Architecture Program Report for the 2019 NAAB Visit for Initial Accreditation

Master of Architecture

270 CMU units (non-architecture Bachelor's degree) (90 credit-hrs)
(= Undergraduate degree + 270 M.Arch)

180 CMU units (60 credit-hrs) (pre-professional Bachelor’s in architecture)
(= Undergraduate degree + 180 M.Arch)

Year of the Previous Visit:
Candidacy Visit - March 2018

Current Term of Accreditation:
N/A

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Carnegie Mellon University | School of Architecture

Architecture Program Report for the 2019 NAAB Visit for Initial Candidacy

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04 February 2019

Ms. Helene Combs Dreiling, FAIA
Interim Executive Director
National Architectural Accreditation Board
1735 New York Avenue NW
Washington, DC 20006

Dear Ms. Dreiling:

I write to inform you of the decision of Carnegie Mellon University to seek initial accreditation for its Master of Architecture (M.Arch) degree.

We anticipate the arrival of the visiting team on campus in Fall 2019 and a decision on accreditation from the NAAB Board at its spring 2020 meeting. It is our understanding that accreditation will be retroactive to the first day of the calendar year in which the visit occurs - 1 January 2019.

Accompanying this letter are all of the materials stipulated in the 2015 NAAB Procedures for Accreditation and the 2014 NAAB Conditions for Accreditation.

We look forward to continuing the process to full accreditation.

Very truly yours,

James H. Garrett, Jr.
Provost
Thomas Lord Professor of Civil & Environmental Engineering
Part One (I): Institutional Support And Commitment To Continuous Improvement

Section 1 – Program Description

I.1.1 History and Mission:

A brief history of the institution, its mission, founding principles, and a description of how that is expressed in the context of 21st century, U.S. higher education

Carnegie Mellon University: CMU has been a birthplace of innovation throughout its 111-year history. Today, it is a global leader bringing groundbreaking ideas to market and creating successful start-up businesses. The faculty members are renowned for working closely with students to solve major scientific, technological, and societal challenges. The University puts a strong emphasis on creating things—from art to robots, and architecture.

CMU is the only school founded in the United States by industrialist and philanthropist Andrew Carnegie, who wrote the time-honored words, "My heart is in the work," when he donated the funds to create Carnegie Technical Schools in 1900 in Pittsburgh, Pennsylvania. In 1912, the schools, including the School of Architecture, became the Carnegie Institute of Technology, highly regarded for both the arts and technology. A merger with the Mellon Institute—the nation’s first major research institute—created Carnegie Mellon University in 1967. Today, CMU is a national research University of about 11,500 students and 5,000 faculty, research, and administrative staff.

CMU is a diverse blend of academic disciplines. The University consists of seven colleges and schools: the College of Fine Arts (which includes the School of Architecture), the Carnegie Institute of Technology (engineering), the Dietrich College of Humanities and Social Sciences, the Mellon College of Science, the Tepper School of Business, the School of Computer Science, and the H. John Heinz III College (Public Policy & Information Systems). It has become an international leader in technological fields such as computer science, robotics, and engineering. From its inception it has had a strong emphasis on the applied and practical arts and trades, as well as the fine arts. Its position of leadership in both the arts and in technology is unusual in higher education today.

During President Jared L. Cohon’s administration (1997-2013), CMU became a global university, establishing campuses in Silicon Valley, CA, and Doha, Qatar, and degree-granting programs in Africa, Asia, Australia, Europe, and Latin America. During President Suresh's administration (2013-2018) he helped to found the Global Research Council, a coordinating group for research-funding agencies around the world. He launched the CMU Simon Initiative to bring together university and global leaders in a discussion of how technology could be fully utilized to enhance learning outcomes for students around the world.

CMU’s current president, Farnam Jahanian states that we are bound by a core set of values that includes integrity, inclusion, collaboration and empathy, our global community of students, faculty, staff and alumni is meeting the challenges of the 21st century. CMU has embarked on an ambitious agenda and created a Strategic Plan 2025 to position us for a future of growing excellence and global significance. Our priorities focus on building a diverse and collaborative university community, improving the individual experience for all of its members, and expanding our capacity for positive societal impact.

The Strategic Plan 2025 for the university focuses on increasing the quality, richness, and value of “the CMU experience” for all individuals, the community, as well as the University’s impact on the world. (See https://www.cmu.edu/strategic-plan/). It speaks for the entire CMU community:

Vision: “Carnegie Mellon University will have a transformative impact on society through continual innovation in education, research, creativity, and entrepreneurship.”

