisor. The Department of Architecture maintains a list of the Faculty who are eligible to serve as Thesis Advisors. The Thesis Advisor is responsible for the judgment of completion and adequacy of work submitted at the time of the final Thesis Review and, in consultation with the Faculty of the Department of Architecture during the Department-wide thesis grading session, for grading the Thesis. To fulfill the requirements of the Thesis program, the student's thesis must satisfactorily meet the established standards of the Department in terms of overall worth, significance, and completeness that recommends it to the highest standards of academic critical scrutiny. The Thesis Advisor and the Faculty will evaluate the thesis Project according to relevance, competency, persuasiveness, and other criteria agreed by the Faculty. Additional guidelines are found here: <http://www.gsd.harvard.edu/wp-content/uploads/2016/06/ThesisProgramRequirements.pdf>

#### *Policies on Student Conduct*

Student membership in the GSD community is a privilege conditional upon ethical conduct in all matters, both academic and nonacademic. In addition, all students share in the GSD's responsibility to maintain an environment conducive to intellectual freedom and the pursuit of knowledge. Students are bound by those policies of Harvard University and the GSD that govern student conduct. Access to and familiarity with the policies that govern student conduct are a right and responsibility of every student. An index of student policies can be found here: <http://www.gsd.harvard.edu/resources/gsd-student-policies/>

The GSD seeks to maintain a learning and working environment characterized by academic integrity and fair access to educational resources. The GSD expects all students to honor these principles. Actions that violate these principles include the following, and may be the basis for disciplinary action: cheating, fraudulent presentation of the work of others as one's own work (plagiarism); simultaneous or repeated submission without permission of substantially the same work; and alteration or misrepresentation of academic records. Cases of academic misconduct adhere to the procedures outlined in the academic conduct policies <http://www.gsd.harvard.edu/resources/academic-conduct>.

A free environment for academic pursuits requires reasonable conduct, both in academic and nonacademic affairs, by all members of the school. The faculty may impose discipline or penalties on individuals for acts that disrupt or endanger the university community's pursuit of teaching, learning, and research in an atmosphere of free inquiry and personal and psychological security. Specific examples, as well as procedures for disciplinary hearings and sanctions, are described online in the *Policy on Personal Conduct* resource: <http://www.gsd.harvard.edu/resources/personal-conduct>

For information regarding personal safety, crime statistics, and prevention programs and services at Harvard, please refer to the *Playing it Safe* document found at the following health and safety resource: [https://www.hupd.harvard.edu/files/hupd/files/hupd\\_16\\_asr\\_102616.pdf](https://www.hupd.harvard.edu/files/hupd/files/hupd_16_asr_102616.pdf).

#### *Sexual Harassment*

The GSD seeks to maintain a learning and working environment free from sexual harassment. Sexual harassment seriously undermines the atmosphere essential to the academic enterprise. Since the last accreditation visit, the GSD has made several changes to its sexual harassment policies. In September 2014, all Harvard schools adopted a set of university-wide policies in regards to Title IX issues, including sexual harassment. This initiative demonstrated a unified reaffirmation of Harvard's commitment to gender equity and safe learning environments. Definitions of sexual harassment and resources with which to address it are found in the official policy: [http://titleix.harvard.edu/files/title-ix/files/harvard\\_sexual\\_harassment\\_policy.pdf?m=1461104544](http://titleix.harvard.edu/files/title-ix/files/harvard_sexual_harassment_policy.pdf?m=1461104544)

At the GSD we reiterate these policies in the online student resources page as well as in the Faculty Handbook. In addition to protecting our students via the university-wide sexual harassment policies, the GSD has also adopted school-specific policies explicitly prohibiting consensual relationships between students and faculty and staff. These policies can be found in the faculty handbook. Allegations of sexual

harassment will be treated seriously. The GSD is committed to working to resolve complaints of sexual harassment in a fair and expedient manner. Any GSD student who believes that he or she is subject to, or who is aware of, sexual harassment is encouraged to discuss the situation as soon as the possible violation, or the most recent incident in a pattern of action, occurs by contacting the Dean of Students.

#### *Students with Disabilities*

Students who have physical, learning, or psychological disabilities are encouraged to contact the Dean of Students and Disability Coordinator. Students are encouraged to contact the Dean as early as possible to allow for any preparation that must take place before the semester begins. The academic departments and faculty have adapted their teaching practices to accommodate students with disabilities and the professionals who work with them.

#### **I.1.3 Social Equity:**

Over the course of Dean Mostafavi's tenure, diversity has increased across student, faculty, and staff populations due to a series of initiatives. In 2012, Dean Mostafavi established the GSD's Dean's Diversity Initiative (DDI) in order to identify specific ways to foster diversity and inclusion. Among other work, the DDI offers policy-based recommendations for the dean, hosts an annual open discussion at Alumni Weekend, and convenes the Dean's Diversity Summit, inviting outside experts to work with the DDI to shape its approach. The DDI itself is a diverse committee comprising faculty, staff, and students in roughly equal proportion.

One of the DDI's most pressing concerns is the active recruitment of populations that are critically underrepresented in the fields of architecture. As a result of focused efforts, the number of African-American students at the GSD has more than tripled since 2009, and the number of Native American students has more than doubled in the same time frame. The percentage of Hispanic students enrolled in the GSD is steadily growing, approaching the proportion of the United States population that identifies as Hispanic. Policy initiatives beyond the DDI have supplemented this success. The School continuously refines its financial aid model. Grant aid has grown from \$5.4M in FY2007 to \$14M in FY2016 and has been instrumental in attracting both a higher number and greater diversity of students; the 2016 admissions season saw a record number of applicants, with an overall yield of 75%. Students from low-income and first-generation-higher-education backgrounds increasingly join the GSD, and considering their needs remains an important part of creating an inclusive environment—especially given the high costs of practicing and studying design, and living in Cambridge.

The GSD is also focused on diversifying and supporting its staff. In 2016, 16.5% of the GSD staff members were minorities, compared to 12% in 2010. A Co-director of Human Resources is a member of the Dean's Diversity Initiative.

Throughout its academic and public programming, the GSD has made a mission of examining how the design disciplines can promote inclusion and equality. Core and advanced studios, the main pedagogical method of the School, have increasingly offered the chance to dive deeply into these with recent studios on: housing policies in Ferguson, Missouri; architecture and identity in Muslim nations; designing peace-making/-building spaces and architectures in conflict-prone regions around the world; and prosperity and diversity in gentrifying neighborhoods (with Central Square, Cambridge as the studio's focus). Topics of inclusion and social equity have also occupied growing bandwidth in the School's public programming. In fall 2015, the African-American Student Union (AASU) organized a first-ever Black in Design Conference featuring presentations from high-profile African-American designers and planners across diverse disciplines; a second Black in Design Conference is planned for October 2017. (Founded in 2012, the AASU is one of many student groups that seek to unite students with a shared cultural identity; a full list of the GSD's student groups is found at the following URL: <http://www.gsd.harvard.edu/resources/gsd-student-group-directory>).

Across the School's channels, Dean Mostafavi has encouraged bottom-up communication and an idea-sharing philosophy, best exemplified by the Town Hall meetings and Student Forum conversations that he hosts. Many students feel empowered to express themselves openly as a result, both within these

gatherings and beyond. The student-led “Open Letters” series, a biweekly publication of candid student thoughts often addressed to a particular group or professor, is one manifestation of this. The school has also welcomed the forms of other creative forms of expression and to encouraged students to take advantage of Gund Hall’s unique physical space. Many socially minded student curated exhibitions have graced the walls of the common spaces in recent years, including exhibits about police brutality or the recent rise of xenophobic acts in the American public sphere.

Ultimately, inclusion and belonging are communicated via the representation that students and others see in School faculty and leadership, so a diverse faculty is foundational to creating an inclusive learning environment. Twenty years ago, we had no tenured women, and few minorities, on faculty. Our ladder faculty is now 30% women and 16% minority, and a large percent are international. Two African-American faculty members were hired in the Department of Urban Planning and Design within the past year. In addition to diversifying our faculty corps in recent years, the GSD has made strong efforts to diversify the approximately 150 practitioners who are invited each term serve on expert panels it convenes for design reviews each semester; underrepresented minority faculty jurors are in high demand across design schools. The DDI provides supplemental funding to design studios targeted at increasing the number of African-American, Hispanic, Native American, and female jurors represented at final reviews. This has been one of the most focused-on issues for the Dean’s Diversity Initiative, a matter of constant communication with faculty, and one on which the DDI keeps detailed data. GSD students appreciate and request diverse juries made up of successful professionals, among whose members they can feel a sense of shared identity.

The GSD continues to work toward community-wide implementation and embrace of shared community values in terms of cultural nuances and sensitivities. The GSD is fortunate to be quite international in its student and faculty bodies. Barriers to clear communication may be language- and/or behavior-based, including cultural subtleties that unintentionally suggest a less-welcoming environment or create “mixed signals.” Issues of diversity, inclusion, and mutual respect have been explicitly added to the new student orientation beginning in fall 2017; these topics are regularly addressed in open discussions between the dean and students. Faculty meeting agendas often include updates from DDI and other related topics; addressing issues of cultural diversity, unconscious bias, and questions of gender and sexual identity in the classroom represents a continuous challenge. Responsibility and authority on strategic work in diversity and inclusion are generally in alignment, with senior faculty and leadership assuming more positions on associated committees and working groups.

#### *Nondiscrimination Policy*

In accordance with Harvard University policy, the Graduate School of Design does not discriminate against any person on the basis of race, color, gender, sexual orientation, religion, age, national or ethnic origin, political beliefs, veteran status, or handicap, in admission to, access to, or employment in its programs and activities. Every effort will be made to ensure fairness and consistency in the school’s relations with its students, faculty and staff. A student of the GSD community who believes that any form of prohibited discrimination has occurred should bring this matter forward for review. These processes and policies are described in more detail in the Review Process section of the *Policy on Personal Conduct* student resource (<http://www.gsd.harvard.edu/resources/personal-conduct/>).

### **I.1.4 Defining Perspectives:**

#### *A. Collaboration and Leadership*

There seems to be no better way to prepare today’s architecture students to thrive in a globalizing world than to impress on them respect for such individuals and their diverse points of view as they work together, collaboratively and in parallel, with other students whose prior education and life experiences have shaped different intellectual and moral frameworks for viewing the world. The Graduate School of Design is fortunate to count among each class entering its Master in Architecture Degree Program some of the most accomplished, creative, and independent-thinking students to be found in graduate programs anywhere today. Drawing from a pool of applicants from across the US and internationally, the Department of Architecture asks its faculty, individually and collectively, to devote hundreds of hours each winter to reviewing admissions files and portfolios submitted by students from a wide range of academic,

ethnic, and geographic backgrounds, in order to achieve in each matriculating class a diverse and unique group of individuals. At the same time, within this environment of exchange and debate, it is even more important that faculty be careful to nurture and strengthen individual voices among all the students. A key feature of our pedagogy is maintaining a high teacher-to-student ratio in the design studio – typically between one studio instructor is responsible for 10-11 students (and never more than 13) – so that students can count on frequent one-on-one meetings with their instructors each week (typically three times a week during the program’s first year, afterwards twice a week) to discuss the progress of design projects as well as the overall advancement of their design skills.

Leadership skills are an essential component of design education, and the M.Arch program emphasizes this across its curriculum in various ways. Having design projects evaluated and discussed in a public jury setting train students to develop and refine both their graphic presentation and their public speaking skills, with high value placed on conceptual clarity in argumentation, responsiveness to criticism, composure and self-awareness. In the classroom, many instructors employ the case study method and role-playing to induce students to think both analytically and intuitively about technical and professional dilemmas they may face in practice. Outside the classroom, GSD architecture students are encouraged to establish and/or become active in extracurricular design initiatives, entrepreneurial ventures, and social action groups that may help them define and test out future professional interests. The School sponsors and in many cases gives financial support to a wide range of student organizations (a full listing of student organizations is found at the following URL: <http://www.gsd.harvard.edu/resources/gsd-student-group-directory>)

### *B. Design*

The Graduate School of Design is committed to maintaining and enhancing its reputation for leadership in the field of architectural design education, depending not only on producing graduates who will go on to lead successful careers within the architectural profession, but also on establishing relationships with broader academic communities that enhance understanding of modes of intellectual inquiry unique to design pedagogy, and by extension, lead to enhanced respect for the role that architects play in society. The Master in Architecture degree program is well positioned to make unique and significant contributions to Harvard University and to the broader academic community. Such contributions to the academic community by members of the M.Arch program’s faculty and students may take many forms – comprising for example scholarship, pedagogy, and community engagement and service – and may have a variety of impacts over the long and short term. Publications represent a very clear measure of scholarly contribution by our faculty. Books, peer-reviewed journal essays, and publication of design work and criticism in professional journals have established national and international reputations for many of our tenured and non-tenured faculty.

Interdisciplinary collaboration is key to the architecture program’s engagement with a broader academic community, and the GSD provides an excellent setting for such collaborations – beginning with interdepartmental initiatives in both curricular and extracurricular settings. For example, several options studios each semester are co-sponsored by the Department of Architecture and the Departments of Urban Planning and Design and Landscape Architecture, drawing students from different programs together to work on design challenges in collaborative teams. In the fall semester 2017, one studio is currently co-sponsored with UPD (GSD-1601, Greg Lynn); in spring 2017, one was co-sponsored with UPD (GSD-1603, Moshe Safdie) and one with Landscape Architecture (GSD-1602, Videcnik-Rubin). In addition, a handful of non-studio elective courses each term are interdepartmental. Interdisciplinary research, involving academic collaborators both within and outside of the GSD, takes several forms at the GSD and encompasses the efforts of both senior and junior architecture faculty, doctoral students, and advanced Master’s degree candidates. Harvard University encourages innovative approaches to pedagogy among faculty members in each of its graduate and professional schools and in the Faculty of Arts and Sciences, and the GSD has taken an active role across the University in promoting design studio pedagogy as a model for teaching students synthetic problem solving skills. Members of the Architecture Department are regular participants (and speakers) in a university-wide program called “Talking about Teaching”, in which faculty from different schools and disciplines experience one another’s teaching methods in rotating seminars held in different classroom environments.

### *C. Professional Opportunity*

Awareness of the world of professional practice outside academia – where design ideas are tested and debated by means of real planning proposals and real projects, affecting the lives of diverse populations – is essential for the mature development of a budding architect. Students enrolled in the Master in Architecture program have numerous and prolonged opportunities during their time at the GSD to interact with practicing architects (including many faculty members) as well as with city planners, landscape architects, engineers and other design consultants, artists, construction managers, photographers, filmmakers, writers, journalists, and many others whose work relates to and enhances the practice of architecture. Each semester the Graduate School of Design hosts a rich array of lectures, conferences, symposia, executive education courses, alumni gatherings, and other events that bring to the GSD – and hence, into students' awareness – leaders and innovators working in diverse arenas of the design professions. Exposure to visiting faculty – many of them running high-profile practices in the US and/or abroad – brings renewed excitement to our program, introducing fresh ways of thinking about professional practice in different domestic and international contexts. The Loeb Fellowship Program brings nine mid-career design professionals to the GSD each year, and many Fellows choose to associate themselves with studios, research labs, or other curricular and extracurricular initiatives where they can have contact with faculty and advise students on their professional paths.

The Department of Architecture maintains strong ties not only to internationally renowned architects and practices around the globe, but also to a close-knit community of local practitioners – many of them GSD graduates – by means of hosting alumni events and executive education courses, and by playing an active role in the Boston Society of Architects (the BSA is New England's largest AIA chapter), including holding a seat on the BSA Board of Directors. Students in the M.Arch program must complete one required course in professional practice as well as one additional professional practice distributional elective – meaning they may choose among many elective options, as approved by the Program Director (see [Appendix 16](#) for a list of approved Professional Practice electives in current and past academic years). The required course, GSD-7212 “Foundations of Practice” (formerly “Issues in Architectural Practice and Ethics”), relies on the case study method, developed at the Harvard Business School and now employed at many other professional schools, and role-playing to expose students to a full range of ethical and professional dilemmas they may later face in practice.

While much of the GSD's pedagogical emphasis lies in the encouragement of design research, innovation, and speculative work, the Department of Architecture is equally committed to ensuring that students graduating from its professional degree program in architecture are well equipped for the (potentially more pragmatic) next phase of their design careers, including internship in architectural firms, studying for professional registration exams, and licensure within the context of international, national, and state regulatory environments. Helping students understand the kinds of opportunities and responsibilities they will encounter in the years after graduation, and how they can use these experiences to shape rewarding future careers, is an underlying concern of every faculty member, administrator, and staff member associated with the M.Arch Degree Program. More specifically, however, the GSD's Office of Student Services has several staff dedicated to Career Services. Career Services hosts numerous professionally oriented events – most notably two Career Fairs – over the course of each academic year. Our program's attention to preparing the next generation of practitioners for licensure is substantiated by Architectural Registration Exam pass rates that have consistently ranked among the very highest in the nation for NAAB-accredited programs (a link to current ARE pass rates is found in section II.4.5 ARE Pass Rates). Additional information about the GSD's Office of Career Services is found in Section I.2.1 “Human Resources and Human Resource Development” under the subheading “Career Services”.

### *D. Stewardship of the Environment*

Among the most pressing challenges before the architectural profession today are those associated with environmental and social sustainability. Our profession's collective understanding of sustainability issues has matured greatly in the past decade, yet many challenges lie ahead for both practitioners (who tend to focus necessarily on regulatory and economic aspects of sustainability) and students (who tend to focus more on abstract and speculative aspects). The primary focus of sustainability pedagogy within the

GSD's M.Arch core curriculum has been based on scientific analysis of building performance, as permitted by new designer-friendly software applications that are actively under development here (e.g., DIVA, 2012) and at other research universities. In 2008, a generous grant made by Paul and Joan Zofnass created a new research center at the GSD, the Zofnass Program for Sustainable Infrastructure, headed by Architecture Faculty members Professor Spiro Pollalis and Andreas Georgoulas (further information on the Zofnass Program is found in Section I.2.1 Human Resources and Human Resource Development under the heading "Research Centers and Initiatives"). The Department continues to recruit and hire faculty with expertise in other areas of sustainability; Associate Professor Kiel Moe, author of several books on contemporary building technique; Assistant Professor Holly Samuelson, expert in advanced computational energy simulations; and Professor Ali Malkawi, Director of the Center for Green Buildings and Cities, are the most recent of such hires. With faculty teaching both core technology courses (GSD-6121, 6122), introductory design studios (Moe, GSD-1101), and advanced options studios (Malkawi: GSD-1319 "Zero Energy Residential High-Rise", in collaboration with Gordon Gill, spring 2017; Moe: GSD-1321 "Forms of Energy: Appearance", spring 2017), our program seeks full integration of sustainability principles into the design pedagogy. Our expectation is that our graduates will, unlike previous generations, be unable to separate sustainability consciousness from design methodology when they enter practice.

Outside of the studio, students are exposed to the role architects play in addressing the world's very pressing challenges of environmental sustainability in a wide array of required and elective courses. Students can pursue more specialized topics related to understanding how design impacts the public by taking advanced architectural electives in sustainability, construction technology, history and theory; courses in ecology offered by the Department of Landscape Architecture; and urban theory offerings of the Department of Urban Planning and Design. That the GSD provides architecture students with diverse and abundant opportunities to engage faculty and students from related design disciplines should be considered among the unique strengths of our program.