Mission: “To create a transformative educational experience for students focused on deep disciplinary knowledge; problem solving; leadership, communication, and interpersonal skills; and personal health and
well-being. To cultivate a transformative university community committed to (a) attracting and retaining
diverse, world-class talent; (b) creating a collaborative environment open to the free exchange of ideas,
where research, creativity, innovation, and entrepreneurship can flourish; and (c) ensuring individuals can
achieve their full potential. To impact society in a transformative way—regionally, nationally, and
globally—by engaging with partners outside the traditional borders of the university campus.”

Values: “Dedication, reflected in our distinctive work ethic and in our commitment to excellence. Impact,
reflected in our commitment to address critical issues facing society regionally, nationally, and globally.
Collaboration, reflected in our interdisciplinary approach, our focus on internal and external partnerships,
and our capacity to create new fields of inquiry. Creativity, reflected in our openness to new ideas and
forms of expression, intellectual curiosity, willingness to take risks, and entrepreneurial spirit. Empathy
and compassion, reflected in our focus on improving the human condition and on the personal
development of the members of our community. Inclusion, reflected in a culture and climate that seeks,
welcomes, and advances talented minds from diverse backgrounds. Integrity, reflected in our adherence
to the highest ethical standards in personal and professional behavior, and in our commitment to
transparency and accountability in governance and everything we do. Sustainability, reflected in our
shared commitment to lead by example in preserving and protecting our natural resources, and in our
approach to responsible financial planning.”

College of Fine Arts (CFA): The School of Architecture (SoA) is one of five schools within CMU’s
College of Fine Arts (CFA), alongside the schools of Art, Design, Drama, and Music. Founded in 1905,
the CFA was the first comprehensive arts learning institution in the United States. Today it is a unique
constellation of internationally top-ranked conservatory schools in the arts embedded within a tier-one
research university. The five schools are committed to community engagement, supportive of creative
risk-taking, and actively embracing diversity. The pedagogy across the college is built on the principles
of “thinking through doing” and “learning through doing” in studio and conservatory-based environments,
and respect for tradition while encouraging innovation.

The CFA is internationally renowned for its unique multidisciplinary capabilities and distinctive
pedagogical approaches, for the success and influence of its students and alumni, for visionary
leadership in the development and transformation of the professions, and for its vital role in melding the
exceptional capabilities of a great university with society and culture. The college shares numerous
research projects, interdisciplinary centers, and educational programs with other units across the
university. In addition to undergraduate and graduate programs in each of the five schools, the college
offers interdisciplinary bachelor’s degrees integrating studies in fine arts with work in the humanities,
sciences, or computer science. Interdisciplinarity, a core value for the CFA, is realized not only in
individual exploration and scholarship of our students and faculty across various colleges and disciplines,
but also through the BXA Intercollege Degree Programs and a number of degrees offered in collaboration
with other academic units. The Integrative Design, Arts and Technology Network (IDeATe) connects
students and faculty from across the university through coursework and collaborative studio experiences.

School of Architecture (SoA) - Quick Facts (People, Programs, Place)

There are 63 faculty members (41.8 FTE) in the SoA; this number includes tenured, tenure-track,
research, special, visiting, and adjunct faculty. This represents all faculty in the SoA, but only the
resumes of those teaching in the Master of Architecture program are included in section I.2.1 below.

There are currently 30 students enrolled in CMU’s M.Arch program. There are an additional 100
students in the other masters and PhD graduate programs run by the school, and greater than 250
students enrolled in the 5-year B.Arch graduate program, with an additional 11 students in the BA, BXA, and
other interdisciplinary programs. The students come from 14 countries and more than 15 states.

CMU’s SoA has been educating professional architects for over a hundred years at both the
undergraduate and graduate level, in both professional design-based methods, as well as more
scientific research-based methods.

CMU offered a NAAB-accredited M.Arch from 1970-1991, and graduated nearly 200 students. Officially, the SoA M.Arch degree is still on the books at the CMU registrar’s office (Code: MAC). We have, however, completely redesigned the program.

For undergraduates, we have long offered a 5-year, NAAB-accredited first professional Bachelor of Architecture (B.Arch), as well as a 4-year, pre-professional Bachelor of Arts (BA) in Architecture.

Post-professional, studio-based graduate programs include a Master of Urban Design degree (MUD); and the Master of Advanced Architectural Design (MAAD).

Post-professional, MS graduate programs have a long history in the SoA. The programs include Master of Science (MS) degrees in the following areas: Architecture-Engineering-Construction Management (MSAECM), Computational Design (MSCD), Building Performance and Diagnostics (MSBPD), and Sustainable Design (MSSD).

Graduate students, including the M.Arch, may apply to participate in the Graduate Accelerated Master’s Program (GAMP) to double-count up to 48 units towards an additional SoA graduate degree, and thereby save up to a semester of time and tuition.

Undergraduate students may apply to participate in the Accelerated Master’s Program (AMP) in these areas to gain advanced placement by double counting graduate units towards their B.Arch and their selected graduate program whilst maintaining their undergraduate financial aid package in their 5th year.

PhD’s are offered in Architecture-Engineering-Construction Management (AECM), Computational Design (CD), and Building Performance And Diagnostics (BPD), as well as the Doctor Of Professional Practice (DPP).

The undergraduate and graduate programs cross disciplinary boundaries and collaborate not only with other schools within the College of Fine Arts, but also across campus, with the Heinz School, the Carnegie Institute of Technology, the School of Computer Science, the College of Humanities and Social Sciences, and the Tepper School of Business.

The SoA has an international reputation as a leading research and educational center for sustainable design, and is home to the Intelligent Workplace, the only “living laboratory” of its kind in the U.S. Three additional interests define and distinguish the school’s research initiatives: computational design, public interest design, and urban design.

The school has multiple centers, institutes and labs: the Intelligent Workplace (home to the Center for Building Performance and Diagnostics), the Computational Design (CoDe) Lab, the Project_RE (off campus at Construction Junction), the Digital Fabrication (dFAB) Lab, the Remaking Cities Institute, and the Shop.

The SoA occupies over 50,000 sq. ft. between Margaret Morrison Carnegie Hall and the College of Fine Arts on the Pittsburgh campus of CMU, as well as another 14,900 sf at +Project_RE (off campus at Construction Junction).

The actual general operating expenditures for the School of Architecture in the most recent year of FY18 were $ 6,455,000.

SoA Mission Statement: The School of Architecture (SoA) provides deep immersion in the discipline of architecture, intensified by the broader Carnegie Mellon culture of interdisciplinary innovation and creative inquiry. Our undergraduate and graduate degree programs prepare students to be excellent, discipline-defining design thinkers in diverse global contexts. This world-class architecture education is enhanced by our position within one of the world’s leading research and entrepreneurship institutions, and
by the fundamental premise that architectural excellence demands both rigorous training in fundamentals and the development of unique specializations. Students may extend their core knowledge either through concentration in architecture subdisciplines like sustainable design or computational design or public interest design, or through interdisciplinary interaction with CMU’s other renowned programs. Though every Carnegie Mellon architecture student graduates with intensive architecture knowledge, no two graduates leave with exactly the same focus. Graduates of SoA excel in the roles architects have performed for centuries—and in new roles catalyzed by the depth and breadth of their education—to create and execute innovative solutions to an ever expanding range of global challenges.

SoA History: Architecture has been an integral part of education at CMU since its beginnings in 1905. The founder and patrons of the Carnegie Technical Schools saw it as their goal to create a particularly American fusion of the Ecole Polytechnique and the Ecole des Beaux-Arts. Carnegie Tech’s first Professor of Architecture, Henry Hornbostel, was himself a student at the Paris Ecole des Beaux-Arts (in 1895-97).

By the end of the ‘40s, the teaching of Architectural Design did not emphasize the established Beaux-Arts principles but rather the observation of human behavior and needs in relation to the built and natural environment. In the ‘60s, and under the direction of Paul Schweikher, the undergraduate B.Arch program became a five-year, fixed-length program consisting of an introductory year of basic design followed by four years of architectural design.

The appointment of Charles M. Eastman in 1967 as Assistant Professor of Architecture and Computer Design, however, marked exciting new departmental directions for the School. Eastman developed a Ph.D. program in the new science of Computer-Aided Design, and the appointment of Volker Hartkopf in 1972 as an Assistant Professor of Architecture broadened the graduate program with an M.S. and a Ph.D. offering in Building Science. Since this time, scientific and technical research has been at the center of the SoA’s mission and identity. The succession of Department Heads from 1979 to 2004 have made strategic hires in these areas that have securely established the SoA’s research reputation. These research programs and the associated faculty have raised the status and reputation of the CMU SoA, especially on the focused ideas of building performance, computing, and construction management, as they can be applied to global practice, business, and academic research. Today, SoA PhD graduates have gone on to become leaders in academia around the world.