#### *E. Community and Social Responsibility*

Since its founding, the Graduate School of Design has been a crossroads of learning and intellectual debate. Today, the school is committed to building on that legacy of cultural diversity, firm in the conviction that a multiplicity of voices and viewpoints among students, staff, and faculty is essential to our mission of advancing the fields of architecture, landscape architecture, and urban planning and design. Graduates of the GSD's Master in Architecture degree program will only become leaders in the profession if their education has developed in them sufficient mental agility, inquisitiveness, and flexibility to respond to the needs not only of private clients but also of the broader public affected by and benefiting from their design solutions. With the exception of a few introductory studio exercises aimed at more abstract, spatial problem-solving, design pedagogy in the M.Arch program is shifting away from a notion of architectural solutions resulting directly from fixed program briefs, towards a more open dialogue between architectural space and programmatic needs of a given institution, community, and/or context; in other words, we no longer believe that reductive formulations such as "form follows function" are sufficient to produce an architecture that is responsive to the diverse needs of a rapidly changing world. In each successive semester of the core studio sequence, students are given increasing flexibility to design programs to be housed in their architecture: in the fourth-semester core studio, for example, students work collaboratively on urban master plans where, in response to a multi-layered analysis of social and economic forces, they engage in urban programming (determining appropriate uses and densities within a given district, as well as adjustments to transit planning and development phasing). In third-year options level, students may elect to enroll in studios that serve the public good in more direct ways – for example, designing for New York's health care and public housing (Van Berkel, fall 2016); working with local communities in South Africa to design water infrastructure (Kunlé Adeyemi, spring 2017); and developing programs and architecture to promote community among depopulating areas of rural Japan (Toyo Ito, fall 2015-16). Architecture students may also elect to enroll in options studios offered by the Department of Urban Planning and Design, which analyze and propose solutions for real urban (re)development projects in America and around the globe – nearly all of them sponsored by local governmental bodies, NGOs, or (in a few cases) enlightened developers. But the architect's engagement with the public is not merely a topic of academic interest, to be discussed hypothetically in the relative safety of the classroom. The GSD

actively encourages students to get out into communities – local and global – to understand more directly the needs of communities underserved by architectural or urban design and, where practical, to provide design services. Numerous student-led social action organizations are recognized and their activities funded by the GSD – among these SoCA (Social Change and Activism), AASU (African American Student Union), and Women in Design. A full listing of GSD Student Organizations is found at the following URL: <http://www.gsd.harvard.edu/resources/gsd-student-group-directory/>. The GSD also awards several Community Service Fellowships each year to students interested in working with community groups and nonprofits on deserving design and design education projects. The GSD is also interested in cultivating young and diverse pool of design talent for future generations. Project Link is an intensive four-week Architecture and Design studio created, planned, and initiated in 2008 by GSD students in the fields of Architecture, Landscape Architecture, and Urban Planning. It is a student-run and university-funded opportunity to reach out to Boston communities to introduce opportunities within the design field for underprivileged and talented high school students. The summer program teaches students architectural drafting, model-making, and representation techniques, and instills in them fundamental design principles that encourage them to think critically about their surroundings. Its goal is to immerse students in the world of design and put them on track for exploring these ideas at a collegiate level.

### **I.1.5 Long-Range Planning**

Beginning in 2010, Dean Mostafavi, in conjunction with the executive committee and senior faculty council, implemented a five-year plan. The goals of that plan included an enrollment increase in several degree programs (though not for the Master in Architecture degree program) in order to expand the capacity and impact of the respective disciplines, both within Harvard and beyond. The enrollment goals have been met, and a corresponding increase in faculty and staff to accommodate the larger student population has also been successful. The faculty search process is ongoing, and the faculty FTEs across the school now include senior faculty appointments. The faculty search process is ongoing, with a current goal of continuing to convert a limited number of visiting faculty FTEs to senior and ladder faculty.

Another ongoing and regularly articulated goal has been to expand the research program of the school. Annual grants to senior and ladder faculty have been increased, while sponsored research funds have grown exponentially. Increased collaboration within the broader University has also been intentional, resulting in the new Masters in Design Engineering degree program with the School of Engineering and Applied Science (SEAS), a collaborative (as opposed to a joint) degree, unique within Harvard. Other goals to increase the GSD's reach have included initiatives and collaborations with outside organizations, such as the Ecological Urbanism Collaboration with Peking University, and the Wimbledon Fellowship program in London, which have increased the global scope and visibility of the school.

As the University enters the last stage of its current capital campaign, the GSD, although it has achieved its overall campaign goal, is still working to attain its goals for financial aid, faculty support and additional space for innovative design and research (see Space Planning below).

#### *Enrollments*

The Graduate School of Design, as an entity within the University, is relatively small in terms of students, faculty, and staff (in Full-Time Equivalent, or FTE, figures). Despite this, substantial enrollment growth and a significant expansion of research endeavors have heightened the school's presence across campus and increased interdisciplinary opportunities. Increased enrollment in Landscape Architecture (MLA) and Urban Planning (MUP) - along with expanded and redesigned studio space to accommodate the growth - benefits the Architecture program by the presence of new discussions reaching critical mass. Although the GSD is one of the smaller schools within Harvard University, it offers one of the highest number of separate degree programs (10). This breadth of populations and the new enrollment balance within the school ensure both that the School is educating the appropriate number of future leaders in each of its disciplines, and that those leaders understand diverse disciplinary perspectives. The M.Arch I program has historically had the largest enrollment among GSD programs, and its current enrollment targets – 60 students entering the program in the first year, with an 12

additional students added with Advanced Placement in the second year – are not expected to increase in the near future.

Under Dean Mostafavi, the MDes program has successfully launched several new concentrations including Art, Design, and the Public Domain, Critical Conservation, and Risk and Resilience. A collaborative degree with the Harvard School of Engineering and Applied Sciences, the MDE (Master in Design Engineering) program blends studio and research with a cohort of young professionals looking at systems and strategies on a societal scale. Increasing enrollments of non-studio based programs like these will help the school increase its overall enrollment without putting undue strain on desk space within the studio space of Gund Hall. With plans in place to expand space for research and research-based programs, the GSD has managed strategic growth in enrollment, and related growth in faculty and staff, to continue to provide an exemplary experience at a new scale.

#### *Financial Aid*

Financial aid continues to be a deciding factor for attracting the best students. We achieved an admissions yield rate of around 75% over the past six years due to an increase of our financial aid expenditures over the past six years as a result of an increased number of grants, higher enrollments, and continuing to make grants available to our growing international student population. In addition, we have increased the number of merit awards, resulting in better yield for top admitted students. Our long-range planning assumes we will maintain 42% of our tuition income earmarked for financial aid.

#### *Faculty Planning*

Faculty FTEs have steadily grown in recent years as a result of our efforts to create a stronger presence of full-time faculty who can provide the leadership necessary for achieving our goals. Proposed changes to our faculty appointments policies regarding ladder faculty are expected to be implemented within the next academic year and will result in an increased number of full-time tenured faculty. Some of the part-time tenured faculty positions will be converted into non-tenured senior practice positions as faculty members retire. The increase in overall faculty numbers is also due to reliance on visiting faculty, who fulfill their traditional role of linking design pedagogy to practice, and who also provide us with an opportunity to gain or experiment with emerging domains of knowledge in our various fields of study. In order to provide continuity, over the past several years we have converted more of these visiting faculty positions into multiyear junior and senior positions. Increases in faculty hiring in recent years, together with projected enrollment increases, has produced a student-to-faculty ratio of roughly 9:1. It should be noted that design studio education is intensive, with 12-13 students per studio section normally the maximum, and 9-10 students ideal for core studios in M.Arch, MLA, and MUP programs.

The Department of Architecture has advertised and is currently evaluating candidates for the following open faculty positions:

- Tenured/Senior Professor in Architectural Design
- Professor in Practice
- Assistant or Associate Professor of Architectural Design

A full listing of Open Faculty Positions at the GSD may be seen online at the URL:

<http://www.gsd.harvard.edu/faculty-planning/open-faculty-positions/>

#### *Staffing*

GSD staffing levels have increased at a steady rate over last several years. Since 2012 the staff population has grown by 19%. The majority of this increase is focused in the areas of research support and Development and Alumni Relations. Our Development and Alumni relations group nearly doubled as the School and University planned and implemented for a record breaking capital campaign. Looking forward, providing adequate staff to support faculty research initiatives will continue to be a high priority, so that the GSD can continue to attract and administer research sponsorship.

#### *Space Planning*

Since NAAB's last visit, there have been a few changes to the GSD's physical resources. As a result of ongoing discussions regarding the future of library programming, the Computer Resources group was moved from the upper levels of Gund Hall and into the library's lower level. The two were connected via an "info-commons" space that created a connection via elevator to the lower level of the library. PHD students are now located on the same level, within the library footprint. The relocation of Computer Resources allowed for the creation of an additional studio space, an innovation grant teaching space and currently under construction a space for year two of the new joint program with SEAS, Masters in Design Engineering. Another exciting development was when, in fall of 2016, the school took over the management of the Philip Johnson Thesis House at 9 Ash Street after significant restoration. There are several plans for future expansion. Some – like the campaign to raise funds for a 20-30,000 sq. ft. extension to Gund hall – are still in the conceptual stage, while others are in various stages of completion. The new Center for Green Buildings and Cities occupied 20 Sumner Road in 2014. Currently the building is being renovated into the first net zero property of the university with expected occupancy in January 2018. Finally, in an effort to create more studio, office, and classroom space anticipate moving into the second floor of the Sackler, a James Stirling-designed building across the street from Gund, which will also hold a gallery for the MDes Art Design and the Public Domain Program.

#### *Student Information System and Website*

A number of information and communications systems improvements have been completed over the 2015/16 academic year, and an effort has been made to migrate GSD's digital systems onto university-wide platforms. Major changes include: moving all course websites to the CANVAS system, which provides faculty with more robust and flexible tools for course management; migrating from our previous student information system and joining the campus-wide, oracle-based, Campus Solutions system which provides students with more user friendly information and registration services, as well as providing faculty and staff with a new set of tools with which to communicate with students. Simultaneously, the GSD's completely revamped website was launched in September 2016.

#### *Executive Education*

GSD Executive Education has transformed itself, built a global practice, and extended the School's reach and impact through new programs designed and delivered in and for Mexico, Colombia, Saudi Arabia, Dubai, and Nigeria. Executive Education has also expanded its themes to include cities, new directions in real estate development and finance, leading organizations for the built environment, lean construction, innovations in energy modeling and architecture, and sustainable tourism. GSD Executive Education had a banner year in FY16 and is poised to continue its substantial growth trajectory into FY17 and beyond.

#### *Curricular Planning*

Long-term curricular planning for the Master in Architecture Degree Program have primarily evolved within the context of the Department of Architecture, led by the Chair, Senior Faculty, the Program Director, and individual faculty members responsible for specialized topic areas (history, theory, environment, technology, etc.). More details on the processes used to inform and develop programmatic objectives and plans can be found in the next section, I.1.6. Assessment.

### **I.1.6. Assessment**

#### *Assessment by the University*

The complementary efforts of the President and Fellows of Harvard College (also known as the [Corporation](#)) and the [Board of Overseers](#), help to shape the University's agenda, inquiring into the quality and progress of its activities, and assuring that Harvard remains true to its mission. Its principal duties are "visitation," meant to inform the Overseers about the state of the University, and providing "counsel" to the President and Fellows. Harvard's visitation process aims to provide informed, objective, and candid assessments of the University's various schools, as well as constructive advice on their future direction and development, and at the same time offers an opportunity for them to evaluate their priorities and goals. Responsibility for supervising the visitation process is assigned to the Board of Overseers. There is a Visiting Committee for each of the professional schools, and most such committees include one or more Overseers among their members.

The Visiting Committee to the Graduate School of Design meets biennially at Harvard, and produces a report that is submitted to the Overseers, the President and Fellows, the Provost and the Dean of the Harvard Graduate School of Design. The committee's visit generally includes discussion and review of the school's long-term goals and objectives; the current status of programs, faculty, students, and resources for support; in-depth focus groups on issues or programs of current concern; visits to studios; meetings with the chairs and faculty of each department; a luncheon with members of the Student Forum; and a wrap-up meeting with the dean and chairmen. In addition to evaluating and making recommendations specific to the School's programs of education and scholarship, the visiting committee helps identify opportunities for more fruitful collaboration among different parts of the University, assure that the school is planning sensibly and strategically for the future, consider how the school is engaging with and helping to shape salient new developments in its field, and evaluate how the work of the school fits within the larger context of the University's priorities and plans.

The dean and senior administrators of each of the schools at Harvard have an annual discussion on a range of topics including the direction of the school, the hiring of faculty, space needs, the financial condition of the school, the research centers, jointly offered programs, and the status of our capital campaign. The school also submits an annual report to the Office of the President, which summarizes the progress, challenges, and goals of the School's various initiatives. This is in addition to regular meetings between the dean, the provost, and/or the president to discuss the planning and progress of initiatives at the School and University.

#### *Program Self-Assessment*

The GSD's Department of Architecture remains among the strongest programs of architectural studies in the United States. Nevertheless, the School is aware that it must remain alert and flexible as it continues to confront both unforeseeable challenges as well as problems endemic to the academy and the discipline at large. Therefore, the Dean of the School annually presents a strategic plan outlining broad achievements, goals and shortcomings, while the Department of Architecture regularly undertakes critical reassessments of its pedagogical mission and ongoing reforms.

Review of the Master in Architecture program and mission statement takes place each academic year. While the principal pedagogic objectives do not radically change, adjustments in course material, modification of design exercises, and introduction of new courses are a frequent and necessary part of the educational process. In recent years, for example, self-assessment has resulted in a restructuring and resequencing of required M.Arch I core technology courses. Program self-assessment is a regular topic of discussion in Senior Faculty meetings, which occur once a month. Department Chairs and other tenured faculty confront difficult issues, including how the various programs are shaped and should evolve to remain current with the profession and with contemporary architectural research. Topics such as curriculum reform, individual course evaluation, faculty needs, junior faculty development and promotion, junior and senior faculty searches, and so on fall under the purview of these meetings.

#### *Curricular Assessment and Development*

The curriculum of the Master in Architecture program is rigorous and comprehensive, intended to prepare graduates for the full range of professional activities they will encounter in the field of Architecture. Particular emphasis is given to developing mastery of design through an intensive series of design studio courses. The Department Chair oversees instruction and faculty development, while the Program Director is responsible for the academic administration of the degree program. Together, the Chair, Program Director, and Faculty of the Architecture Department monitor the effectiveness of the program and, if necessary, recommend policy and degree requirement changes as needed. In recent years, the requirements of the thesis program were altered through a series of ongoing discussions at Department Faculty meetings, and meetings with the Thesis Director.

Several faculty committees for review of curriculum have been established on an ad hoc basis. They have reported to and worked with the chair of the architecture department, and they have consulted with others, including students, as applicable. The entire faculty reviews and approves all curricular changes proposed by the departments. On the school-wide level, academic departments and various faculty

committees advise the general faculty on matters relating to the academic life of the Graduate School of Design. Additionally, there are six curriculum platforms, and each platform committee is led by a tenured Professor with expertise in the area: History and Theory (Antoine Picon), Media (Silvia Benedito), Professional Practice (Grace La), Computational Design (Andrew Witt), Energy (Ali Malkawi), Structures and Constructional Systems (Martin Bechthold). The committees meet on an ad-hoc basis to discuss course offerings in each of the platforms. These platforms provide a venue for cross-departmental discussion. A chart of members of the curricular assessment process can be found in [Appendix 20](#) (Part Four: Supplemental Materials).

Within the Department, the coordinators of the four semesters of core design studios meet annually to develop the studio curriculum as a whole. Additionally, leaders of each specialized area of knowledge (including history, technology, and professional practice) meet with the Chair on an ongoing basis. A comprehensive review of each area is conducted every three years, with minor revisions discussed and implemented each year between. Formal grading sessions, which take place at the end of each semester for core studios and for thesis projects, are a critical venue for curricular self-assessment within the Architecture Department. At these sessions, architectural design faculty members gather to discuss the direction of the M.Arch curriculum, the effectiveness of various teaching methods, and standards for grading and evaluation of student progress.

In addition, all students are asked to complete an evaluation of each of their courses, both lecture and studio, at the end of every term. A detailed discussion of course evaluations as an element of the GSD's learning culture is included elsewhere in this report, under Section I.1.2 "Learning Culture"; and a sample of the new online course evaluations are provided in [Appendix 17](#) (Part Four: Supplemental Materials).

Meetings of the Student Forum (the GSD's student-elected governance body) and Student Affairs Committee (SAC) are venues for curriculum review and feedback by students (see Section I.1.5 Administrative Structure and Governance). The Student Forum's Academic Affairs subcommittee is responsible for keeping touch with students about concerns related to curriculum, course scheduling, and other academic matters; this group comprises the student membership of the Student Affairs Committee, which also includes the faculty Program Directors from each of the school's programs, the Assistant Dean for Academic Services, the Dean of Students, and the Executive Dean. Meeting agendas are established by the students, focusing on the issues they feel are most pressing. Outside of the SAC meetings, the Department Chair and Program Director meet with the Student Forum representatives on a formal basis a few times each year to discuss academic issues of interest or concern. The Chair and Program Director then discuss these issues and concerns with the Dean of Students, staff of the Student Services Office, and/or at monthly faculty meetings.

## I.1.7. Progress since the Previous Visit

### I.1.7.1 Conditions Not Met

#### II.4.1 Statement on NAAB-Accredited Degrees

*Visiting Team Report [2012]:* In order to promote an understanding of the accredited professional degree by prospective students, parents, and the public, all schools offering an accredited degree program or any candidacy program must include in catalogs and promotional media the exact language found in the 2009 NAAB Conditions for Accreditation, Appendix 5.

*GSD Program Activities in Response [2012-2018]:* This (II.4.1) unmet condition related to the outdated language of the Statement on NAAB-Accredited Degrees published in our 2011-12 Guide to Gund; this error was corrected in all print and digital media instances of the Statement published by the GSD. Since then the school has moved away from printed materials, but the updated 2014 Conditions statement can be found on the program web page in accordance with condition II.4.1.

#### II.1.1 Student Performance Criteria: B.2 Accessibility

*Visiting Team Report [2012]:* Architectural Design (GSD-1201) is listed as the source for fulfilling this SPC. There is evidence of one lecture that addresses accessibility in this course but a review of student graphic work does not convey their ability to apply the principles of accessibility in their project work. Main entries fail to provide ADA required avenues of ingress/egress, maneuvering space is insufficient to accommodate physical disabilities, door swings inhibit egress flow, accessible toilets are not indicated, and no references could be found for addressing sensory and cognitive disabilities.

##### *Integration of Accessibility:*

As noted in the 2012 VTR, prior to 2012, principles of accessibility had been introduced to students primarily in lectures given by studio instructors and guests during the Comprehensive Design semester. Once familiarizing students with these principles, individual studio instructors would be responsible for helping students implement certain rules (about ramp slopes, guardrails, door swings, emergency stair enclosures and exits, accessible toilets, etc.) into their projects. Judging from student work in fall 2010 and 2011, however, the focus provided by a single lecture on accessibility did not sufficiently instill in students the kind of lasting awareness about these issues that we would like to see. Over the summer of 2012, former program director Mark Mulligan worked with a group of advanced architecture students to develop a new online reference document called "The GSD Guide to Building Code" (available via this link: <http://www.gsd.harvard.edu/resources/special-interest-links/> ). In contrast to existing building code guides (e.g., Building Codes Illustrated by Ching and Winkel), our goal was not to produce a generic-looking, comprehensive book for professionals, but rather a concise handbook specifically aimed at providing students in the Comprehensive Design studio the knowledge necessary to develop accessible, code-compliant projects. To enhance its appeal, students illustrated the Guide with vignettes and graphics that appear aesthetically consistent with GSD studio projects (to demonstrate, for example, that code compliance does not necessitate designing rectangular boxes linked by corridors). Throughout the term, third-semester architecture students have been urged to refer to the online Guide between meetings with their studio instructors for concrete guidance about configuration and dimensional aspects of project elements regarding issues of accessibility. In addition, the revised studio brief places new emphasis on the integration of these principles through a new Assignment 3 entitled "Code" Accessibility and Egress. Code is one of five assignments throughout the semester retiring students to perform a "spatial audit" of their projects and to "confirm compliance" with IBC.

#### II.1.1 Student Performance Criteria: B.5 Life Safety

*Visiting Team Report [2012]:* Students have not demonstrated the ability to apply basic egress systems to buildings. Projects show required exit stairs that a) are depicted as unenclosed, b) without doors, c) exiting internal to the building, d) ending without egress and large assembly areas as provided with only

one means of egress. These issues were evident in a review of documents from Architectural Design (GSD-1201) and other studio work.

*Fundamental knowledge and application of Life Safety Codes, Circulation, and Egress, and Life Safety:*

Similar to SPC B.2 (above), issues of Life Safety as integrated in building design were a key focus of the Third semester core studio (GSD-1201). “The GSD Guide to Building Code” (attached to this report as an addendum) became a key reference as well as the “Code” assignment (described above) where students are expected to translate specific guidelines of the GSD Guide directly into their projects to produce universally accessible floor plans, with proper door swings, stair enclosures, emergency exits, correct number of means of egress, no dead-end corridors, etc. Within this assignment, students are asked specifically to create Egress Diagrams, which are then tools for developing the specifics of their final plans.

**II.1.1 Student Performance Criteria: B. 6 Comprehensive Studio**

*Visiting Team Report [2012]:* While evidence exists that the majority of the above sub-criteria are met individually, evidence does not exist in the comprehensive studio Architectural Design (GSD-1201) that there is any consistency within the projects in general, or from student to student, that all of the issues are integrated within the work. Particular emphasis is made for the absence of information in the comprehensive studio projects of B.2 Accessibility, B.3 Sustainability, B.5 Life Safety, and B.9 Structural Systems.

*Integration of Structural, Environmental, and Codes into projects:*

The revisions described in the preceding paragraphs describe some of the fundamental reforms that we have implemented in the third-semester core studio (GSD-1201) but have caused us to recalibrate much of the overall pedagogy, assignment schedule, and deliverables. These reforms allow us to focus our attention on the key purpose of the Comprehensive Design Studio: the successful integration of multiple systems into a single building design. The semester-long design project has been overlaid with five assignments and a final, cumulative project. Each of the five assignments preceding the final has a clear focus: 1) Site and Environmental Analysis, and Program Analysis; 2) Site Strategy and Program Organization; 3) Code; 4) Flows and Forces; 5) Performative Envelope. Integrating these focus areas allows the students to develop a consistent trajectory over the course of the semester. To ensure that each student demonstrates the ability to integrate systems of circulation (access, egress), structure, and environmental performance into their final projects, each of the preparatory assignments explicitly requires students to develop detailed diagrams of those systems. Since 2012, we have also engaged highly respected professional consultants each semester to lead targeted midterm reviews of individual student projects, focusing on the resolution of technological concerns in their respective fields. For example, consultants have included: sustainability engineer Matthias Schuler (Transsolar, Stuttgart), Ali Malkawi, and Holly Samuelson (GSD faculty); structural engineers Robert Silman and Patrick McCafferty (GSD faculty), Jurg Conzett (Zurich), and Jun Sato (Tokyo); material scientist Sal Craig (GSD faculty); facade consultant, Marc Simmons (Front, Inc); and architect Frank Barkow (Barkow Leibinger, Berlin). Based on the new semester structure, with its more targeted assignments and reviews of component systems, we expect to see greater attention in the final student projects to the requirements and intentions of the Comprehensive Design studio.

**I.1.7.2 Causes of Concern**

*Visiting Team Report [2012]:* Project Scale of Comprehensive Design: It is the concern of the team that assignments in the Comprehensive Design studio may be too ambitiously large in scope and complexity, thereby leading to the inability (in time, or overwhelming scope) of the students to adequately include content and representation of all required technical components, systems, and information.

Addressing both the shortcomings noted above and the causes of concerns cited by the Visiting Team has been a priority for department faculty since the 2012 NAAB visit. Leading the effort to address the third-semester studio program, pedagogy, and requirements have been former

Department Chairs Scott Cohen (2008-2013), and Iñaki Ábalos (2013-16), former Program Directors Mark Mulligan (2011-2014) and Grace La (2014-17), current Program Director Jon Lott (2017~, also studio coordinator 2015-16), and studio coordinator Eric Howeler (2011-15, 2017). While our primary focus has been the integration of building systems and codes as described above, we also recognize concerns about the project's scope and complexity. How architects deal with complexity directly has become a key pedagogical tool within the third-semester studio and has been addressed since 2012 in three primary ways:

- 1) Through a revised pedagogical sequencing of the five assignments described above;
- 2) Through the introduction of consultants within the studio, allowing for greater depth of understanding of building systems;
- 3) Through the selection of sites that productively constrain formal freedom in favor of solving the key concerns within the brief: site and program, structure, sustainability, and code.

Looking back at the 2010 and 2011 comprehensive studios, we concur with the VTR's findings that the sites for those studios were unnecessarily complex and required students to spend too much design time resolving issues of urban siting (which we do address in other semesters of the core). Both the 2010 Boston waterfront site and the 2011 downtown site (an annex to Paul Rudolph's 1971 Government Service Center) required students to confront complex urban situations in which there was an abundance of unbuilt open space (to be designed as public park, outdoor theater, landscape, etc.) and no obvious "front" or "back," all sides being equally exposed and public. Since that time, the sites for the subsequent comprehensive design studios (2012-present) are more conventionally constrained by a dense urban context that requires the building to nearly fill out its buildable area and volume; in doing so, the building volume produces two clear front/public facades and two less visible backstreet/alley facades (suitable for loading dock, emergency exits, and so on). By more tightly constraining the building volume to produce a smaller number of variations in massing and circulation, we see that most students are capable of resolving their urban siting early in the semester and thus have been able to spend more time on building organization, structure, tectonics, and so on. Simplifying the type of site, as described above, has also allowed us to pay particular attention to the variation of site in terms of climate and environmental response. Accordingly, in recent years the comprehensive studio has engaged in three intentionally diverse sites (e.g., Fall 2014 was Miami, Chicago, and Phoenix; and Fall 2015 was Sapporo, Singapore, Las Vegas). Students were asked to conduct research on each of these sites and to integrate that research into their comprehensive building design. As issues of sustainability are at the forefront of contemporary practice today, this site variation has allowed our students to engage in productive discourse on response to environmental narratives. The students were also able to engage in comparative understanding of sites with extremely varied properties (hot/humid; cold/dry; hot/dry; etc.), specifically focusing on environmental concerns and sustainability. While this approach was productive as a comparative teaching tool, this semester we have returned to a site in Boston, so that the students are able to study the site directly, becoming more intimately aware of the key constraints and opportunities of context. As the 2017 fall semester draws to a close, pending the results of next month's final reviews, we will continue to evaluate our approach and search for additional refinements to the Comprehensive Studio. We welcome your comments and insights.

## PART ONE, SECTION 2: RESOURCES

### I.2.1 Human Resources and Human Resource Development:

#### *Overview of Faculty Appointment Policies*

The school seeks to attract and retain individuals who possess the personal qualities that enable them to be highly effective teachers and contributors to the school's programs. These qualities generally include high levels of intelligence, clarity of expression, analytical ability, critical judgment, imagination, creativity, initiative, and industry. Essential also are a willingness to support free inquiry and expression by others and the capacity to work in constructive collaboration with others. In addition to the personal qualities sought in individuals appointed to the faculty, the school assesses candidates for appointment, reappointment, and promotion by the following criteria: teaching ability, creative work, and academic service.

In the school's evaluation of candidates for appointment, reappointment or promotion, desirable personal qualities and high potential are not substitutes for a record of continued and productive achievement. Creative contributions to the field through scholarship and/or design are essential to effective teaching over time. Continued study and investigation with public exposition of research and professional accomplishments are normal obligations of faculty at Harvard.

The school appraises candidates according to individual career development. It is not expected that individuals in the initial phases of their careers will have the same records of achievement as more senior individuals in the field. The guiding principle is that the school should have a faculty of exceptional quality and that its individual members should be among the most creative and productive in the field when compared to individuals at comparable stages of career development.

All employment decisions should be made solely on the basis of merit. To protect this intention, faculty shall neither initiate nor participate directly or indirectly in decisions involving direct benefit to members of their immediate families, such as initial employment or appointment, reappointment, promotion, salary, teaching or work assignments, research or travel funds, and leaves of absence, etc.; nor shall they be involved in circumstances that could result in violation of confidentiality of personal or employment records. It may be that other relationships could interfere with objective and equitable supervisory decisions and, in cases where relationships between faculty members or faculty members and staff members raise this question, the dean shall be consulted and make a ruling.

All these policies are further explained in the Handbook for Academic Appointments, which is linked here and in the Supplementary Materials section of this report:

[https://www.gsd.harvard.edu/wp-content/uploads/2017/02/Appoint\\_Hdbk-17.pdf](https://www.gsd.harvard.edu/wp-content/uploads/2017/02/Appoint_Hdbk-17.pdf)

#### *Faculty Teaching Assignments, Credentials, and Policies*

Much of the required information regarding Human Resources can be found in the Supplementary Materials section at the end of this document. In that section you will find matrix listing Architecture Department faculty members, their areas of expertise, and the courses they taught in each of the two prior academic years. Individual resumes for each full-time member of the instructional faculty can also be found in that folder.

As requested, the Supplementary Materials section also contains: policies for faculty appointment, promotion, and tenure; GSD policies and procedures relative to EEO/AA for faculty, staff, and students; and policies regarding human resource development opportunities, such as sabbatical, research leave, and scholarly achievements.

#### *Resources for Faculty*

The GSD Office of Faculty Planning administers faculty payroll and benefits matters, manages searches to fill open faculty positions, coordinates the review and promotion of current faculty, and processes the appointments of all regular and visiting faculty. Each academic office is the main source of information

and resources for its faculty. The department chair, the program director(s) and staff are located there. Resources provided for faculty include office space, clerical support, duplication services, office supplies, telephone/fax and mail, audio-visual and photography services. Additional resources include the School's physical resources described in Section I.2.2 and the information resources described in Section I.2.4.

#### *Professional Development*

Keeping current with professional trends in the practice of architecture, as well as internships and licensure requirements, are necessary for those engaged in teaching architecture within the context of a professional school like the GSD. Professional Development options available to faculty members in the Department of Architecture take several forms. Thirty-five faculty department faculty members are principals of architecture firms based in the U.S. or other countries (Spain, Netherlands, United Kingdom,) and actively engaged in designing buildings around the world; several others are principals in other kinds of professional firms (law, engineering and sustainability consulting) that collaborate with architects on their projects. Faculty members who maintain active licensure as architects within one or more U.S. jurisdictions (including at least 14 of the 75 full-time and adjunct faculty members listed in the Faculty Credentials and Teaching Assignments matrix above) are required to fulfill Continuing Education requirements – the precise number of classroom hours or CE equivalent varies by jurisdiction. GSD Faculty may have tuition discounted or waived when they enroll in Executive Education courses offered at the GSD. Those faculty members who run practices (outside of School) and employ young architects and architectural interns frequently are involved in IDP procedures, both as employers and as mentors. In these roles, faculty members gain direct knowledge about recent changes to internship and registration exam requirements. The GSD's IDP coordinator, Robin Slavin, also sends regular updates to students and faculty regarding NCARB internship and registration policies.

The School's responsibility to maintain a consistent educational environment with high-quality instruction must be balanced by its obligation to assist faculty in maintaining their personal creative work in scholarship and/or design. When leaves, sabbaticals, and short-term absences from residence will contribute to the creative activities or professional expertise of members of the faculty, they shall work with the chairs of their departments to plan for such leaves and short-term absences sufficiently in advance to permit satisfactory coverage of the faculty member's instructional and administrative responsibilities. The granting of leaves and short-term absences is dependent upon securing a satisfactory replacement to offer instruction and on the department's ability to maintain the services of academic administration. For further information about policies governing leaves and sabbaticals, please consult [Appendix 10](#) (Part Four: Supplemental Materials).

#### *GSD Junior Faculty Development Funds*

The School has established a program that provides research funds for a number of junior faculty. Approximately five awards of up to \$10,000 each are available on a competitive basis per year. Faculty who wish to apply for these funds must file and discuss with their department chair a memorandum defining their research interests. They then submit a proposal to a committee that acts in an advisory capacity to the dean.

Each year, every junior faculty member has access to a fund that can be used for expenses related to their research and scholarly activity. (In academic year 2016-17, the amount available to each full-time junior faculty member was \$6,000.)

#### *Research and Scholarship*

Harvard is a research-based university, and the GSD places strong emphasis on the scholarly production of the faculty. A broad range of activities constitutes "scholarly," such as design explorations, professional studies, research, and scholarly discourse. In design, this may include entering competitions; conducting prototypical design or planning studies; testing policies through design, planning, or simulating models, or preparing case studies. More typical research may include empirical investigations, as well as speculative essays setting forth hypotheses and positions. Members of the faculty are expected to present their scholarship for peer review and discussion through exhibitions and/or publications.

Full-time faculty members are expected to initiate research or scholarly study under the auspices of the School. The focus of individual research is determined in consultation with the department chair and the dean of the faculty. Where appropriate, the responsibility for active scholarship includes writing proposals and seeking external funds, as well as leading and supervising investigations and preparing exhibitions or publications. Research funded by outside agencies is subject to the review, approval and budget procedures of the GSD and the University.

The school-wide lecture program presents internationally prominent speakers in the design fields. They are invited to share their work and ideas with the GSD community, thus providing insight into contemporary professional practice and scholarship. In addition, lectures sponsored by the academic departments feature both visiting critics and departmental faculty speaking about recent work or issues relevant to their field. The GSD presents exhibitions that illustrate not only historic perspectives and contemporary projects, but also design approaches and issues. Faculty members are often involved on a curatorial level with the development of exhibition projects. As part of its commitment to design scholarship, the GSD publishes exhibition pamphlets and, occasionally, full-length catalogues in conjunction with exhibitions of the work of internationally prominent architects, landscape architects, and urban designers.

*Harvard Design Magazine* is published twice a year by the GSD and explores a broad range of critical issues in architecture, landscape architecture, and urban design. Deliberately pluralistic, the periodical is intended for a diverse readership of scholars, practitioners, and generalists. The heart of each issue is a feature section focused on a theme (for instance, "Popular Places," "Representations/Misrepresentations," "Conflicting Values," "Constructions of Memory," "Design and Class"); the themes are defined broadly so as to encompass a range of disciplines and methodologies. The magazine also publishes substantive book reviews, portfolios of photographs and drawings, recent design projects chosen by guest critics/curators, and columns on buildings and landscapes. In addition to scholars and architects from the United States and abroad, the editorial board of *Harvard Design Magazine* includes three members of the GSD faculty, representing the departments of the school. The editors welcome and appreciate the advice and viewpoints of GSD faculty, and invite suggestions for articles.

#### *Research Centers, Programs and Initiatives, and Design Labs*

The GSD is undertaking research and design-based investigations in a wide variety of ways including two (2) centers for faculty research, nine (9) research programs and initiatives, as well as seven (7) Design Labs:

[Harvard Center for Green Buildings and Cities](#) (*Ali Malkawi, Director*). The HCGBC aims to transform the building industry through a commitment to design-centric strategy that directly links research outcomes to the development of new processes, systems, and products. By strongly emphasizing innovation and multidisciplinary collaboration, the Center will work to promote holistic change within the built environment, namely the creation and continued improvement of sustainable, high-performance buildings and cities.

[Harvard Joint Center for Housing Studies](#) (*Chris Herbert, Director*). The Joint Center is a collaborative unit affiliated with the Graduate School of Design and the Harvard Kennedy School. Through its rich array of research, education, and public outreach programs, the Joint Center serves as a convener for informed discussion on a broad range of issues in the housing sector of the nation's economy. In doing so, it educates business leaders, government officials, policy makers, and the public on critical and emerging factors affecting housing and our communities.

[Aga Khan Program at the GSD](#). The aim of the program is to study the impact of development on the shaping of landscapes, cities, and regional territories in the Muslim world and to generate the means by which design at this scale could be improved. The Aga Khan Program at the GSD is a research and activities program. It is a non-degree granting program, but any full-time student already enrolled at Harvard or MIT can benefit from its course offerings and research undertakings. The program supports affiliated doctorate students working on related topics in Muslim Societies.

[Harvard Mellon Urban Initiative](#). “Reconceptualizing the Urban” is the title of a four-year investigation of urban studies undertaken by The Harvard–Mellon Urban Initiative. It brings together scholars and resources from across Harvard University and is directed toward establishing a vigorous, interdisciplinary, and coordinated study of urban environments in the humanities.

[Health and Places Initiative](#). This project investigates how to create healthier cities in the future, with a specific emphasis on China. Bringing together experts from the GSD and the Harvard T.H. Chan School of Public Health (HSPH), it creates a forum for understanding the multiple issues that face cities in light of rapid urbanization and an aging population worldwide.

[Mexican Cities Initiative](#). The MCI is an emerging platform for experimental ideas and actionable knowledge to help guide the transformation of Mexico’s complex urban landscapes over the next decades. Drawing on the generous support of Mr. Rolando Uziel, a GSD alumnus, and under the faculty guidance of Diane Davis, Charles Dyer Norton Professor of Regional Planning and Urbanism, the MCI supports a public archive of Mexico-based research conducted at the GSD and elsewhere, a network of partnerships in and beyond Mexico, and an annual summer fellowship for innovative student research.

[New Towns Initiative](#). The NTI at Harvard University researches historical and contemporary new town developments in an international context. Through its efforts, the Initiative is working to establish the relevance and future directions of the New Towns idea in the 21st Century.

[A Sustainable Future for Exuma](#). This multi-year ecological planning project is a collaboration among the Government of The Bahamas, the Bahamas National Trust, and the GSD. The goal is to facilitate the design and management of a more sustainable future for the Exuma archipelago, and The Bahamas more generally. The project has two parallel and mutually informing components: research and education. These components work to inform the development of proposals and interventions as well as the building of capabilities for local empowerment. Important to the project are a series of scholarships for the degree programs as well as opportunities for Bahamians to engage in the summer Career Discovery Program at the GSD.

[Transforming Urban Transport](#). (Full name: “Transforming Urban Transport: The Role of Political Leadership”, or *TUT-POL*). TUT-POL seeks to advance our knowledge of how, when, and where political leadership has been critical to the successful implementation of path-breaking transportation policies. The project has done so through the case study research of 8 democratically governed cities around the world: Los Angeles, Mexico City, New York City, Paris, San Francisco, Seoul, Stockholm, and Vienna. TUT-POL is hosted at the GSD and sponsored by the Volvo Research and Educational Foundations (VREF).