Seeking to re-elevate the importance of design studio alongside interdisciplinary arts and professional practice, Laura Lee worked to develop CMU into a center of excellence for integrated design after being appointed head in 2004. Through a series of tenure-track hires to strengthen studio education, Lee was instrumental in beginning to shift the focus of the SoA into a more balanced one of design and research, across both graduate and undergraduate levels. Lee also created the dFAB (Design Fabrication) Lab, made available to multiple studios and courses with generous funding from the Enkeboll Foundation.

In July 2008, Stephen Lee (no relation to Laura Lee) was appointed as the Interim Head of the SoA. After a search in 2009, Lee was appointed to a full five-year term as Head, and in 2014 he was re-appointed to another five-year term. In 2018, his appointment was extended for one additional year to conclude in May 2020. Lee extended the goal of integrated design education with additional tenure track hires and the creation of the Studio Professor position. Through their roles as studio coordinators and/or individual studio instructors, these new hires made an immediate and noticeable impact on the design studios with an emphasis on design and learning by making. The Urban Design/Build Studio (UBBS) was begun, the dFAB (Design Fabrication) Lab was substantially expanded with funding from the Provost, the Computational Design Lab (CoDe) was created, hands-on activities were extended into the architectural studies coursework, and the Shop continued to play an important curricular role. The Dean is setting in motion a process to identify the next department head. Through a deep belief that design is the backbone and core of the SoA’s discipline, Stephen Lee has worked to bridge, and integrate teaching, practice and research in the SoA, and to expand interdisciplinary opportunities in those venues.
Goals

The School of Architecture continues to grow to meet the needs, technologies, and ideas in the field as well as the needs of their students. To better serve students and the Architecture community at large, the SoA aspires to expand its current, and to establish a number of new programs, centers, and degrees within the school in the near future, including:

To Expand/Refine:

Architecture Learning Network.

Center for Architecture Explorations.

3 + 2 B.Arch curriculum (compared to 5 at other accredited institutions).

Advanced Synthesis Options (ASO) studios for purposes such as sustainability, cities, theater architecture, UDBS, and digital workflow.

Master of Science & PhD in Architecture Engineering Construction Management CM (MSAECM/PhD-AECM) degree, a multi-disciplinary joint degree with Department of Civil & Environmental Engineering (CEE).

The 4th year Awards Program that provides non-qualified scholarships on a juried basis will be expanded for students from 2nd year to PhD.

Study Abroad Committee opportunities guided by the Summer Study Abroad Committee as well as Global Studio Fund trips to Europe with enhanced fundraising.

To Establish:

A new workshop model being kicked off by Real Estate Finance & Investment in S19.

New/revised Masters programs targeted to emerging ideas and opportunities in the profession, including a revised Master of Science in Computational Design (MSCD), a revised Master of Science in Sustainable Design (MSSD), a revised Master of Urban Design (MUD), a new Master of Architecture (M.Arch), a new Master of Advanced Architectural Design (MAAD,) and a new Doctor of Professional Practice (DPP).

New UDream program to expand academic and practice opportunities for underrepresented minorities (URM).

In addition to these specific initiatives, the SoA is also constantly working towards achieving and improving on the additional goals within its various studios:

Educating students to graduate with a professional degree that prepares them to excel in practice—but that also launches them into key specialties within the profession.

In addition to specialization, encouraging students to incorporate hybridization into their education and practice.

Providing students with the fundamental, core architecture education essential for every professional.

Encouraging excellent design as well as scientific, research-based methods to forge transdisciplinary connections, speculations, and architectural solutions for built environments.
Enrolling diverse groups of students from around the world who are comfortable working in innovative ways and who seek to push the boundaries of the discipline.

Providing studio-based, first-rate professional, and post-professional degree programs to educate tomorrow's leaders in architecture-related careers.

Offering strategically small size to allow students to shape their individual educational agendas and career paths as they interact directly with leading-edge research projects in the school, community, and around the world.

Emphasizing digital workflows and the seamless integration of computation, systems analysis, and data into creative design and invention processes.

Seeking to probe the technical and cultural opportunities and implications of a data-rich future in which design methodologies, construction processes, and sustainable building life cycles are intrinsically interlaced.