[Waste to Energy Design Lab](#). The mission of the WtE Design Lab is to rethink the relationship between architecture and waste, through research and design. Architecture and design currently play a minor role in the design and construction of industrial building types, and the Design Lab seeks to re-engage interdisciplinary design and architecture with industrial buildings and facilities. As densities increase and consumption patterns change, innovation will make waste-to-energy (WtE) an acceptable and affordable source of renewable energy to diversify a portfolio of other sources (solar, wind and biomass) for the future. This provides an opportunity for architects to integrate large industrial buildings (like waste-to-energy plants) physically and programmatically within their urban or suburban contexts, as well as potentially lessen the generally negative perception of industrial buildings. The goal of the Waste to Energy Design Lab is to develop hybrid WtE building typologies which not only re-connect and communicate to the public, but also weave new public or institutional programs with energy production in a mutually beneficial way.

[Zofnass Program for Sustainable Infrastructure](#). The mission of the Zofnass Program is to research, develop, and promote methods, processes and tools that define and quantify sustainability for cities

and infrastructures. The program's goal is to better enable the adoption, utilization, and promotion of sustainable solutions for the design, delivery, and operations of large-scale urban developments and infrastructure projects.

*Design Labs (see links for descriptions)*

[City Form Lab](#)

[Energy, Environments, and Design Lab](#)

[Geometry Lab](#)

[The Just City Lab](#)

[Material Processes and Systems Group](#)

[Responsive Environments and Artifacts Lab](#)

[Social Agency Lab](#)

*Academic advising*

All GSD students are assigned members of their respective department faculty as academic advisors, to assist them in meeting the requirements of their degree programs. The Department of Architecture requires its faculty to meet with their assigned advisees at regular intervals during their course of study, including mandatory meetings 1) when a student enters the program (first semester, or third semester for AP students); and 2) at the start of fifth semester to advise on electives, options studios, and finding a thesis topic and thesis advisor (usually separate from the academic advisor). Academic advisors also counsel and advocate for students whose academic standing falters, working together with the Program Director and the Dean of Students to provide a support network that puts students back on track.

*Student Organizations and Support Services*

In addition to the Student Forum, the GSD had more than 65 student groups last year. The Student Forum currently provides annual funding to student groups. These organizations are established and entirely run by members of the GSD student body. All students are encouraged to establish a new group that they feel might offer new knowledge and experiences to the GSD community. Guidelines for requesting sponsorship of a new student organization are available on the Student Forum website. A listing of current student organizations and clubs is found at the following URL:

<http://www.gsd.harvard.edu/resources/gsd-student-group-directory/>

*Academic Writing Assistance*

This free service is available to all GSD students through [Frances Loeb Library](#). Sessions are an hour in length, and students can sign up for one session per week. Writing tutors are GSD students who have been selected for their strong writing skills and desire to collaborate with their peers to improve their writing. Canvas (the web-based course management software at Harvard) is used to manage appointment sign-ups and writing submissions, as well as housing a wealth of information to aid students in the writing process. All currently enrolled GSD students have access to this service using the following URL: [www.gsd.harvard.edu/aws](http://www.gsd.harvard.edu/aws)

*Graduate Student Learning Support*

Sometimes students come to the GSD who have previously been able to compensate for an undiagnosed learning disability. During studies here, problems may surface that ultimately lead to diagnosis of a learning disability, as well as subsequent treatment and counseling. The GSLS can provide neuropsychological assessment and strategic assistance with learning difficulties and, when appropriate, referral for neurological testing. Learning specialists can also work with students experiencing problems in executive functioning, time management and other academic issues. All students must first be referred by the Dean of Students.

### *Career Services*

The GSD Career Services Office hosts numerous professionally oriented events – most notably two Career Fairs during each academic year – as well as a comprehensive set of programs and opportunities for architecture students. An important priority is to provide students with access to job opportunities and alumni contacts. All students have a personal account in our own proprietary career management system (CREATE), which includes a database of over 3,000 employers. Students can view internship and job postings; employer descriptions; and GSD alumni contacts through this system. Further information may be found at the following URL: <http://www.gsd.harvard.edu/career-services/>

### *Architectural Licensing Advisor*

In the fall of 2016, Robin Slavin was appointed to be the GSD's Architectural Licensing Advisor. Robin is a versatile counselor, coach and advisor in career development. She is skilled in helping students to conduct targeted career searches. She attended the annual NCARB conference for Architect Licensing Advisors in Chicago in July 2017. Attendance of this conference is part of her standard responsibilities in this role to keep her current on the trends and latest information regarding licensing. She is also an active member of NCARB's ALA list-serv, which also serves to keep her abreast of all developments in this realm. In spring 2017, Robin coordinated a program on licensure for architecture students, which included in-depth details on NCARB, the Architectural Experience Program, and the licensure examination process. She also sends out weekly emails to architecture students about internships, jobs and career programs of interest.

## **I.2.2 Physical Resources**

Harvard is particularly strong in the physical and information resources it provides to its students and faculty. The immediate resources of the school are housed in the main classroom building Gund Hall (48 Quincy Street), an adjacent office building at 7 Sumner Road, and three wood-frame buildings at 20 Sumner Road, 40 Kirkland Street, and 42 Kirkland Street. In 2014 we took ownership of the properties that house the Loeb Fellows at 48 Trowbridge Street and 153-155 Mount Auburn Street. We also added 9 Ash, the Philip Johnson Thesis House to our portfolio. Floor plans for each of these buildings are provided in [Appendix 3](#) (Part Four: Supplemental Materials).

### *Gund Hall*

Designed by Australian architect and GSD graduate John Andrews, Gund Hall opened in 1972. Major gifts to finance the new building were received from the George Gund Foundation; the Gund family; John L. Loeb, SB'24, LLD'71 (hon); GSD alumni/æ and friends; and the Office of Education of the United States Department of Health, Education, and Welfare.

Gund Hall offers students a stimulating environment in which to work, including studio and office areas for approximately 600 students and more than 100 faculty and staff; lecture and seminar rooms; computer facilities; a public exhibition gallery; a cafeteria; model, metal- and woodworking, and prototyping shops; robotic and other CNC fabrication laboratories; Piper Auditorium, which accommodates 450 people; and the Frances Loeb Library, containing one of the largest collections in the world of material relating to architecture, landscape architecture, planning, and the fine arts. The yard area is used for basketball, volleyball, and picnics; as an exhibition area for class projects and visiting artists; and as the setting for commencement ceremonies. The central studio space extends through five levels under a stepped, clear-span roof that admits natural light and provides views toward Boston. The dramatic facade and extensive glass surfaces make an eloquent statement about the design excellence and professional creativity for which the school is known. Some administrative offices and space for some MDES student activity, a student gallery, as well as smaller seminar rooms, are located near Gund Hall on Sumner Road and Kirkland Street.

### *Recent Improvements to the Facilities:*

As of 2017, the GSD has ten properties, with five deemed as "academic" that host a mixed-use of classroom spaces, faculty offices, staff offices, student program spaces, lab spaces and research groups. These Academic buildings include Gund Hall located at 48 Quincy St., 7 Sumner Rd., 20 Sumner Rd., 40 Kirkland St., and 42 Kirkland St. The other five properties that are residential and host

the annual Loeb Fellows in the 48 Trowbridge and 153-155 Mt. Auburn properties, and visiting Scholars in the Phillip Johnson Thesis House located at 9 Ash St. and the Wimbledon House located in London, England.

Over the summer of 2016 and 2017, the basement workshop and fabrication laboratory spaces were again renovated to update or improve the operation of the woodshop, the project room, welding and miscellaneous metals shop, and the CAD/CAM laboratory. During the summer of 2016, access to the space was updated to ID card tap readers. These readers allow the staff who coordinate student use of the space to ensure students have gone through proper training before using woodshop and Fab Lab equipment. The modernized space has new mechanical, lighting, and electrical, and plumbing systems. The new air handling unit and exhaust systems servicing this space use direct digital controls to monitor the airflow needed for various exhaust requirements. In addition, the woodshop has a dust collection system and the laser cutters have independent exhaust systems for particulate control. The GSD Fabrication Lab was updated with the purchase of a large, powerful CNC router with tool changer and vacuum bed, significantly increasing machining ability. Simultaneously, procedures for use of the various machines have been reviewed and updated.

Since 2013 all Gund Hall studio furniture has been modernized, this upgrade outfitted 588 student workstations to support the evolution from analog to digital media for architectural design and representation. This work included adding a kitchenette in the middle of the studio and an ADA accessible bathroom.

Computer Resources has been relocated to spaces renovated specifically for their purpose, which has allowed for improved user support and created flexibility to respond to changing technology.

The library group has made many modifications to its space to respond to students' needs for meeting and computer use space. During the summer of 2016, a new classroom space was carved out of the library's ground floor footprint to meet the increased demand for classroom, meeting, and review spaces. The basement Visual Resources Department has been reconfigured to incorporate the library's Materials Collection (which, though administered by the library, had previously been housed in a separate space and operated on a different schedule).

Improvement to teaching spaces is an ongoing commitment. Most teaching spaces now contain a permanently mounted video projector. The largest classroom with fixed seating (Gund 111) provides electrical outlets throughout for students using laptops. Since 2015 furniture in twenty-two of the twenty-eight classroom spaces have been update to modular furniture. This allows students and faculty to easily use classroom spaces for different set-up and teaching styles, without the restraint of fixed furniture. As of 2017, Media Services, has added fourteen rolling LCD screens to supplement the LCD projectors, for ease of use in classrooms outfitted with modular furniture.

Since 2016, the School replaced all of its six air handling units with more efficient units, as well as the Gund Hall roof in an effort to reduce energy and GHG emissions and to provide a higher quality interior climate. The GSD has reached the university goal of 30% GHG emission reduction, set in 2006 to be achieved by 2016.

#### *Hardware, Software, Networks, and Other Computer Resources*

The Computer Resources Group maintains an environment in which information technology is available and easily accessible to all members of the GSD community. It provides basic computers, advanced workstations, and a series of peripherals interconnected in a high-speed local area network (both wired and wireless) and to Harvard University's Internet backbone. Every member of the GSD community has access from his/her desk to the GSD network for communications, central disk storage and input/output facilities, and a wide range of software and services, including access to the Harvard On-Line Library System (HOLLIS) and other databases. The network supports hardware running primarily Windows and Macintosh operating systems.

The GSD maintains small number of clusters of publicly accessible computers, most of which are high-performance workstations for advanced graphics and intensive computing work. They are heavily used, so it is currently required that students provide their own laptop computers capable of running advanced computer aided design software. A separate color display monitor that can be permanently attached to the student's desk is strongly encouraged. Typical hardware recommendations and network connection requirements are published by the Computer Resource Group and are communicated annually to all students, both incoming and returning.

The Computer Resources team provides all members of the GSD community with free access to a wide range of software, including geometric modeling, rendering and animations, geographic information systems, qualitative and quantitative analysis, programming, database management, project management, computer aided design, Virtual/Augmented Reality technology and office productivity tools.

Public facilities, accessible 24 hours a day, include high-end workstations, digital video and multimedia equipment, a number of slide and flatbed scanners, large format plotters, and high-quality color laser jet printers, as well as computer-controlled cutting and milling machines in the CAD/CAM workshop facilities. All classrooms have network connections and large digital display screens and or projectors available to connect directly from any computer.

The Computer Resources Group maintains the network and GSD-owned hardware, installs software, and provides technical support to the GSD community. The group also provides research capabilities in computer graphics and geometric modeling, geographic information systems, and computer-aided manufacturing. General technical support for GSD-owned software is provided by qualified students serving as software application assistants. These application assistants offer regularly scheduled instruction during the academic year to interested members of the GSD community and after business hours support on nights and weekends.

#### *GSD Model and Prototyping Shops – Fabrication Laboratory*

The ability to test design ideas through scale models and full-size prototypes is an essential part of our teaching philosophy. Studio courses, including both those of the core program as well as option studios, rely on the resources of the Fabrication Lab to facilitate student engagement with physical considerations such as material selection and construction processes. Project-based elective courses, especially those with a focus on computationally-dependent design and fabrication methods, introduce students to more advanced tools and workflow.

The facilities of the Fabrication Lab support a wide range of both techniques as well as materials. The woodshop is equipped with traditional woodworking tools that support work in solid wood, wood-based materials, and some plastics. A vacuum thermoformer allows thermoplastics to be formed over molds to create complex surface geometries in sheet material. A shared workspace, the Project Room, for assembly and wet work like painting or cement casting is adjacent to the woodshop. Handheld tools can be borrowed from the woodshop and used in the Project Room or elsewhere on the GSD campus.

A metal shop, capable of supporting welding as well as the cutting and forming of tube, bar, and sheet metal stock, is available to students. Milling and turning equipment, as well as a robotically-controlled abrasive water jet, expand the metal-working capabilities of the school to include more complex and precisely cut parts. A structural testing machine is available for individuals to test mechanical properties of small material specimens and assemblies in both tension and compression.

One structured light 3D scanner augments the technological capabilities of free app-based methods of capturing the shape of complex three-dimensional objects with one's own personal smart phone. Nine laser cutters, each with a cutting area over 4 square feet and ranging from 60 – 150 Watts, are available 24/7 to students to cut and engrave sheet materials like wood veneer, acrylic sheet, leather, natural fibers, and paper-based board quickly and easily from a variety of CAD and graphic design software applications.

A range of rapid prototyping machines are available to students at the cost of the materials consumed only. The equipment in this area includes: two high-resolution UV-cured resin PolyJet printers (one of which can print multiple material properties side-by-side within a single part), two gypsum-based Binder Jetting printers offering high production output for fast turn-around of parts, and four self-serve FDM printers to produce more durable parts from ABS plastic.

Two CNC Routers with 4' x 8' cutting area are used to cut both sheet materials as well as thicker block material into a range of 2D and 3D shapes in wood, plastic, foam, and non-ferrous metals. Anticipated for the Fall 2017 semester is an additional CNC cutting system that accommodates oscillating, rotating, and drag knives, as well as a router attachment and other tools. With this system an even wider range of materials can be marked and cut across a 4' x 8' platform, including flexible foams and rubbers, laminated plastics and non-ferrous metals, leather, paper, fabrics as well as fiber-reinforced composite panels.

Two 6-axis robotic arms can support a wide range of end-of-arm tooling used to prototype material processes or give form to a wide range of materials through a sophisticated range of motion. Such systems also offer opportunities for automation through digital and analog inputs and outputs. Sensing devices and external programmable logic control boards afford students an opportunity to engage with physical computing at a scale that can relate directly to architectural space and structures.

The equipment and spaces of the Fabrication Lab are complemented by an extensive online system of tutorial documents detailing methods and best practices in a variety of formats including video, text, image, and interactive on-screen environments. In-person support is provided by three full-time technical staff, each with a background in a creative field, and over 70 part-time graduate student technical assistants. In-class software tutorials are offered to complement course curriculum as defined by faculty instructors. Given the predominance of CNC machines, computer workstations hosting with a wide range of CAD and CAM software applications are distributed throughout the Lab. Online systems are used to facilitate the online submission of part files for the 3D printers and CNC routers, as well as to allow students to reserve time on machines like laser cutters. Students enrolled in GSD courses are eligible to make use of the facilities of the Fabrication Lab after completing required safety training, offered both online as well as in-person. Basic Personal Protective Equipment is made available to all users of the lab at no cost. Other than the cost of materials used to create their models and other prototypes, students incur no additional fee to make use of the Lab facilities.

Management of the Lab is directed by the Assistant Dean for Information Technology with consultation from a faculty committee of members involved in studio and technology courses that implement the pedagogical integration of the shop facilities into the curriculum.

#### *Safety, Accessibility, and Identification of Problems*

Safety and accessibility are fundamental priorities for any educational facilities – even more so for an institution like the GSD, whose mission is to train future generations of building design professionals. All building areas within the GSD are in compliance with code as of the date of their most recent renovation. Code and regulatory review are included in all renovations to the physical plant. All but one of the nineteen teaching spaces comply with ADA regulations (adaptation of the non-compliant space is not readily achievable, as 7 Sumner Road does not have an elevator).

Formal and informal meetings between faculty, students, and technology staff occur regularly; the student government annually elects a designated 'Resources Representative' to communicate directly with the Director of Computer Resources and Director of Building Services.

### **I.2.3 Financial Resources**

The Architecture program is a department within the Graduate School of Design, which itself is a School within Harvard University. Each School at Harvard operates on a decentralized basis from the University, and is responsible for managing its own financial resources (i.e., collecting revenues, monitoring expenses, allocating funds).

Most financial resources at the GSD are centralized, and are allocated across degree programs largely based on enrollment. The Architecture program is the largest degree program at the GSD, and receives the highest level of funding of any department. Departments (including Architecture) develop and manage their non-personnel operating budgets, with oversight by the School.

In FY16, for the fourth straight year, the GSD maintained a small operating surplus, demonstrating financial stability while continuing to advance its stated priorities. There are no significant planned reductions/increases to Architecture enrollment, funding, or funding models.

The GSD is currently in the midst of a University-wide fundraising campaign and has prioritized raising funds for financial aid and faculty, including for the Architecture program. The GSD aims to raise over 110 million dollars, a figure that would go towards many of the school's long range plans outlined in previous sections of this document, including the physical expansion of the facilities, funding research, and empowering students with greater resources.

The Architecture program has control or influence over expense categories such as: faculty, visiting faculty, research assistants, and teaching fellows; financial aid; course costs; supplies and materials; travel; and publication costs.

The Architecture program has control or influence over revenue categories such as: sponsored grants and gifts in support of research and other programmatic activities. Architecture faculty determine the students admitted to the program, thereby impacting tuition revenue. Also, faculty interact with the Development team and can play a role in securing current use gift and endowment revenues.

Students can receive need-based or merit-based financial aid from the GSD in the form of grants. The majority of the grant aid offered by the GSD is need-based, and is awarded based on information submitted on a student's financial aid application. Aside from need, eligibility for some awards may also be determined based on others factors including academic program, merit and fund availability. Schoolwide, financial aid has grown from \$6 in FY2008 to \$14M currently, and has been instrumental in expanding and diversifying the student body. For the 2016-2017 academic year, The GSD awarded approximately \$4 million dollars in need-based aid to M.Arch 1 students specifically, and \$500,000 merit grant funding. Faculty can receive research funding from the GSD or from external sponsors/donors in the form of grants or gifts.

#### **I.2.4 Information Resources:**

*The Frances Loeb Library: Overview*

The Frances Loeb Library (<https://www.gsd.harvard.edu/frances-loeb-library/>) supports the Graduate School of Design within Harvard University. The Library is a preeminent global design resource that provides the Graduate School of Design and the larger Harvard University with a robust platform for design research, teaching, and learning. It is the GSD's primary portal for information access, knowledge building, archival storage, retrieval, and acquisition. The Library supports and enhances the educational programs, curriculum development, and research programs of the GSD.

The Library contains one of the finest collections in the world documenting the fields of architecture, landscape architecture, and urban planning and design. The library, begun in 1900, supports the educational programs, curriculum development, and research activities of the Harvard Graduate School of Design as an integral component of the School's mission to prepare and advance individuals in professional and academic careers concerned with the making of built environments.

The general collection holds more than 293,000 volumes, including one-of-a-kind printed and visual materials, with special strengths in twentieth and twenty-first century architecture, city and regional planning, urban design, and landscape design. Library acquisitions reflect the scholarly interests and design culture of the School and include rare books, archival material, visual content, print and digital

collections, a materials samples collection, statistical and GIS data. The Library curates and disseminates knowledge for consumption and production. As a knowledge laboratory, the Library pursues innovation, new technologies, and relevant cultural advancements. The Library's importance and ubiquity necessarily increases as information expands, almost infinitely. Together with the resources distributed throughout the Harvard University libraries, the Frances Loeb Library provides access to a comprehensive collection documenting the fields of architecture, landscape architecture, and urban planning and design.