Challenges

The School of Architecture also faces a number of obstacles in terms of pedagogical, research & creative, and operational aspects that they are currently working to overcome, for example:

Overcrowding: Overcrowding is a perennial issue, particularly in the SoA’s studio space in Margaret Morrison Carnegie Hall room 312 due to too many students and faculty working out of too small a space for their needs.

Difficult Catch Up: Due to the nature of the M.Arch program and the sequence of required studio courses each semester, if a student severely struggles in their coursework one semester and gets behind in their sequence of coursework, it can be very difficult for them to catch up and graduate on time, and thus risking huge costs in terms of tuition and time.

Language Barriers: Given the reliance of the architectural coursework on verbal communication skills in addition to drawing presentation skills, students with English as a second language (ESL) in some cases face extreme challenges.

Notable Alumni:

70's:
Oscar Harris (MArch '71), FAIA, Founder, Turner Associates Architects & Planners, Atlanta, GA – Oscar Harris serves as a CMU Trustee and received the prestigious Alumni Merit Award for Excellence in 2000.

George E. Marsh, Jr., FAIA (BArch '79), Principal, Payette, Boston, MA—George Marsh has worked for Payette for 38 years and received the 2019 AIA Architecture Firm award. George also established the Burdette Award for SoA students in 2005, which is now the Payette Award for Building Science (2017).

Yoko Tai (BArch '72), Principal, Tai + Lee Architects, Pittsburgh, PA—A pioneer of female architects in Pittsburgh. Recognized as a leader in sustainable and affordable housing.

Natalie Jacobs (BArch '79), Partner at Ferguson & Shamamian Architects, New York, NY. Established the Ferguson Jacobs Prize in Architecture in 2005 along with husband and alumnus, Mark Ferguson.
80’s:
Jim Halpern (BArch '81), Founder, President & CEO of Measuring & Monitoring Services, Tinton Falls, NJ—Dedicated MMCH 312 studio as the Halpern Studio for Architecture in December 2017 and donated $150,000 for phase I of MMCH studio renovation.

Anne-Marie Lubeneau, FAIA (BArch '89), Director, Rudy Bruner Award, Boston, MA. Former President & CEO of Community Design Center of Pittsburgh—Awarded the 2011 Loeb Fellowship at Harvard Graduate School of Design, a one-year in-residence program for mid-career professionals who have demonstrated leadership in design to gain additional tools to improve the future of American cities.

90’s
Gregory Mottola, FAIA, AIBC (BArch '91), Principal, Bohlin Cywinski Jackson, San Francisco, CA—A lead designer for BCJ whose diverse award-winning projects include CMU TCS Hall and CMU Ansys Hall.
Adam Farmerie (BArch '96), Restaurateur & co-founder & Principal, AvroKO, NYC—Funded the AvroKO Interdisciplinary Award for Art and Architecture in 2011, along with the other three AvroKO founders and CMU alumni. Their growing portfolio of critically hailed architecture work includes restaurants, bars, hotels, retail, and residential projects and their designs have won numerous awards.

00’s
Holly Wasilowski Samuelson, DDes, LEED, RA (BArch '00), Assistant Professor of Architectural Technology, Harvard GSD, Boston, MA—Holly Wasilowski Samuelson teaches architectural technology courses specializing in the energy and environmental performance of buildings. Her research focuses on building performance simulation at the intersection of energy, occupant behavior, and health. She also serves on the national board of Simulation for Architecture and Urban Design (SimAUD) and has been awarded research grants from the Harvard Climate Change Solutions Fund, the American Society of Heating Refrigerating and Air-Conditioning Engineers (ASHRAE), the International Facilities Management Association, among others.

Andrea Love, AIA, LEED Fellow (BArch '02), Principal, Director of Building Science, Payette Associates, Boston, MA—Andrea works across projects to bring rigor to the performance of projects, integrating performance modeling tools into Payette’s design process at the very beginning to inform and push designs. Additionally, she leads a number of internal research projects and was the Principal Investigator on the 2012 AIA Upjohn Research Initiative-funded “Thermal Performance of Facades,” a research project focused on thermal bridging. She also leads the firm’s efforts on the AIA 2030 Commitment, tracking and benchmarking the performance of projects across the firm.

Lauren Schmidt, AIA, LEED AP (BArch ’04), Director, KPF Associates, NYC—Since joining KPF in 2004, Lauren has worked as architectural designer, job captain, and project manager. She and the design team have collaborated to develop a design for the award-winning luxury residential building One Jackson Square in NYC. A skilled manager, Lauren was Job Captain for Al Bateen Wharf, a mixed-use project in Abu Dhabi, and 175 Park Avenue, a repositioning project in New Jersey, 30 North Colonnade at Canary Wharf in London, a 16-story office tower and 55 Hudson Yards in New York, a tall office tower currently under construction and scheduled for completion in 2018. Lauren actively leads KPF’s Educational Program and many other outreach and training programs, and in 2011 she received the Emerging New York Architects Merit Award from AIA New York, which honors recently licensed architects for their contributions to the profession. She also teaches ARE study courses and has been involved with the
firm’s ACE mentor program.

10’s

Carl Covington (BArch ’11, MS, Arch ’12), Sr. User Experience Designer PayPal, San Francisco, CA—An active member of PayPal’s community groups, including Serve for Veterans and Amplify for their African American workforce. Carl deployed overseas three times with the U.S. Army and truly understands what it means to perform under pressure. He attended CMU after he served in the Army and has worked for firms such as Deloitte Consulting, Giant Create Strategy, Storefront, and Rocksbox.

Madeline Gannon (MSCD ’11, PhD CD ’17), Founder & Principal Researcher, ATONATON, Pittsburgh, PA—A multidisciplinary designer inventing better ways to communicate with machines. In her research, Gannon seeks to blend knowledge from design, robotics, and human-computer interaction to innovate at the intersection of art and technology. Her recent works taming giant industrial robots focus on developing new frontiers in human-robot relations. Her interactive installation, Mimus, earned her the nickname “The Robot Whisperer”, and was awarded a 2017 Ars Electronica STARTS Prize Honorable Mention. She was also named a 2017/2018 World Economic Forum Cultural Leader.

A brief history of the program, its mission, founding principles, and a description of how that is expressed in the context of the 21st century, U.S., architecture education.

M.Arch: CMU’s graduate-level architectural design education goes back to at least 1919. CMU offered a NAAB-accredited M.Arch from 1970-1991, and graduated nearly 200 students. Officially, the SoA M.Arch degree is still on the books at the CMU registrar’s office (Code: MAC). Although we are technically reactivating a dormant program, we were eager to do extensive research into the changed professional and educational landscape, to create a program built on tradition, but working with today’s resources, and fully future-oriented in its conception.

SoA faculty have discussed re-building an M.Arch numerous times over the last decade. The 2007 and 2014 CMU internal Presidential Advisory Boards, as well as the 2011 SoA Strategic Plan process advocated either transforming the B.Arch into an M.Arch (“nomenclature change”), or building a new, separate M.Arch. We have chosen the latter. The implementation of a revised “3+2” B.Arch curriculum in 2012 helped pave the way for a 3-year M.Arch program by developing both a tighter schedule of core professional courses, and more advanced vertically integrated option studios, both of which could accommodate M.Arch graduate students. The development of the 2-year, post-professional, studio-based Master of Advanced Architectural Design (MAAD) program in 2014-15, as well as the retooling of the design-based Master of Urban Design (MUD) degree, were further important step in strengthening SoA graduate design education.

During summer 2015, professors Kai Gutschow and Jeremy Ficca drafted the 3-year M.Arch program, with regular input from Head Steve Lee and others. The M.Arch program was presented and discussed extensively at the SoA Retreat on 28 August, and consensus was reached at the full time SoA faculty meeting on 23 September. It was presented to, and approved by, CFA College Council on 27 October, and passed through the university’s “New Academic Program Process” (NAPP 1) with Vice Provost for Education Amy Burkert in Nov. 2015. The fact that the program was still on the books in the CMU registrar’s office, as well as assurances of high quality professional education provided by the NAAB accreditation process, made the approval relatively easy for the university. In the spring of 2016, Kai Gutschow and Steve Lee wrote the 75-page “Plan For Achieving Initial Accreditation.” We received written approval from NAAB that the program is “eligible for candidacy” on 16 August 2016. We submitted the Architecture Program Report for the 2018 NAAB Visit for Initial Candidacy in the fall of 2017 and admitted the inaugural class of 18 for the Fall 2017 semester. In March 2018 we combined a NAAB re-accreditation process for the B.Arch with the NAAB Initial Candidacy visit for the M.Arch, resulting in an
eight year term for the B.Arch, and candidacy status for the M.Arch.