#### *Institutional Context and Administrative Structure*

The library reports to the Executive Dean of the GSD, and is also part of a network of libraries across the Harvard University campus that includes the Harvard College libraries, as well as the professional school libraries and numerous specialized collections across Harvard's campuses.

The Frances Loeb Library is structured into the following programmatic areas:

Collections: consisting of a Librarian for Collections and Outreach, the Special Collections Archivist, the Materials and Media Collections Librarian, as well as all librarians who participate in the development of collections for the library. The Collections and Outreach Librarian oversees collection development and maintenance and access to the all library's collections, which includes monographs, serials, digital content and databases, archival collections, the Materials Collection, rare books, visual collections, data and GIS content.

Digitization: consisting of our Digital Initiatives Librarian, whose role is to identify items in our collections, or collections that can be digitized to provide broader access to the unique materials in the library.

Data and GIS: consisting of our Data and GIS Librarian. This role supports the teaching and use of data and GIS for the academic programs and research agendas of the GSD.

Instructional Technology, consisting of a Manager of Instructional Technology whose primary focus is to support instructional technology for the school. The Data and GIS Librarian and Research Support Services Librarian, along with computing HelpDesk staff provide additional support in this area.

Research Support, consisting of a Research Support Services Librarian working in conjunction with other librarian staff; this area supports the research of the faculty and students at the GSD. This area also manages the Academic Writing Services program of the GSD, providing peer tutoring services for any student requiring writing help.

Administrative Support, consisting of a para-professional who provides scheduling support for the Librarian, financial, student payroll, facilities, daily management of finances, and facilities support for the library.

The library is overseen by the Librarian/Assistant Dean for Information Resources.

The Librarian reports to the Executive Dean of the Graduate School of Design. She is also the Assistant Dean for Information Services and a member of the GSD's senior administrative staff, who advise the Dean, the Executive Dean, and the Executive Council on administrative matters. The following professionals report to the librarian: Collections and Outreach Librarian; Data and GIS Librarian; Digital Initiatives Librarian; Manager of Instructional Technology; Research Support Services Librarian; and the library's Staff Assistant.

### *Library Staff*

Since the last NAAB accreditation report and visit, the library has continued to evolve in response to the needs of the GSD and to changes in the Harvard library system. Further staff reorganization and shifts in the Harvard Library system have resulted in a re-envisioned library. Harvard Library, a reinvention intended to bring the many Harvard libraries together, resulted in centralization of some library units. Access Services (formerly Circulation), Technical Services, Conservation, and Digital Imaging are now part of the centralized Shared Services of Harvard Library. Technical Services and Digital Imaging staff are now located elsewhere on campus. Access Services, while on site, report centrally in Harvard Library. The Conservator, also remains on site, and reports to the Weismann Preservation Center of Harvard Library. At the time of the Harvard Library transition, the Special Collections Librarian and the staff assistant retired. Shortly thereafter, the Collections Librarian left for another position. We had the opportunity to hire a Collections and Outreach Librarian who has oversight of the general collections, special collections (now including visual and materials collections as well as rare books and archival collections), data, and GIS collections. We also used the opportunity to create a Data and GIS Librarian position, providing broad support across the GSD in the areas of the use of data, the creation of data, GIS, and emerging technologies in GIS, such as the use of drones.

The library has eight professional librarians (including the head), and a staff assistant. All professional librarians have MLS degrees. All positions in the library have written job descriptions, which are reviewed on an annual basis, and performances are evaluated and goals for the coming year are set annually as well.

As with all professional librarians and support staff at Harvard, there are ample opportunities for professional development and continuing education. The Harvard Center for Workplace Development offers many kinds of programs for both professional and paraprofessional staff. Working with the Human Resources Department at the GSD, professional librarians are able to receive funding each year for attendance at conferences and workshops. Salaries are commensurate with education and experience, and meet or exceed market expectations in the region.

### *Library Collections*

The library's collections are multilingual, have a wide range of topical subjects, and are global in scope. The collections include books, periodicals, serials (in both print and electronic form), visual materials (digital images, DVDs, videos, maps, photographs), rare books, archival collections, and a materials samples collection. The collections have special strengths in twentieth and twenty-first century architecture, city and regional planning, urban design, and landscape design. The library collects in its major areas at the comprehensive research level, and on related subjects at a study or basic level. The library's collections are complemented by holdings at other Harvard university collections, such as the Map Collection, the Fine Arts Library of the Harvard College Library, which covers pre-nineteenth-century architectural history and theory, and Widener Library.

The library has an extensive Special Collections that includes analog and digital formats (noted above). Special Collections is comprised of archival collections, the Materials Collection, rare books, and visual collections. The library holds over 150 archival collections, including the working library and photograph albums from H.H. Richardson's office, the papers of Josep Lluís Sert, the collected papers of Alison and Peter Smithson, and the Kenzo Tange Archive (additional materials are listed online at <http://guides.library.harvard.edu/c.php?g=517137&p=3535624> ). The Special Collections also holds the library's Le Corbusier Research Collection, GSD theses, and other manuscript materials. The visual collections contains an impressive number of digital images of the built environment, a now historic slide collection (in process of digitization), and photograph collections to the curriculum at the GSD. The Materials Collection, one of the first developed in an architecture school, is a physical collection of material samples available for use in teaching and study in the context of research.

An increasing portion of the library's special collections materials is housed in off-site storage and material is delivered upon request within 24 – 48 hours. This group also coordinates the traditional archiving role of the library for electronic data created at the school.

In addition to print and digital materials that the library acquires, the library provides access to a multitude of electronic reference sources, and access to thousands of databases, journals and electronic books in through the University's HOLLIS Plus website. The Avery Index to Architectural Periodicals, Art Abstracts, and Applied Science and Technology Abstracts are among the thousands of HOLLIS+ resources sponsored by the library that are available to students and faculty at all times from any location. In the last three years, we have seen a marked increase in the need for electronic information such as data sets generated from GIS, statistical data, as well as an increase in data generated at the GSD as part of class work and research. We also now subscribe to the Kanopy film streaming service with Harvard Library.

The library catalogs books and other printed materials in OCLC, following current library standards such as AACR2 and The Library of Congress Classification System and LC Subject Headings. These materials are available through [HOLLIS+](#). Visual materials are generally cataloged in Artstor Shared Shelf and made available through [HOLLIS+](#), and the [VIA catalog](#). Special Collections materials (manuscripts and archival collections) are cataloged in [ArchivesSpace](#), and are currently available through [OASIS](#). Cataloging is done in accordance with national standards such as CCO, DACS, the AAT and LC Subject Headings. The Materials Collection is cataloged in CollectionSpace, which allows users to identify what materials we have on-site and that can be seen and used in their research. We have been collaborating with RISD on the development of the database, and are building a nationwide consortium of Materials Collections that will share a database, and will provide access to all our collections.

Collection development for the library is performed by the professional librarians on the staff, guided by the Collections and Outreach Librarian. Acquisitions support current teaching as well as the research needs of the faculty at the GSD and the university as a whole. Suggestions for new acquisitions and input on collection development are sought out and welcomed from faculty and students. In addition, librarians regularly meet with individual faculty and department chairs to discuss curriculum issues and program development. The library takes advantage of several book approval plans to acquire materials, which allows librarians time to pursue publications that present acquisition challenges and to identify and fill gaps in the collection.

The number and variety of electronic resources available in the field of architecture continues to increase rapidly. Loeb Library works across the Harvard campus cooperatively to share the decision-making and costs of acquiring digital acquisitions that are available to the whole of the Harvard community. Electronic resource licensing is financially coordinated across Harvard libraries, which enables Harvard and the GSD to provide access to a vast array of resources cutting across all disciplines.

#### *Description of Services*

The Frances Loeb Library is open 73 hours per week during the regular school term, an increase in the number of hours since the last accreditation report. This was accomplished with the assistance of the Harvard Library centralized Access Services unit. Compared to peer libraries, our current hours fall somewhere in the middle, between 103 hours per week and 63.5 hours per week.

Research support assistance is provided Monday through Friday, between 9 a.m. and 5 p.m., via our online [Ask a Design Librarian](#) service, in person in the library, as private consultation appointments, or outside the library in other areas of the GSD.

The library's book and serials holdings (print and digital), as well as digital image holdings, and some special collections materials are represented by cataloging records in the online [HOLLIS+](#) platform. Automated circulation is part of the HOLLIS system and allows users to determine offsite if the items they need are on the shelves. The online catalog provides users the ability to renew and recall books from their desktop. We also offer a set of virtual services called "Get It" that allow library users the ability to request materials from other Harvard libraries, other institutions via InterLibrary Loan; to obtain articles and book chapters from other Harvard libraries via PDFs; and through [Borrow Direct](#) that allows Harvard community members to borrow books from other Ivy Institutions. These services are available through [Get It Services](#).

The library provides access to a multitude of reference resources in print and electronic form through [HOLLIS+](#). Access to resources such as the Avery Index to Architectural Periodicals, ICONDA (International Construction Index), Art Abstracts, and Applied Science and Technology Abstracts are among thousands of resources sponsored by the library that are available to students and faculty at all times from any location. These electronic resources are end-user services and require no library mediation once users know how to access and use the different resources.

The Frances Loeb Library and the Computer Resources Group (CRG) serve as the information center for the teaching of design at the GSD. Instructional Technology in conjunction with CRG provides technological support to push both textual and visual information to students and faculty. The school uses the University's learning management platform, Canvas, and library staff work actively with faculty members and their teaching assistants to utilize the appropriate tools for their pedagogical goals.

In addition to the Research Support Services Librarian, all librarian staff work with faculty to provide one-time targeted research instruction tailored to the needs of specific classes throughout the year. We also support thesis students in all three program areas through a series of classes and workshops designed specifically to support thesis research. The classes and workshops are designed in collaboration with the faculty to ensure alignment with the thesis goals of the GSD. We are developing partnerships with faculty in which librarians become collaborators in specific courses, working with faculty to ensure that the students become deeply engaged in the use of information at the GSD. An example is the Materials and Media Librarian participating in a class with Sal Craig, in which the librarian developed assignments with Craig to help the students better understand materials.

The library provides three exhibition spaces available as part of the School's public exhibition spaces – the Special Collections Reading Room, the wall just inside the entry of the library, and a new wall at the back of the first floor of the library (created in the summer of 2011 renovations). Additionally, the library uses one wall for library-curated installations that focus on faculty or student research, degree program work, or new acquisitions.

#### *Library Facilities*

The library occupies approximately 27,000 square feet on two levels in Gund Hall. Space is at a premium throughout the GSD, including the library. The library is short on space for physical collections, and there is using off-site storage for ca. 15% of the general collections, and for 80% of our archival collections.

Since 2014, the library has undergone several space changes. In 2014, we re-allocated space in the stacks to accommodate a workspace for PhD students. The space provides desk/workstations for ca. 20 students, with an accompanying tutorial/meeting room. The proximity of the PhD space to library staff has increased connections between the students and the library. At that time, we also brought four Computer Resources staff into library space – the Director of IT, the Web Developer, the Web Administrator, and a staff assistant. The four additional staff were accommodated in space that was formerly technical services and accommodates IT staff, collections staff, Access Services staff, and shared workspace for Harvard Library shared services staff who need to work onsite, and interns for both the Library and CRG.

During the 2014-2015 academic year, the GSD embarked upon a GSD-wide space planning effort, with some emphasis placed upon the library. The result was a four-phase plan that will integrate the library and technology more intimately with the GSD, and will create literal and figurative pathways through the building to promote physical integration. During the summer of 2015, one step in the overall plan was taken. The Special Collections Reading Room was consolidated with the physical space for the visual and materials collections. The former Special Collections Reading Room was cut into to spaces – one for Special Collections storage, and the other half as IT HelpDesk space, and the first phase of our InfoCommons for the GSD. This includes a new entrance on the lower level of Gund into the Library.

The Library is equipped with two 3-M security systems for the collections, one at each of the two entrances (main level of Gund Hall and lower level in the InfoCommons). Written emergency procedures and disaster plans are in place.

#### *Library Equipment*

*Computers:* There are 11 public computers in the Library. Five require GSD account login, and include GSD software and are used for both searching and computing work (this combines the former GSD computer clusters with former library search and access computers; two iPad “kiosks” with no-login required, used primarily to search. The library upgrades all its computer equipment on a regular basis, with a three-year replacement cycle.

*Printers:* There is one printer in the Library, requiring a GSD account to use. This reflects the significant change from print to digital that is occurring in the School.

*Photocopiers:* One Photocopy machine is available on the lower level of the library.

*Overhead scanners:* there are four overhead scanners available; one on the upper level of the library; two on the lower level in the reading/study area; and one in Special Collections intended only for Special Collections materials use. Two of the scanners provide sheet-feeding capability.

*Flatbed scanners:* There are two scanners – one on the upper level, and one on the lower level in Special Collections.

*Slide scanner:* Available in Special Collections; GSD users can access their server space to save image files.

*TV/DVD/VCR:* Available in Special Collections – one small VHS/DVD television set, with headphones, available to accommodate one to five film-watchers.

#### *Budget and Operations*

All aspects of budgeting and operations administration are managed by the Librarian. A budget is submitted each year by program leads to the Librarian, who prepares the general library budget for GSD senior staff review. The budget is reviewed over the year on a monthly basis, and expenditures are managed within predetermined limits.

Working together as the leadership team within the library, the program leads in the library work with the head librarian to establish goals for their areas, and for the library as whole annually and review progress in completing action plans on a regular basis. The staff undertakes a yearly review of previous goals established and progress towards those goals, as well as the setting of new goals and priorities to reflect new developments in the school, Harvard Library, and the profession. Planning is considered to be an integral part of the management process of the library.

#### *Resource Data*

Departmental Library LCNA or 720-729 Collection	N/A
Total Architecture Collection in Departmental Library	267,652
University Library LCNA or 720-729 Collection	250,188
Total Architecture Collection in University Library	N/A
Total Architecture e-books in University Library	1,919
Departmental Library Architecture Slides	158,567
University Library Architecture Slides	270,000
University Digital images total	6,377,784

Departmental Library: Commercial Architecture Videos/ DVDs	812
Staff in Departmental Library*	
There are additionally 3 staff who work in the library but report centrally to Harvard Library	9
Number of Computer Stations	10
Amount Spent on Information Technology**	\$41,500
Annual Budget for Library Resources	\$486,660

\*\*This number includes expenses put towards IT for library-specific operations. It does not include staff and student employees, computers for employees, public computers, which are paid for by the Computer Resources Group.

### **I.2.5 Administrative Structure & Governance:**

#### *Administrative Structure: Harvard University*

Harvard's leadership is responsible for the strategic vision for the University. President Drew Gilpin Faust leads Harvard, and is the 28th President of the University. President Faust is the Lincoln Professor of History in Harvard's Faculty of Arts and Sciences. The Office of the Provost fosters collaboration across the University and manages changes in policies and practices that affect the academic life of the university as a whole.

The Harvard Corporation – also known as the President and Fellows of Harvard College – is the University's executive board. It is the smaller of Harvard's two governing boards; the other is the Board of Overseers. The Board of Overseers, founded in 1642 and the senior of the two governing boards, represents "the ultimate responsibility of the community at large for the operation of the University – the very core of the Overseers' role in Harvard governance being the duty to keep the University true to its Charter as a place of learning." The Board consists of thirty members, often alumni/ae, elected, in groups of five each year, to six-year terms by alumni/ae holding any degree from Harvard or Radcliffe. The Board relies on its Standing and Visiting Committees to keep informed about educational policies and practices of the University and each of its schools; these committees provide advice to, and approve important actions of, the Corporation. Both the Corporation and Overseers must approve major teaching and administrative appointments.

#### *GSD Visiting Committee*

The Visiting Committee of the Graduate School of Design meets biannually with the dean, faculty, senior staff, and students, and submits an evaluation to the University's Board of Overseers. It consists of approximately fifteen design practitioners, academics, planners, developers, legal experts, critics, artists, or other professionals with an interest in the GSD and the design and planning fields. The Committee's visit generally includes discussion and review of the school's long-term goals and objectives; the current status of programs, faculty, students, and resources for support; in-depth focus groups on issues or programs of current concern; visits to studios; meetings with the chairmen and faculty of each department; a luncheon with members of the Student Forum; and a wrap-up meeting with the dean and chairmen.

The Graduate School of Design's Visiting Committee at any one time may consist of approximately fifteen design practitioners, academics, planners, developers, legal experts, critics, artists, or other professionals with an interest in the GSD and the design and planning fields (a list of current Visiting Committee members is included in [Appendix 19](#)). Within the University administrative structure, the independence of the visitation process is particularly important. Visiting Committees answer directly neither to the Corporation nor to the administration. Visiting Committees may obtain and analyze any information they request about a school. The findings of a Visiting Committee are brought to the attention of the Overseers, though their powers are limited formally to calling these findings to the attention of the President and the deans of the Faculties, and it is up to these senior academic officers to determine how

they are to be acted upon. The Visiting Committee's role in program assessment is more specifically detailed in Section I.1.6 "Assessment".

*Administrative Structure: Graduate School of Design*

The Graduate School of Design is one of twelve semi-independent graduate and professional schools within Harvard University. The faculty of each school is headed by a dean who is appointed by the President of the University and is responsible for overseeing all academic and administrative functions of the school, including fundraising, finances, and internal administration.

The Faculty of Design is organized into three academic departments: Architecture, Landscape Architecture, and Urban Planning and Design. Each department is headed by a member of the faculty who is appointed for a specific term to serve as Chair and is responsible to the Dean for advancing the respective academic field and addressing the needs of the field through attracting the most able faculty members and visiting design critics for instruction, scholarship and professional studies. The chairs have responsibility for courses of instruction and for faculty hiring and development. Each degree program has a Program Director. The Program Director in Architecture holds a faculty appointment in architecture and is responsible for coordinating the following: recruiting students, reviewing and admitting applicants, advising students, approving individual study plans and independent studies, recommending or requiring courses of study, coordinating instruction, acting on petitions for student leaves of absence, course substitutions or waivers, and recommending the award of degrees.

Each student at the Graduate School of Design is a candidate in one of the eleven academic programs: M.Arch I and M.Arch II (administered by the Department of Architecture); MLA I and MLA II (administered by the Department of Landscape Architecture); MAUD, MLAUD, and MUP (administered by the Department of Urban Planning and Design); MDes, and DDes (administered by the Advanced Studies Program); MDE (collaborative program between the GSD and the John A. Paulson School of Engineering and Applied Sciences, but administered by the GSD); and the PhD program (jointly administered by the GSD and the Faculty of Arts and Sciences). John May, a member of the architecture faculty, chairs the MDes committee, assisted by faculty from each of the three departments; Martin Bechthold, another member of the architecture faculty, directs both the MDE and DDes programs; and Erika Naginski oversees the PhD committee. GSD Organizational charts can be found at the following web address: <http://www.gsd.harvard.edu/faculty-planning/organizational-charts/>

*Executive Committee*

The Dean's Executive Committee advises the Dean on all administrative policies and the operations of the School. Chaired by the Dean of the Faculty of Design, the Committee ordinarily includes the Department Chairs and MDes and Doctoral co-chairs, as well as the administrative deans. The Executive Committee meets monthly to consider administrative policies for the School.

*Senior Faculty Council*

Members of the faculty holding positions as Professor and Professor in Practice serve as members of the Senior Faculty Council. Among its duties, the Council serves as the standing committee on appointments.

*Governance and curriculum development*

Several faculty committees have been established at the GSD on an *ad hoc* basis for review of curriculum over the years. Committees reviewing aspects of the Master in Architecture program report to and work with the Chair of the Architecture Department – also consulting with others, including students, as appropriate. The full voting faculty of the GSD must review and approve any curricular change proposed by the Department of Architecture or by other departments.

Several faculty committees exist to review cross-school issues. The Committee on Development and Outreach works to identify key investment priorities for the school and to evaluate outreach activities -- including publications, exhibitions, conferences, lectures -- as they relate to both the academic and financial objectives of the school. The Committee on Faculty Personnel, chaired by Prof. Antonio Jose Gomez-Ibanez, is looking at best practices for hiring and promotion, reviews, workload, reporting, norms

for avoidance of conflicts of interest and commitment, and junior faculty development. The Committee on School-Wide Instructional and Curriculum Issues is charged with addressing studio instruction issues raised by the *Studio Study* (May 2004), as well as issues involving school-wide, rather than department-specific, instructional and curriculum matters raised at previous faculty and student-faculty meetings.

#### *Student Forum*

The Student Forum is the governance body elected by students that works with faculty and administration to address a variety of issues within the school. The Academic Affairs subcommittee is responsible for remaining in touch with students about concerns related to curriculum, course scheduling, and other academic matters. This group of students comprises the student membership of the Student Affairs Committee, which also includes the faculty program directors from each of the school's programs, the assistant dean for academic services, the dean of students, and the executive dean. The agenda is set by the students and discussion centers on whatever issues they feel are most pressing. The Student Forum as a whole has lunch meetings monthly with the dean. They set the agenda and raise any administrative or academic issues that they wish. The administration takes these issues seriously and works with the Forum to implement agreed upon changes.

The structure of the GSD Student Forum is flexible, and has evolved over the years to reflect the primary interests of the student body. Today, the Student Forum is headed by nine elected officers who oversee the forum's primary areas of initiative: academics, events, infrastructure, alumni relations, internal and external communications, and funding. In order to keep informed of students' primary concerns, the Student Forum officers rely on volunteer class representatives from each of the GSD's academic programs – Architecture, Landscape Architecture, Urban Design and Planning, Master in Design Studies (MDes), and Doctor of Design (DDes). The Class Representatives determine the primary issues of their classmates, and set the agendas for meetings with departmental heads. The Student Forum Officers and Class Representatives come together to form committees centered on specific school-wide issues. These committees function sometimes as support for the Officers, and sometimes as “think tanks” for solving persistent issues such as the faculty advising system, student contact with alumni, and the lack of interdisciplinary courses at the GSD. The Student Forum committees are flexible, and can be formed and disbanded by the Officers depending on current student-wide interests.

In addition, every student is asked to complete an evaluation of each of his or her courses at the end of every term. These are collected by the departments, kept available (in summary form) for reference by students, and referred to by the department chair in consultation with faculty for improving teaching, and they are also considered in reappointments of visitors and in promotions of faculty members. (A sample course evaluation form is included in [Appendix 17](#)).

An Academic Affairs Committee is composed of students who serve on the Student Forum, the faculty program directors, and several administrators. Students set the agenda for these meetings and discuss whatever concerns they feel are appropriate. Regular meetings with the chairs and program directors give students the opportunity to voice their concerns in open discussions. Also, occasional Student Surveys are conducted. Focus groups have also provided students with opportunities for giving feedback.

Student representatives also meet biannually with the Visiting Committee, and participate in faculty presentations on the curriculum to the Alumni/ae Council. Students do not sit on faculty search or other governance committees. To help the faculty remain cognizant of student opinion and perceptions, the chair schedules open discussions with students throughout the academic year.

#### *GSD Alumni/ae Council*

The 50-member GSD Alumni/ae Council, which represents approximately 13,000 alumni/ae, meets semi-annually to learn about the school and its programs. The Alumni Council is the primary representative body of Graduate School of Design alumni. With the fundamental goal to promote the GSD and bring the School to the world, the Council membership spans a wide array of fields, demographics, and regions. These distinguished practitioners and academics are highly engaged in not only the design issues of the day but also civic, professional, governmental, and business affairs within their communities. Council

members provide a strong link between the walls of Gund Hall and the “real world” beyond. They contribute to the welfare of the School by connecting alumni and students, and by representing excellence in their chosen professions, which reflect the School’s diverse array of programs.

The Council meets semi-annually to learn about the school, its programs, and students. Each two-day program offers opportunities for discussion and feedback, and also provides a chance for current students to meet the Council members. At each meeting the representatives from various academic departments/faculty, school leadership/administration, and student forum/student organizations provide insight and information to the Council. All information presented to these volunteers is designed to encourage discussion on ways that the Council can help inform fellow alumni on activities of the school in an effort to build a more deeply engaged community willing to participate in the life of the School.

## **PART TWO: EDUCATIONAL OUTCOMES AND CURRICULUM**

### **PART TWO, SECTION 1: EDUCATIONAL REALMS AND STUDENT PERFORMANCE CRITERIA**

#### **II.1 Student Performance Criteria**

##### *Program Overview: Master in Architecture (M.Arch I) Professional Degree*

The program leading to the Master in Architecture as an accredited professional degree is intended for individuals who have completed the bachelor's degree with a major other than one of the design professions, or with a pre-professional undergraduate major in one of the design professions. The course of study is rigorous and comprehensive, preparing graduates for the full range of professional activities in the field of architecture. It provides a solid intellectual base of knowledge in history, theory, technology, the social environment, and professional practice. Particular emphasis is given to developing mastery of design through an intensive series of design studio courses. As part of the process of developing independent thinking and resolving design issues, students are required to prepare a design thesis to serve as a transition from graduate school to professional practice.

In order to attain registration for professional practice after completion of the degree, candidates must complete internships in professional architectural offices and pass registration examinations. Many students fulfill a portion of their internship requirements during summer breaks while in graduate school.

The first four semesters of the first professional degree program are an introduction to architectural design; history and theory of architecture; structural, environmental, and construction technologies; professional practice; and visual studies and digital media. The introduction to architectural design consists of a sequence of four studio courses. These courses provide a broad overview of issues and skills commonly needed to solve most architectural design problems, so that the full potential of design is perceived and explored. Several design problems are given each semester – as separate, short-term exercises in the first year, and as targeted design studies within semester-long design projects in the second year. Design briefs range from studies of the organizational principles found in human habitat to buildings of a relatively complex technical nature. Concurrent with the design courses, students in the two-year core sequence are required to take fixed sequences of courses in visual studies, history and theory, and technology, as well as a required course in professional practice. Following four semesters of core studios and core courses, the final three semesters of the professional program provide design study at a more advanced level. Students in their fifth and sixth semesters may express preference from among a number of studio options. These studios offer a variety of topics and approaches to design, and placement is based on an optimization technique to give as many students as possible (typically averaging 85-90%) their first or second choice priorities. In addition to the studios offered in architecture, studios are occasionally given in which the faculty and students of two or more programs collaborate on design projects. All students commence thesis preparation at the end of fifth semester by finding a faculty member to serve as their thesis adviser in the following two semesters. Under the supervision of their advisers, students write an independent thesis preparation document in the sixth semester. Students complete the thesis work, which may be an independent design thesis or an academic research project, in the seventh semester. Concurrent with advanced design study (options studios and thesis), students are required to take a final case-study based course on applied technology (applicable to classes graduating in 2018 and prior) or professional practice (applicable to classes graduating in 2019 and later) as well as distributional electives in advanced history, professional practice, and a category we call “global and cultural diversity in architecture” (formerly “non-Western architecture”, now broadened to acknowledge issues of diversity and representation within US/Western societies as well). Individual students may be able to fulfill one or more of these distributional requirements in earlier years.

### *Architecture Studios*

It is important to note that within the GSD, the studio experience for each student in each semester is first and foremost an internal arena for the synthesis and distillation of the complex and wide-ranging issues that define the phenomenon of architecture. From the beginning and throughout the studio program, the students are designing architecture. They progress from the design of smaller projects with simple programs and narrowly focused pedagogic objectives to larger, more complex projects with broad, ambitious intentions aimed at significant personal research in architectural design.

Within the context of the studios, one of the primary responsibilities of the faculty is to establish an open-ended yet structured and understandable discourse about the possibilities of present-day architecture. While this type of discourse often produces projects of great diversity and occasional true invention, its success can only be measured against the participants' acquired knowledge and understanding of time-tested, fundamental principles of design, building technique, and architectural practice, history, and theory. The rigor and discipline with which this knowledge and understanding is applied to each studio experience becomes the ultimate challenge to the strength of the program – as is true for the design of projects in the "real" world outside the academy.

#### *Note on course numbering and titles in the following SPC descriptions:*

*Between academic year 2015-16 and academic year 2017-18, the GSD M.Arch I Program has revised the sequence of required courses in technology and professional practice and, in some cases, the titles, numbering and content of those courses. Because the scope of the current Architectural Program Report includes the previous six academic years, we attempt to alleviate confusion about old and new course numbers, titles, and content by referring to a course fully by number, title, and (where appropriate) year. Generally speaking, there are two curricular tracks described: the former (in effect for graduating classes through 2018); and the current (in effect for graduating classes from 2020 on). The class of 2019 will have met all requirements of the former and current curricular tracks through a carefully sequenced transitional phase. The motivations, goals, and specific steps taken to transform the program's core technology sequence are described in greater detail in Section II.2.2 under the subheading "M.Arch I Degree Requirements".*

### **Realm A: Critical Thinking and Representation**

The requirements of this category of Student Performance Criteria are in some ways the most generally described, yet they also speak the core values of the GSD's design pedagogy. Critical thinking, all manner of communication skills, understanding of diverse histories and cultural identities, an ability to collect and analyze data from various sources, an ability to synthesize disparate requirements into one or more design solutions – these are the highest order of skills required in the design professions today. The fact that our students meet these challenges not only through their work in the core studios but also, variously, in their required courses in visual studies, history, and theory, highlights the ways in which the GSD's M.Arch I program prioritizes critical thinking and representation in our pedagogy.

A.1 Professional Communication Skills. Public speaking, participation in class discussions, effective listening at desk crits and in jury reviews are fundamental skills that are fostered in all four core studios of the M.Arch I program (GSD-1101, 1102, 1201, 1202); on occasion, particularly when spontaneous speaking skills are lacking, students may be asked to write summaries about their design goals and steps they have taken to achieve them prior to a review. Core studios also assign a variety of readings that will foster a high level of conceptual discussion in class. Reading and writing forms the core of student work for required history classes (GSD-4121, 4122, 4223: Buildings, Texts, and Contexts), and both verbal presentations and written papers are required of students in Cases in Contemporary Construction (GSD-6230). The GSD also places a high value on students' graphic and representational skills. Perhaps even more so than in past generations, the ability to communicate one's design ideas in the form of diagrams, sketches, analytical drawings, rendered views, animated spatial sequences, and so on will make the difference in our program graduates' ability to find employment, land commissions, persuade clients and constituencies, and inspire interest in the built environment. Visual communications skills are honed in each of the core studios (and option studios), as well as being the primary focus of the four required

courses in visual studies: Visual Studies (GSD-2121), Projective Representation in Architecture (GSD-2122), Digital Media I and II (GSD-6223 and 6224). In addition, courses in other subject areas – from Buildings, Texts and Contexts (GSD-4121, 4122, and 4223) to various technology courses (GSD-6121, 6123, 6227, 6229, and 6230) – all require students to submit coursework demonstrating fluency in visual communication. Virtually no course among the required M.Arch I curriculum is immune to such requirements.

A.2 Design Thinking Skills. The ability to raise clear and precise questions, to interpret data, to consider alternatives, and argue for specific conclusions – these again are central skills to the development of architectural designers, and the carefully sequenced series of exercises introduced in four semesters of core studios (GSD-1101, 1102, 1201, 1202) are aimed at developing increasing skill and confidence in our students in this arena.

A.3 Investigative Skills. The ability to gather, organize, and evaluate various kinds of information with that might impact or shape a design proposal is the basis of a student's learning to undertake research as part of architectural design activity. Though "Use of Precedents" and "Research" are listed as separate Student Performance Criteria here (A.6 and C.1, respectively), boundaries between these activities are fluid: precedent research is a primary form of architectural investigation, and investigative skills are critical to applied research. Both third- and fourth-semester studios (GSD-1201 and 1202) have an intensive research/investigative component during the early weeks of the project, related to precedent analysis, studies of urban context, ecological assessment of sites, and so on. Required history courses (GSD-4121, 4122, 4223) require a different set of investigative skills, having to do with collecting and analyzing textual data and forming conclusions based on a critical reading of those sources. A demonstration of investigative skills might also include analytical studies done by students in technology classes such as GSD-6125, 6227, and 6229, where the precise computational results of energy and/or structural testing can be provided to argue for specific design decisions.

A.4 Architectural Design Skills. The GSD's M.Arch I program emphasizes fundamental design skills our first-year design curriculum. Architectural design skills taught in the first-year studios (GSD-1101 and 1102) emphasize the need for students to learn to work iteratively, in sketch mode, as they synthesize demands of spatial organization and use, form and appearance, materials and tectonics, and site context. Representational technique and conceptual clarity in graphic and verbal presentations are the central focus of studio instructors' feedback on student projects. Fundamental inputs from non-studio courses during the first-year curriculum include descriptive and projective geometry; relationship to place, cultural context, and history; tectonics, constructability, and structural performance; considerations of siting, such as solar orientation for daylighting, energy efficiency, etc.; and other concerns for sustainability. Architectural Design Skills of a more advanced nature are required for second-year core studios (GSD-1201 and 1202), third-year studios (various options), and thesis (GSD-9301).

A.5 Ordering Systems Skills. Understanding the fundamentals of natural and formal ordering systems seems to describe the basis of any act of design, at least as design is understood in the context of the GSD's pedagogy. Geometrical analysis of simple and complex systems is so fundamental to the activities of the first-year design studios, for example, that the course Projective Representation in Architecture (GSD-2122) was designed and is constantly updated to give students the advanced 2-D and 3-D visualization skills they will need to analyze and produce architectural ordering systems at a variety of scales and degrees of abstraction or concretization. Digital Media courses (GSD-2223 and 2224) expand on students' understanding of ordering systems by unlocking the logic of complex rendering, fabrication, and scripting software. All four core studios demonstrate students' engagement with Ordering Systems.

A.6 Use of Precedents. Research into and analysis of building precedents is one of the fundamental ways that students at the GSD learn to engage architectural history while developing their own design skills and sensibilities. Precedent study plays a fundamental role in each of the core studios, as well as forming the basis for creative assignments in Projective Geometry (GSD-2122) and analytical assignments in Buildings, Texts, and Contexts (GSD-4121, 4122, and 4223), and Construction Systems (GSD-6123).

A.7 History and Global Culture. Architectural history courses at the GSD provide students the most direct means for understanding building traditions of both western and non-western cultures. The organization of the three required courses in architectural history under the title “Buildings, Texts, and Contexts” (GSD-4121, 4122, and 4223) alludes to the important role that historical writings on architecture and historical research on society and culture – in addition to images and physical artifacts – play in our pedagogy. There is no understanding a building without understanding the societies, customs, and traditions that formed it – as well as the conventions that were broken by innovative architectural proposals. In an earlier iteration of the NAAB Conditions for Accreditation, “global culture” was represented by a requirement that professional degree students receive exposure to non-western architecture; the GSD’s architecture program has retained the idea of exposure to non-western cultures as a positive feature of one’s architectural education. Each of the required “Buildings, Texts, and Contexts” courses introduces one or more buildings in Asia, the Middle East, Africa, and/or Latin America among its topics of study; however, due to the pedagogical emphasis on historical texts, the emphasis of those courses falls squarely on examples from European and North American architectural history. In order to promote exposure to diverse cultural traditions, therefore, the Department of Architecture maintains a requirement that professional degree candidates complete at least one course in which non-western architecture (architectural history or contemporary culture) is central. The Global and Cultural Diversity distributional elective may be fulfilled by a studio traveling to China or by courses on Turkish modernism, East Asian urbanization, Japanese construction, and so on; because no single “non-western” course is required of all M.Arch I students, however, none of these electives are shown on the matrix. See [Appendix 16](#) for a list of all courses approved as fulfilling the Global and Cultural Diversity distributional elective (2016-present) and Non-Western Architecture distributional elective (2012-16).

A.8 Cultural Diversity and Social Equity. An understanding of cultural diversity is of increasing importance to architects of the future, many of whom will be called upon, in their designs, to navigate the complexities of identity politics in urban communities and to use design as a tool to increase social amenity and cohesion. The fourth-semester core studio (GSD-1202) is designed to introduce architecture students to a numerous challenges related to large-scale development in an urban context, among these an interpretation of social and spatial patterns in existing urban contexts. The final “Buildings, Texts, and Contexts” course, GSD-4223, which focuses on twentieth-century architecture and urbanism, introduces students to the social and political context in which nations, cities, and communities have become increasingly heterogeneous and globalized. In addition, the Global and Cultural Diversity distributional elective may be fulfilled by a studio focusing on the intersection of design and social agency (e.g., Dan D’Oca’s GSD-1502 Refugees in the Rust Belt; Marina Tabassum’s GSD-1309 \$2,000 Home); lecture courses on preservation and power; seminars exploring community-based design; and so on. Because no single “cultural diversity and social equity” course is required of all M.Arch I students, however, none of these electives are shown on the matrix. See [Appendix 16](#) for a list of all courses approved as fulfilling the Global and Cultural Diversity distributional elective (2016-present).

## **Realm B: Building Practices, Technical Skills, and Knowledge**

Student Performance Criteria in this realm encompass a wide variety of skills and sensibilities: students must acquire not only technical knowledge regarding the constructability and sustainability of their designs but also an understanding of accessibility and life safety that will justify the role they wish to play in society.

B.1 Pre-Design. The fourth-semester core studio (GSD-1202) is designed to introduce architecture students to a numerous challenges related to large-scale development in an urban context. Compared to previous studio briefs in which students are given a more fixed program and site, the final core studio challenges students to understand how the conditions of building design are determined – such as (in the case of large-scale urban projects) analysis of existing urban fabric, zoning and existing uses, needs of a community, social networks, political forces, potential financial incentives for development, and so on – prior to writing up programs. Preparation for the Independent Design Thesis (GSD-9301) requires that students develop not only the conceptual basis for their projects but also consider feasibility and suitability

of site and program to their speculative design pursuits (frequently including other Pre-Design-related SPC, such as Precedent Study).

B.2 Site Design. The fourth-semester core studio (GSD-1202) is designed to introduce architecture students to a numerous challenges related to large-scale development in an urban context. In some years, the Department of Architecture has collaborated with the Department of Landscape Architecture in offering shared exercises between fourth-semester professional degree students (M.Arch and MLA) at the beginning of term, so that together they might share cross-disciplinary skills in the analysis of topography, watershed ecology, solar orientation, and so on. Prior to making proposals for building forms and programs on their urban sites, architecture students must present their findings on appropriate site responses with regard to various sustainability concerns. The role that energy concerns play in site design is also intensively studied in lecture courses dealing with energy and environment, GSD-6121 and GSD-6122 (or 6122 and 6125, in versions of those courses prior to fall 2017).