The Master of Architecture (M.Arch) is a three-year, studio-based, first professional degree program to educate tomorrow's leaders in architecture-related careers. It has been developed strategically alongside CMU's long-established, technically-oriented B.Arch program (most recent NAAB accreditation for eight years in 2018). Much of the M.Arch curriculum, particularly the last two years, will be cross-listed with existing B.Arch courses and studios, but offered with graduate sections or increased, graduate level expectations. The M.Arch will also tie into SoA's leading edge graduate MS/PhD programs and their research agendas in computational design, sustainable design, urban design and public interest design, with students able to take courses in those other programs, and use them to cut the time and money needed for additional degrees through the GAMP program. The M.Arch will provide both the broad, comprehensive training in fundamentals required for U.S. professional registration and licensure, and the opportunity to develop concentrations in these focus areas.

We have developed a comprehensive three-year curriculum to deliver all of the NAAB SPC (see section “II.2.2.B. Master of Architecture” below). As per the NAAB standards, our M.Arch graduates should be “competent in a range of intellectual, spatial, technical, and interpersonal skills; understand the historical, socio-cultural, and environmental context of architecture; are able to solve architectural design problems, including the integration of technical systems and health and safety requirements; and comprehend architects' roles and responsibilities in society.”

The M.Arch is being developed for, and will be open to students with a baccalaureate degree in any field. All students will apply to the same program, though for foreign visa purposes, and to distinguish different backgrounds, the program will be offered as two tracks: 1) “Track 1” for students without a degree in architecture, who will generally study for 3 years; and 2) “Track 2” for students with a rigorous four year pre-professional architecture degree, who will be granted advanced standing, and be able to finish in 2 years. In order to capitalize on existing courses, faculty, and studio spaces from our B.Arch program, we will initially grant admission only to advanced standing “Track 2” students. The recently implemented “3+2” B.Arch curriculum, with the initial six semesters delivering most of the NAAB SPC, and the option studios in the final 4 semesters allowing students to explore broadly or specialize with an eye on their career, will make this overlap of B.Arch and M.Arch possible.

Similar to the existing SoA masters programs, as well as CMU more generally, we have received applications from around the world, from applicants with a diverse set of skills and backgrounds who seek out the increasingly well recognized CMU and SoA high tech and research-oriented programs. In order to increase our domestic applicant pool, we have also begun to establish relationships with a series of “feeder schools” such as the BA in Architecture Studies program at the University of Pittsburgh.

The M.Arch will remain strategically small and focused on the existing strengths of the SoA in computational design, sustainable design, and public interest design. The small size of the program will allow students to shape their individual educational and career paths, as they engage directly with leading edge research projects in the school, community and around the world. While being built on the existing strengths of the SoA, the new program will also challenge old norms and establish new, more future-oriented ways of working and teaching architecture. The plan below contains many features that we believe can be transferred readily from the B.Arch to the M.Arch, but also keeps an eye on changing fundamentally certain aspects of our professional education, both because teaching graduate students will be different than undergrads, and because the smaller, more streamlined three year curriculum allows us to implement change to a greater degree than has been possible for the larger, more established B.Arch.

M.Arch Identity: Given the extensive competition, and the M.Arch's mandate to educate broadly, it will be important to establish and maintain a specific and focused identity for the program, to distinguish it from other schools, and from SoA's research-based MS programs, and B.Arch. The four primary
distinguishing features of the new M.Arch program are:

Pittsburgh: the City Everyone is Talking About - Where better to study architecture than in a venerable city with both an industrial heritage and a tech-driven future? The buzz you’ve heard is true: one of the USA’s most livable, affordable, green innovation hubs provides the perfect home and laboratory for research, design, working and living.

Small Program Size - Our small, focused program facilitates close interactions among faculty and students, easy access to our state-of-the-art research and fabrication facilities, and personalized learning and research. In our cohesive, immersive atelier-model studios and beyond, opportunities are enabled from the bottom up, rather than prescribed from the top down.

Integration of Arts and Tech - One of the world’s preeminent technical research universities, Carnegie Mellon has long offered students leading-edge learning experiences at the intersection of the arts and technology—allowing them to create successful futures in careers only they can envision. In SoA’s M.Arch program, technology is more than a technique or tool: we emphasize digital workflows and the seamless integration of computation, systems analysis, and data into our creative design processes.

Integration of Design and Research - M.Arch students are immersed in Carnegie Mellon’s and SoA’s long standing culture of research and design innovation. We relentlessly focus on excellent design and on scientific, research-based methods, forging transdisciplinary connections, speculations, and architectural solutions for the built environment. M.Arch students have access to a host of learning and research spaces, including the Intelligent Workplace, Computational Design (Code) Lab, Digital Fabrication Lab, and the Urban Design Build Studio’s PROJECT RE_.