B.3 Codes and Regulations. The M.Arch I curriculum challenges students to understand and master life safety system design in two ways: first, in the design of a legally compliant egress system for the (programmatically complex) building they design in the Comprehensive Design Studio (GSD-1201, see below); and second, in considering alternatives to the fire safety and evacuation system proposed in one of the Cases in Contemporary Construction (GSD-6230) case studies. Discussion of social equity, inclusivity, and accessibility occurs in nearly every GSD studio; but accessibility as an issue of code-compliance is formally incorporated only into the pedagogy of the third-semester core studio (GSD-1201). This studio provides guidelines for interpreting ADA regulations in building design and requires student to integrate these into their building designs. The online document “GSD Guide to Building Code Basics” serves as a key reference for students in GSD-1201 and other studios for understanding and interpreting codes as designers (see <http://www.gsd.harvard.edu/resources/special-interest-links/>). The architect’s professional and ethical obligation to understand, interpret, and comply with various codes is emphasized in Foundations of Practice (GSD-7212).

B.4 Technical Documentation Skills. Where “technical documentation” refers to the development of drawings and specifications for construction assembly, the most demanding core courses in this area are two construction courses – Construction Systems (GSD-6123) and Cases in Contemporary Construction (GSD-6230) – each of which structures its assignments in a way that asks students first to analyze precedents for similar kinds of constructions, then to synthesize their acquired knowledge into the design of original detail designs.

B.5 Structural Systems. The GSD’s M.Arch I program offers one of the most comprehensive courses of study in building structures found among North American architecture schools. Two sequential courses on Structural Design are required in the program: GSD-6227 deals primarily with the analysis of discreet structural elements (columns, beams, trusses, etc.) as well as structural frames; GSD-6229 studies more complex structural behavior, including planar systems, shells, tensile structures, high-rise, kinetic and other advanced structures. In addition, the introductory construction course (GSD-6123) introduces students to principles of static equilibrium, framing, and other structural topics related to construction basics. As part of its holistic approach to building system integration, Cases in Contemporary Construction (GSD-6230) requires students to construct structural models of case study buildings and analyze a variety of structural alternatives within a broader discussion of design goals. Structural learning is applied directly to core studio assignments in the second and third semester (GSD-1102 and 1201).

B.6 Environmental Systems. Through academic year 2016-17, two required lecture courses, GSD-6122: Energy in Architecture and GSD-6125: Environmental Systems for Architecture provided students with fundamental and advanced knowledge of energy, thermal control, air quality, daylighting, and other environmental aspects of architecture – as well as introducing them to numerous software applications for testing the performance of both existing and projected buildings. Among topics introduced were principles of environmental systems (deep discussion of laws of thermodynamics and their implications for architecture); bio-climatic design and its techniques, history, and how it can co-determine aspects of design; basic principles of daylighting and natural ventilation along with building envelope design,

envelope materials and their associated basic heat transfer principles. These courses also had a focus on various forms of life-cycle analysis and ecosystem accounting that are conspicuously absent from the listed NAAB criteria but are enormous factors in the ecology of building. The current 2017-18 line up of energy-and-environment-related core courses (GSD-6121, 6122, 6125, 6126) offer comparable content, re-organized into a sequence of four half-semester courses that start from first principles and build towards advanced computational analysis and implications for material science and lifecycle analysis.

B.7 Building Envelope Systems and Assemblies. Technical, constructional, and design aspects related to building envelope receive considerable attention in the M.Arch I core curriculum. Energy performance and durability of building envelopes were – in the previous sequence of core technology courses – principal topics of study in GSD-6122 (formerly Energy in Architecture, now Environmental Systems II), GSD-6125 (formerly Environmental Systems in Architecture, now Building Simulation), GSD-6230 (Cases in Contemporary Construction), and, to a lesser extent, GSD-6123 (Construction Systems). The former two courses emphasize thermal and daylighting aspects of building envelope systems; the latter two, durability, constructability, and maintenance issues. Beginning in spring 2018, a new required course, GSD-6126 (Materials) will introduce additional content related to building envelope design, with focus on advanced or “smart” materials.

B.8 Building Materials and Assemblies. Material properties, material selection, construction assemblies and building systems are principal topics of three courses – the course formerly known as Construction Lab (GSD-6121), now reframed as part of the energy sequence with new title and course number as Materials (GSD-6126); Construction Systems (GSD-6123); and Cases in Contemporary Construction (GSD-6230) – corresponding to introductory, intermediate, and advanced courses in construction. The sequence of courses progresses from a primarily empirical mode (hands-on experimentation) to a speculative design mode (inventing construction details for small-scale constructions) to the analysis of complex detailing systems across a wide range of performance and design criteria (case study work). Material assembly also touches on the interests of the energy and environment lectures (GSD-6122 and 6125) and is engaged synthetically in the third-semester core studio (GSD-1201, also qualifying as the Comprehensive Design Studio).

B.9 Building Service Systems. Students are given an introduction to conventional and innovative heating and cooling systems in GSD-6121 (Environmental Technologies I); prior to the current academic year, this material was covered in GSD-6122 (Energy in Architecture). More comprehensive coverage of mechanical, electrical, fire safety, and vertical circulation systems is provided in GSD-6122 (Environmental Technologies II); prior to the current academic year, this material was covered in GSD-6125 (Environmental Systems for Architecture). In each of these more advanced courses, students take an in-depth tour of Gund Hall with the instructor and the GSD’s building engineers, focusing exclusively on the building systems listed under this SPC. An Artist for Humanity building tour also covers these topics; the building was specifically chosen to highlight their semi-active night cooling strategy and their photovoltaic system (in addition to energy recovery and passive solar design). Building systems also play a role in case study assignments in Cases in Contemporary Construction (GSD-6230).

B.10 Financial Considerations. No single course in the M.Arch I required curriculum covers all the aspects entailed in this SPC; instead, its component aspects are dealt with separately in at least two required courses. Project financing and cost estimating are addressed in Foundations of Practice (GSD-7212); students are challenged to estimate construction and operation costs, based on comparative data, in case studies assigned in Cases in Contemporary Construction (GSD-6230). Among the lecture courses offered as professional practice distributional electives are Real Estate Finance and Development (GSD-5204), Real Estate Finance and Development Fundamentals (GSD-5492, jointly offered with the Kennedy School of Government), and Design and Development: from Concept to Implementation (GSD-7411) – each of which provides more substantial development of financial modeling skills. In particular, Sustainable Real Estate (GSD-5364) covers acquisition, construction and permanent financing with a particular focus on investment and financial risk analysis of construction and building technologies. Together, these distributional electives provide opportunity for students to develop financial skills in construction and real estate finance, highlighting points where business and financial

decision intersect and shape design decisions. (Note: because no single professional practice distributional elective is required of all students, these elective courses have not been listed in the SPC matrix.)

### **Realm C: Integrated Architectural Solutions**

The means by which students in the M.Arch I degree program demonstrate their ability and understanding in integrated building practice is seen in the work of the third-semester core design studio.

C.1 Research. Both the third- and fourth-semester core studios emphasize various kinds of research (into building materials, precedents, urban built and social context, terrain and site ecology, etc.) in preparation for semester-long design projects. Another critical demonstration of a student's ability to undertake and apply research in a design setting is seen in the preparation and execution of the Independent Thesis in Satisfaction of the M.Arch Degree (GSD-9301), whose goals, requirements, and policies are detailed in greater length elsewhere in this report.

C.2 Integrated Evaluations and Decision-Making Design Process. The third-semester core studio (GSD-1201) is designed as the M.Arch I degree program's "Comprehensive Design" studio, in which students are required, through the design of an individual building on a given site, to demonstrate their ability to make intelligent design decisions across scales and implement technical skills across a wide range of criteria. As such, the third-semester core studio is a kind of "workhorse" that responds directly to numerous Student Performance Criteria specified by the NAAB in Realm C. Because it has fulfilled this role within the accredited M.Arch I degree program for many years previously, the emphasis of the third-semester studio is particularly sensitive/responsive to changes in SPC for accreditation. The studio is set up so that students have 13 weeks to generate and refine their designs for a single building complex in an iterative fashion, with continuous opportunity for feedback from their instructor and from consultants and critics from diverse areas of expertise (structural, environmental, regulatory, program-related, etc.). The feedback loop – and the requirement to respond to a growing list of technical criteria – ensure an intense engagement with an integrated design process.

C.3 Integrative Design. The third-semester core studio (GSD-1201) program brief varies year to year: past years have seen students designing library/media centers, performing arts centers, various forms of mass housing, mixed-use institutional buildings, and so on. In each case, a methodically structured series of exercises requires students to incorporate responses to building site, circulation (egress and accessibility), structural system, building services and life safety, building envelope and material detailing into a holistic and thoroughly documented building design proposal.

### **Realm D: Professional Practice**

The majority of Student Performance Criteria in this category are met by a single required course, GSD-7212: Foundations of Practice, taught by Jesse Keenan and Jeffrey Burchard (prior to 2017: GSD-7212: Issues in Professional Practice, taught by Maryann Thompson and Jay Wickersham). The goals of this course – to provide a comprehensive basis for graduates to consider a wide range of legal, ethical, financial, and strategic issues facing the profession – are well aligned to the goals of NAAB in this section. Most or all of these topic areas are also covered (and in some cases, covered in greater depth) in other GSD courses that the students may use to fulfill the professional practice distributional elective requirement. A list of approved professional practice electives appears in [Appendix 16](#). However, for the purposes of the SPC matrix, only required courses are listed and commented on here. As noted below, a number of other required courses, such as studios and technology courses, also contribute to rounding out students' understanding of professional collaboration, leadership, and practice issues.

D.1 Stakeholder Roles in Architecture. The professional role of the architect – among a team of diverse collaborators and consultants – in eliciting, shaping, responding to, and representing project and client needs is a principal topic of study in the required course GSD-7212: Foundations of Practice (formerly, Issues in Professional Practice). This course covers a spectrum of private and public stakeholders both internal and external to the contractual privity of a project. Case study assignments in the required course GSD-6230: Cases in Contemporary Construction require students to analyze client needs and priorities

and to compare these with the results produced by the architects and their design collaborators in each case.

D.2 Project Management. Obtaining commissions, selecting and managing collaborative teams, maintaining project quality and oversight are explicit topics of discussion and debate within the courses GSD-6230: Cases in Contemporary Construction and GSD-7212: Foundations of Practice (formerly, Issues in Professional Practice). In the latter course, a focus on organizing and facilitating projects is oriented within conventional matrix and pyramid management models common in architectural practices.

D.3 Business Practices. Organizational and strategic management, financial and personnel management, accounting, business planning, insurance and risk management, and marketing are among many issues related to the development and management of a professional practice covered by GSD-7212: Foundations of Practice (formerly, Issues in Professional Practice).

D.4 Legal Responsibilities. GSD-7212: Foundations of Practice (formerly, Issues in Professional Practice) introduces students to legal aspects of the architectural profession, including registration regulations; contract, property and construction law; zoning and planning regulation; historic preservation accessibility, and sustainability regulations; and, professional liability. The teaching of legal aspects of professional design practice, based on case study methods, has long been considered a strength of the GSD's M.Arch I program. In addition, students get hands on experience in drafting and negotiating within the AIA contracts platform.

D.5 Professional Conduct. Ethical issues regarding professional conduct; social and environmental equity; competing constituencies in the public realm; conflicts of interest, and so on are covered by GSD-7212: Foundations of Practice (formerly, Issues in Professional Practice). The course also provides students with a solid understanding of the architect's ethical responsibility to the general public, the profession, to the client, to colleagues and to the environment. To this end, the course balances the instruction of formal ethical cannons with the development of professional judgment. Case study assignments require students to form judgments and apply formal rules to fact patterns that highlight critical areas of contestation within any given stage of a commission and project. Other topics of ethical import including historic preservation and NIMBYism; material consumption; quality-of-life issues affecting local and global constituencies; and, other arenas in which architects may find themselves torn between the pros and cons of an architectural proposal or project are highlighted.

*Matrix of Student Performance Criteria within the M.Arch I Degree Program*  
See following page.

		A.1 Professional Communication Skills	A.2 Design Thinking Skills	A.3 Investigative Skills	A.4 Architectural Design Skills	A.5 Ordering Systems	A.6 Use of Precedents	A.7 History and Global Culture	A.8 Cultural Diversity and Social Equity	B.1 Pre-Design	B.2 Site Design	B.3 Codes and Regulations	B.4 Technical Documentation	B.5 Structural Systems	B.6 Environmental Systems	B.7 Building Envelope Systems & Assemblies	B.8 Building Materials & Assemblies	B.9 Building Service Systems	B.10 Financial Considerations	C.1 Research	C.2 Integrated Evaluations & Decision-Making	C.3 Integrative Design	D.1 Stakeholder Roles in Architecture	D.2 Project Management	D.3 Business Practices	D.4 Legal Responsibilities	D.5 Professional Conduct	
<b>STUDENT PERFORMANCE CRITERIA MATRIX</b>																												
	1101: First Semester Architecture Core: PROJECT	X	X	o	X	X	X																					
	1102: Second Semester Architecture Core: SITUATE	X	X	o	X	X	X				X																	
	1201: Third Semester Architecture Core: INTEGRATE	X	X	X	X	o	o					X					o			X	X	X						
	1202: Fourth Semester Architecture Core: RELATE	X	X	X	X	o			o	X	X									X								
	2121: Visual Studies	o																										
	2122: Projective Representation in Architecture	o				X	X																					
	2223/2224: Digital Media I/II	o				X																						
	4121: Buildings, Texts, and Contexts I	o		o			o	X																				
	4122: Buildings, Texts, and Contexts II	o		o			o	X																				
	4223: Buildings, Texts, and Contexts III	o		o			o	X	X																			
prior	6121 (2016 and prior): Construction Lab																o											
	6122 (2016 and prior): Energy in Architecture										o				o	o		o										
	6125 (2017 and prior): Environmental Systems in Arch.			o							o				X	X		X										
current	6121 (2017 and later): Environmental Technologies I										o				X	o		o										
	6122 (2017 and later): Environmental Technologies II										o				X	o		X										
	6125 (2018 and later): Building Simulation			o											X	X	o											
	6126 (2018 and later): Materials														o	X	o											
	6123: Construction Systems						o						X			o	X											
	6227: Structural Design I			o										X														
	6229: Structural Design II			o										X														
	6230: Cases in Contemporary Construction											o	X	o		X	X		X				o					
	7212: Foundations of Practice											o							o					X	X	X	X	X
required	9301: Independent Design Thesis	X	X	X	X					X										X								
electives	Options Studio I																											
	Options Studio II																											
	Advanced History Distributional Elective I																											
	Advanced History Distributional Elective II																											
	Global and Cultural Diversity Distributional Elective							X	X																			
	Professional Practice Distributional Elective																		X									

X = primary course for SPC  
o = secondary course for SPC

## PART TWO, SECTION 2: CURRICULAR FRAMEWORK

### II.2.1 Institutional Accreditation

Harvard University is accredited by the New England Association of Schools and Colleges (NEASC), whose most recent accreditation visit occurred in 2009 and whose next visit is scheduled for 2017. Confirmation of Harvard's regional accreditation is found online at the NEASC website:

<https://cihe.neasc.org/about-our-institutions/roster/harvard-university>

A copy of the latest accreditation letter from NEASC can be found in [Appendix 14](#) (see Part Four: Supplemental Materials).

### II.2.2 Professional Degrees and Curriculum:

The GSD's Department of Architecture offers the following professional degrees in architecture:

#### Master in Architecture, 140 units (105 graduate credit hours)

The Master in Architecture I program is intended for individuals who have completed a bachelor's degree with a major other than one of the design professions or with a pre-professional undergraduate major in one of the design professions. The three-and-one-half year course of study is rigorous and comprehensive, preparing graduates for the full range of professional activities in the field of architecture. It provides a solid intellectual base of knowledge in history, theory, technology, the social environment, and professional practice. Particular emphasis is given to developing mastery of design through an intensive series of design studio courses. As part of the process of developing independent thinking and resolving design issues, students are required to prepare a design thesis to serve as a transition from graduate school to professional practice.

Preference for admission is given to individuals who have completed a balanced undergraduate education that includes study in the arts, sciences, and humanities. A minimum of a one-semester, college-level course in calculus or higher-level mathematics and a one-semester, college-level course in physics, preferably in mechanics, is required. A minimum of two semesters of college-level survey courses in the history of art and/or architecture, preferably covering the ancient to modern periods, is also required. Applicants must achieve a grade of B or better in each of these prerequisite courses. Preparation in the visual arts is desirable and may include drawing, sculpture, graphic design, and/or digital media.

#### Master in Architecture, Advanced Placement, 100 units (75 graduate credit hours)

Individuals who have completed a pre-professional four-year Bachelor of Arts or Bachelor of Science degree with a major in architecture or environmental design may be eligible for admission with advanced standing, subject to the review of the admissions committee. Such applicants are considered for placement in the third term of the M.Arch I program, thus reducing the required course of study to two-and-one-half years. Applicants who are granted advanced standing must have completed the same preparation in college-level calculus, physics, and history as described in the previous paragraph, as well as undergraduate courses that are roughly analogous to the course of study of the first year of the graduate program, including architectural design studios where they have demonstrated high achievement, drawing and visual media, architectural history, and building technology.

M.Arch I degree candidates admitted with Advanced Placement enter the sequence in the third semester and proceed through; however, depending on their previous coursework, many are required in their third semester to take Environmental Systems I and II (6121 and 6122 respectively), while their counterparts who did not enter with advanced standing would be taking Buildings, Texts and Contexts (4223) instead. The Advanced Placement students would then be required to take a Buildings, Texts, and Contexts course in their fourth or fifth semester in place of the elective course that the non-advanced placement students would have in those terms.

### *M.Arch I Degree Requirements*

The requirements for the M.Arch I degree program include four semesters of core studios, two semesters of options studios, and a design thesis in the final semester. Other requirements consist of a precisely sequenced series of courses in visual studies and digital media, history and theory, structures, environmental and construction technology; distributional electives; and free electives. The curriculum consists entirely of graduate-level professional-content courses, as students are required to have completed their general studies as criteria for admission. Students in the M.Arch I AP degree program are waived from the requirements of the program's first year but otherwise must meet all the requirements of years two, three, and four. Degree candidates may choose from a list of approved courses each semester to fulfill their distributional elective requirements in professional practice, global culture and diversity, and advanced history.

For students entering without advanced standing, a minimum of seven terms of full-time study in residence, including thesis, is required. Individuals admitted with advanced standing begin with the third term of the program and must complete a minimum of five terms of full-time study in residence. The GSD assigns one course unit as the equivalent of  $\frac{3}{4}$  credit hours of graduate study. The standard course load is 20 units (15 credit hours) per term, though some students choose to enroll in up to 24 units (18 credit hours) with the permission of the Program Director. A student must be enrolled in at least 16 units (12 credit hours) to be considered a full-time student. The standard program is seven semesters, though students may choose to split the requirements of their final semester into two semesters, extending the program to four years, with a reduced course load in the final two semesters.

Over the past three years, the Department of Architecture has initiated a coordinated shift in the numbering, content, and sequence of required technology and professional practice courses. The goals of the curricular renovation are 1) to reinforce the evolving pedagogical foci of core studios; and 2) to align the sequence of technology courses with expectations of knowledge, skills, and maturity students entering those courses should have. The primary steps are these:

- Consolidate teaching in the area of energy and environment into a year-long sequence of four modular (half-semester) courses taught by different experts (affecting Class of 2020 and on); note: this is the only curricular shift in which course numbering has shifted (e.g., some course numbers have been reassigned to courses of different content and/or duration from the course previously holding that number);
- Commence the two-semester sequence of structural design courses in second semester rather than third (affecting Class of 2019 and on);
- Place both introductory and advanced construction courses into second year (third and fourth semester, respectively), preceded in both cases by relevant structural courses as prerequisites (affecting Class of 2019 and on);
- Move required digital media courses to fourth semester (affecting Class of 2019 and on);
- Move the required professional practice course to fifth semester (affecting Class of 2018 and on).

We include below two versions of the required curriculum: one is from the 2015-16 academic year (and prior) and one is from the current 2017-18 year. Please keep these differences in mind when evaluating content from different years. (Note: The sequence in 2016-17 academic year is not shown, but – as a transitional year – shifts were carefully phased so that all students could complete the necessary set of courses in a logical way.)

The following outline represents the typical track for completing the M.Arch I program in the 2015-16 academic year and prior. The AP curriculum was equivalent to beginning this track in third semester of the M.Arch I program, with the exception that students were also required to take 6125 Environmental Systems in Architecture in place of the elective normally found in the M.Arch I program's 4<sup>th</sup> semester.

**M.Arch I Curriculum – 2015-16**

<b>First Semester</b>		
GSD 1101	First Semester Architecture Core: PROJECT	8 units
GSD 2121	(M1) Visual Studies	2 units
GSD 2122	(M2) Projective Representation in Architecture	2 units
GSD 4121	Buildings, Texts, and Contexts I	4 units
GSD 6121	(M1) Construction Lab	2 units
GSD 6122	(M2) Energy in Architecture	2 units
<b>Second Semester</b>		
GSD 1102	Second Semester Core Studio: SITUATE	8 units
GSD 4122	Buildings, Texts, and Contexts II	4 units
GSD 6123	Construction Systems	4 units
GSD 6125	Environmental Systems in Architecture	4 units
<b>Third Semester</b>		
GSD 1201	Third Semester Core Studio: INTEGRATE	8 units
GSD 2224	Digital Media	4 units
GSD 4223	Buildings, Texts, and Contexts III	4 units
GSD 6227	Structural Design I	4 units
<b>Fourth Semester</b>		
GSD 1202	Fourth Semester Core Studio: RELATE	8 units
GSD 6229	Structural Design II	4 units
GSD 7212	Issues in Architectural Practice and Ethics	4 units
	Distributional or General Electives	4 units
<b>Fifth Semester</b>		
	Options Studio	8 units
GSD 6230	Cases in Contemporary Construction	4 units
	Distributional or General Electives	8 units
<b>Sixth Semester</b>		
	Options Studio	8 units
	Distributional or General Electives	12 units
<b>Seventh Semester</b>		
GSD 9301	Independent Design Thesis	12 units
	Distributional or General Electives	8 units

The following outline represents the typical track for completing the M.Arch I program in the current 2017-18 academic year. The current M.Arch I AP track is listed separately below.

**M.Arch I Curriculum – 2017-18**

<b>First Semester</b>		
GSD 1101	First Semester Architecture Core: PROJECT	8 units
GSD 2121	(M1) Visual Studies	2 units
GSD 2122	(M2) Projective Representation in Architecture	2 units
GSD 4121	Buildings, Texts, and Contexts I	4 units
GSD 6121	(M1) Environmental Systems I	2 units
GSD 6122	(M2) Environmental Systems II	2 units
<b>Second Semester</b>		
GSD 1102	Second Semester Core Studio: SITUATE	8 units
GSD 4122	Buildings, Texts, and Contexts II	4 units
GSD 6125	(M3) Building Simulation	2 units
GSD 6126	(M4) Materials	2 units
GSD 6227	Structural Design I	4 units
<b>Third Semester</b>		
GSD 1201	Third Semester Core Studio: INTEGRATE	8 units
GSD 4223	Buildings, Texts, and Contexts III	4 units
GSD 6123	Construction Systems	4 units
GSD 6229	Structural Design II	4 units
<b>Fourth Semester</b>		
GSD 1202	Fourth Semester Core Studio: RELATE	8 units
GSD 2223	Digital Media I <i>or</i>	4 units
GSD 2224	Digital Media II	
GSD 6230	Cases in Contemporary Construction	4 units
	Distributional or General Electives	4 units
<b>Fifth Semester</b>		
	Options Studio	8 units
GSD 7212	Foundations of Practice	4 units
	Distributional or General Electives	8 units
<b>Sixth Semester</b>		
	Options Studio	8 units
	Distributional or General Electives	12 units
<b>Seventh Semester</b>		
GSD 9301	Independent Design Thesis	12 units
	Distributional or General Electives	8 units

**M.Arch I AP Curriculum – 2017-18**

<b>First Semester</b>		
GSD 1201	Third Semester Core Studio	8 units
GSD 6123	Construction Systems	4 units
GSD 6121	(M1) Environment	2 units
GSD 6122	(M2) Systems	2 units
GSD 6229	Structural Design II	4 units
<b>Second Semester</b>		
GSD 1202	Fourth Semester Core Studio	8 units
GSD 2223	Digital Media I or 2224 Digital Media II	4 units
GSD 4122*	Buildings, Texts, and Contexts II*	4 units
GSD 6230	Cases in Contemporary Construction	4 units
<b>Third Semester</b>		
	Options Studio	8 units
GSD 7212	Foundations of Practice	4 units
	Distributional or General Electives	8 units
<b>Fourth Semester</b>		
	Options Studio	8 units
	Distributional or General Electives	12 units
<b>Fifth Semester</b>		
GSD 9301	Independent Design Thesis	12 units
	Distributional or General Electives	8 units

\*AP students may also meet this degree requirement by enrolling in BTC I or BTC III (GSD 4121 or 4223) the following fall term.

*Minors and Concentrations*

Though the M.Arch I degree program does not offer minors or concentrations in any formal sense, students may concentrate on particular areas of architectural study through the selection of elective courses and the structuring of research leading to the design thesis.

*Professional Content*

The curriculum of the M.Arch I program is entirely focused on professional content. The required coursework includes design studios, architectural history, visual studies, structures, environmental technology, in addition to electives that meet the distributional criteria of Global and Cultural Diversity, Advanced History, and Professional Practice. See [Appendix 16](#) for a list of courses approved as fulfilling distributional elective requirements in current and past academic years.

*General Education*

Candidates for the M.Arch I professional degree, including those who enter with Advanced Placement, are considered to have fulfilled the 45 credit hours of general education required for accreditation in completing their B.A., B.S., or other undergraduate degree programs. See Section II.3 "Evaluation of Preparatory Education" for details of the M.Arch I Admissions process and requirements to be met by applicants to our professional programs.

### *Off-Campus Learning*

There are a variety of opportunities for architecture students to travel and learn about architecture in other historical, geographic, and cultural contexts. Approximately half of the options-level studios offered each term at the GSD include a study tour experience with the instructor (usually five-to-ten days in length) as part of the studio pedagogy.

Since 2011, the GSD has also offered a variety of semester-abroad programs. Semester-abroad programs present a unique approach to learning by offering students the opportunity for intense interaction with part-time faculty who are global practitioners, in a setting near or within their design firm's offices. This offers interested students the possibility of undertaking one of their Option Studios with a world-renowned practitioner with whom they otherwise would not be able to study in Cambridge. Students continue their respective programs of study while living in a foreign city and are able to study and conduct research within their program curriculum while also pursuing research of personal interest that may relate to the site or location. Students who wish to participate in these opportunities enter a lottery selection process the semester preceding the semester-abroad program. Studio sites and instructors are carefully selected and are responsive to design and research trends throughout the world of architecture, landscape architecture, and urban planning and design. Currently, and for the past few years, these semester-abroad opportunities have mostly been in based – on a rotating basis – in Rotterdam, Basel, and Tokyo, under the tutelage of Rem Koolhaas, Herzog and DeMeuron, and Toyo Ito respectively.

In addition to an architecture studio, each semester-abroad site offers two additional courses that fulfill elective (often distributional elective) requirements. The instructors for these seminars are local professionals and academics hired by the GSD Department of Architecture and advised by the studio abroad faculty lead.

One additional opportunity for international exchange is the GSD's decades-old exchange program with the Swiss Federal Institute of Technology (Eidgenössische Technische Hochschule, or ETH) in Zurich, Switzerland. Through this program, two GSD Architecture students are selected by a faculty committee to spend one spring semester in Zurich (students are eligible in either their fourth or sixth semester at the GSD). There, they take a studio and electives equivalent to a full-semester course load at the GSD. Students must find housing on their own, though student housing is available to them, and they receive a monthly stipend. Many of the ETH studios travel internationally as well.

### *Statement on the GSD's post-professional M.Arch II Degree Program*

The GSD's Department of Architecture understands the requirement stated by NAAB that "any institution that uses the degree title B. Arch., M. Arch., or D. Arch. for a non-accredited degree program must change the title" and intends to comply with it; we have initiated appropriate institutional procedures to come into line with this requirement. Though the post-professional program currently titled M.Arch II is not the subject of this APR, we will briefly outline recent steps taken to transform the program in conformance with NAAB's requirement.

The GSD currently has a two-year degree program in architecture that uses the title Master in Architecture but is not accredited by NAAB. This post-professional M.Arch II program has existed for several decades as a three-semester program for students with an accredited B.Arch wishing to undertake masters-level study (the program has also accepted students with professional B.Arch and M.Arch degrees from other countries, which prepared students for licensure in those contexts). For most of its existence, the M.Arch II program has been loosely structured, with few specific course requirements. Two years ago, we extended the M.Arch II program from one-and-one-half years to two years, in anticipation of major curricular changes. The first stage of these changes involved adding several required courses, including courses in pedagogy and criticism and professional practice. We later added the option of a final thesis project, including thesis preparatory research. This year we are again restructuring the curriculum to include the following requirements: Pro-seminar, distributional electives in Discourse and Techniques, Professional Practice, Technologies of Visualization and Fabrication. These changes are focused on providing a robust professional curriculum for students who already have

substantial professional education in architecture but who would benefit from an accredited professional masters program.

The final step in the evolution of this M. Arch II program will be to pair it with our present Advanced Placement track in the Master in Architecture I degree program, creating two levels of Advanced Placement tracks, each appropriate to the matriculating student's prior education.

## PART TWO, SECTION 3: EVALUATION OF PREPARATORY EDUCATION

### II.3. Evaluation of Preparatory Education

When applying to the M.Arch I program, each applicant must provide a scan of their official transcript, as well as a list of courses that meet the required prerequisites: physics, calculus, and history of architecture. After the committee decides to offer admission to a student, selected faculty then examine the students' files and determine which ones still have outstanding physics or calculus prerequisites to be completed before entering in the fall. Prerequisite courses in the history of architecture are reviewed by doctoral students who serve as instructors for our pre-semester intensive survey courses in Architectural History. Those students must complete any outstanding coursework before the start of the term. If there is any question regarding the content of any course, the committee will request more information in the form of a course description or syllabus.

#### *Evaluation of Prior Education for Advanced Placement Applicants*

Students who wish to be considered for the M.Arch I Advanced Placement (AP) program may indicate that preference on their application. Those applications are carefully screened by the admissions committee. If the committee determines that the candidate is not an appropriate fit for the Advanced Placement program, they will be considered for admission into the regular track of the M.Arch I. Conditions for admission into the AP program are outlined in [Appendix 18](#) and include completion of a Bachelor of Arts or Bachelor of Science degree with a major in Architecture or Environmental Design, successful completion of three or more advanced architectural design studios, and coursework comparable to the first year of the graduate program.

Of particular importance for Advanced Placement applicants is the portfolio. The documentation of design projects is the best indication of undergraduate design curriculum and its value towards advanced placement in the graduate program. Specific requirements are given to applicants regarding what the portfolio should include, and what should be shown for specific project documentation. Advanced Placement students are admitted directly into the third semester of the program, and may also be able to waive some requirements in the second year of the program if their prior coursework fulfilled those requirements.

## PART TWO, SECTION 4. PUBLIC INFORMATION

### II.4.1 Statement on NAAB-Accredited Degrees

The Statement on NAAB-Accredited Degrees appears in its entirety on the Department of Architecture's M.Arch I Degree Program webpage: <http://www.gsd.harvard.edu/architecture/master-in-architecture-i/>

### II.4.2 Access to NAAB Conditions and Procedures

The NAAB 2014 Conditions for Accreditation and 2015 Procedures for Accreditation – i.e., those editions currently in effect – are also available, via link to NAAB.org, on the same M.Arch I Degree Program webpage (<http://www.gsd.harvard.edu/architecture/master-in-architecture-i/>) as well as on the NAAB Accreditation Information and Resources page (<https://www.gsd.harvard.edu/naab-accreditation-information-and-resources/>).

### II.4.3 Access to Career Development Information

The GSD Career Services Office offers a comprehensive set of programs and opportunities for architecture students. An important priority is to provide students with access to job opportunities and alumni contacts. All students have a personal account in our own proprietary career management system (CREATE), which includes a database of over 3,000 employers. Students can view internship and job postings; employer descriptions; and GSD alumni contacts through this system.

The Career Services webpages (<https://www.gsd.harvard.edu/career-services/>) include both internal links to GSD-sponsored internships and fellowships and external links to organizations such as NCARB, IDP, AIA, AIAS, ACSA, e-Architect, ArchVoices, and many others; students are encouraged to explore these resources on matters of licensure and career planning. A full listing of architecture career resources linked to the GSD Career Services may be found at:

<http://www.gsd.harvard.edu/resources/career-resources-for-architecture-students/>

### II.4.4 Public Access to APRs and VTRs

To promote transparency in the process of accreditation in architecture education, the GSD's Master in Architecture I Degree Program has made the following electronic documents electronically available to the public via our website: 1) our 2011-12 Architectural Program Report, including attachments and addenda; 2) the 2012 Visiting Team Report, final edition; 3) the most recent decision letter from the NAAB (June 2012); 4) our 2014 Interim Progress Reports. These are available on our public Accreditation Information and Resources page here: <https://www.gsd.harvard.edu/naab-accreditation-information-and-resources>

### II.4.5 ARE Pass Rates

Pass rates for graduates of the GSD's M.Arch I taking each section of the Architect Registration Examination are provided on NCARB's website. To facilitate access to this information for prospective and current students, a link to NCARB's data is provided on our Career Services website, under the section entitled "Becoming an Architect: Professional Resources":

(<https://www.gsd.harvard.edu/resources/career-resources-for-architecture-students/>).

### II.4.6. Admissions and Advising

Following the trend of most colleges and universities, all aspects of the application process are available online. Our departmental page contains program descriptions (<https://www.gsd.harvard.edu/architecture>), and our admissions department page (<http://www.gsd.harvard.edu/admissions>) contains all necessary information a student needs when applying to the GSD, including links to financial aid information and a page for frequently asked questions.

Once the student is interested in initiating the application process, the [online application form](#) guides students through the process, step by step, providing information about some of the finer details of the

admissions process, such as the process for achieving advanced standing in the program. A sample admissions application in PDF format can be found in Part Four: Supplemental Materials.

#### **II.4.7 Student Financial Information**

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 on the following webpage: <http://www.gsd.harvard.edu/tuition-and-fees/>

Additionally the GSD Financial aid office page (<http://www.gsd.harvard.edu/financial-aid/>) has a resource page (<http://www.gsd.harvard.edu/resources/?office=financial-aid>) for students as they work through issues related to funding and finances during their time in the program including financial aid information (<http://www.gsd.harvard.edu/resources/financial-aid-fags/>) and the financial aid application (<http://www.gsd.harvard.edu/resources/aid-application-for-prospective-students-fall-2016/>).

## **PART THREE: ANNUAL AND INTERIM REPORTS**

### **III.1 Annual Statistical Reports**

*[Note: The program must submit annual statistical reports in the format required by the NAAB Procedures. The program must certify that all statistical data it submits to NAAB has been verified by the institution and is consistent with institutional reports to national and regional agencies, including the Integrated Postsecondary Education Data System of the National Center for Education Statistics. The APR must include a statement signed or sealed by the official within the institution responsible for preparing and submitting statistical data that all data submitted to the NAAB through the Annual Report Submission system since the last site visit is accurate and consistent with reports sent to other national and regional agencies including the National Center for Education Statistics.]*

### **III.2 Interim Progress Reports.**

*[Note: These are not to be included in the our version of the APR; instead, the NAAB will provide all interim Reports submitted since the last visit to the 2018 Visiting Team at the same time as the VTR template and other materials.]*

#### Part 4. Supplemental Material: Appendices

1. **Resumes of faculty teaching in the accredited program** <http://www.gsd.harvard.edu/wp-content/uploads/2017/09/Arch-Faculty-NAAB-Information.pdf>
2. **Faculty credentials matrices:** <https://www.gsd.harvard.edu/wp-content/uploads/2017/09/NAAB-Faculty-Matrix.pdf>
3. **Plans or images of physical resources assigned to the program:** <https://www.dropbox.com/sh/ybh6c6gjhug0yxz/AAA-8EzI4kDDeZ1cVpJDAOZma?dl=0>
4. **Course Descriptions for Required M.Arch Curriculum:** <http://www.gsd.harvard.edu/wp-content/uploads/2017/09/MArch-I-Curriculum-Course-Descriptions.pdf>
5. **Studio Culture Policy:** <http://www.gsd.harvard.edu/resources/studio-culture-policy/>
6. **Self-Assessment Policies and Objectives:** <https://www.dropbox.com/s/wtdzhwmhmv98ra/Assessment.pdf?dl=0>
7. **Policies on academic integrity for students (e.g., cheating and plagiarism):** <https://www.gsd.harvard.edu/resources/academic-conduct/>
8. **Information resources policies including collection development:** <https://www.dropbox.com/s/h6vr3bk4xfomjqu/collection%20dev%20policy.pdf?dl=0>
9. **The institution's policies and procedures relative to EEO/AA for faculty, staff, and students:** <https://diversity.harvard.edu/pages/statement-equal-opportunity-laws-and-policies>
10. **The institution's policy regarding human resource development opportunities, such as sabbatical, research leave, and scholarly achievements:** <https://www.dropbox.com/s/sxuak4ivb2cybcm/Leaves%2C%20Sabbaticals%2C%20Research.pdf?dl=0>
11. **The policies, procedures, and criteria for faculty appointment, promotion, and when applicable, tenure:** <https://www.dropbox.com/s/icv1jlgmq7xprx6/Faculty%20Appointments.pdf?dl=0>
12. **Response to the Offsite Program Questionnaire** <https://www.dropbox.com/s/08ik70c0gbl3u24/Branch-Campus%20Questionnaire.pdf?dl=0>
13. **The previous VTR (from 2012):** [http://www.gsd.harvard.edu/wp-content/uploads/2017/09/NAAB-VTR\\_2012.pdf](http://www.gsd.harvard.edu/wp-content/uploads/2017/09/NAAB-VTR_2012.pdf)
14. **Copy of institutional accreditation letter:** <https://www.dropbox.com/s/4eglx0jxv341c/2010%20NEASC%20Letter.pdf?dl=0>
15. **Letter from institutional research regarding ARS data:** <https://www.dropbox.com/s/ru3v69xo1zez074/Institutional%20Research%20Certificate.pdf?dl=0>
16. **Distributional Electives course lists:** <https://www.dropbox.com/sh/sbci22qgp5s224p/AACbCyS7AdjYBHNeJmJyw2eta?dl=0>
17. **Sample course evaluation form:** <https://www.dropbox.com/s/9surzea7dki9noq/Sample%20Course%20Evaluation.pdf?dl=0>
18. **Sample admissions application/Conditions for Advanced Placement:** <https://www.dropbox.com/s/745mmbj4ja6bff0/Application%20Materials.pdf?dl=0>
19. **List of current Visiting Committee members:** <https://www.dropbox.com/s/cmy87uhh088hpb2/GSD%20Visiting%20Committee.pdf?dl=0>
20. **Curricular Assessment Chart:** <https://www.dropbox.com/s/yly52awzgx9bb9/Curriculum%20Eval%20Org%20Chart.pdf?dl=0>