M.Arch Values: In addition to the university’s core values of Dedication, Impact, Collaboration, Creativity, Empathy and compassion, Inclusion, Integrity, and Sustainability, the M.Arch program’s core values are based on:

- a deep conviction about the unique disciplinary knowledge of the architect, and the power of “architectural thinking” to improve both society and our planet
- a commitment to understand and address the rapidly changing natural and man-made environment around us, and the increasingly complex, difficult, and inter-disciplinary problems and opportunities facing architects in our constantly evolving profession
- a commitment to teaching and inculcating design thinking as a creative, iterative, reflective decision making process to solve problems and discover new opportunities needed to be an influential professional;
- a studio culture that promotes the values of collaboration, speculation, critical thinking, and research that lead to innovative architectural solutions within the built environment
- a relentless focus and insistence on good design; design excellence at the center of all work
- the development of integrative design thinking within a collaborative studio environment, promoting understanding of the design process as a means of synthesizing many forms of expertise, knowledge and learning
- an emphasis on future oriented, digital workflows and the integration of computation, systems analysis, and data into the creative design process so that computation becomes more than a technique or tool, it changes how we design, and in the process supports the collaboration and the exchange of knowledge among many programs and disciplines
a belief that architecture and technology must be understood as culturally constructed and shaped by social, aesthetic, historical, humanistic, and theoretical biases

A sample of the types of activities and initiatives that demonstrate the program’s benefit to the institution through discovery, teaching, engagement, and service.

One of the key goals of the new M.Arch is to improve the architectural culture in the region around southwest Pennsylvania and the City of Pittsburgh. The new M.Arch program will make it possible for Pittsburghers who did not study architecture in college (including CMU students from other departments on campus), or for Pittsburghers who studied architecture at a pre-professional level elsewhere, to start or continue their studies at the highest level here in Pittsburgh. We hope graduates will choose to stay and contribute to the revitalization of the region. We have reached out to the University of Pittsburgh, as well as Chatham University to have their students apply, and we have seen many inquiries from people already working on local offices, but wanting a professional degree.

The impact and reputation of CMU’s SoA is related to its ability to motivate sophisticated student work, both design and research, and to innovate, both pedagogically and technically. Attracting excellent new and diverse graduate level students to the design program should raise the profile of the SoA. A new M.Arch should improve SoA’s overall visibility, stature, competitiveness, and rankings, in the educational and professional communities, in the Pittsburgh region and around the world, particularly at the graduate level, given its traditional emphasis on STEM based research. We are eager to strengthen studio and design culture by attracting top quality students with educations from other domestic and foreign schools, and promoting connections of B.Arch and M.Arch students through shared studios and coursework.

SoA’s long standing community and outreach programs include the Center for Architecture Explorations (CAE), SoA’s Pre-College Architecture Program, the summer camps at the Carnegie Museum of Art, and the Osher Academy of Lifelong Learning have long reached out to the city and region. The Urban Design Regional Employment Action for Minorities Program (UDream) including the Architecture Building Communities program is currently being re-designed and is seeking new sources of external funding.

In Pittsburgh, faculty and specific programs maintain close connections to the AIA Pittsburgh, the Heinz Architectural Center at the Carnegie Museum of Art (CMoA), the University of Pittsburgh’s Department of History of Art & Architecture, the Mattress Factory, Pittsburgh’s Department of City Planning, the Heinz Endowments, the R.K.Mellon Endowments, the Master Builders Association, the Trade Institute of Pittsburgh, the Energy Innovation Center (EIC), the Green Building Alliance, and Phipps Conservatory.

Globally, our faculty conduct international workshops for organizations such as the Singapore Building Construction Authority, East China Architectural Design Institute, and the Guangdong Electric Power Design Institute.
A summary of the benefits derived to the program from the institutional setting.

The School of Architecture strives to create a friendly, respectful, collaborative, and professional relationships across the entire community, from students to faculty to staff. At both the undergraduate and graduate levels, students are encouraged to pursue courses in other departments, promote interdisciplinary agendas, collaborate in joint research projects, and seek outside advising. The relatively small size of the SoA allows students direct access to leading experts in the field and all the advanced facilities, as well as a great deal of latitude in determining their education. A number of existing and enduring partnerships with the SoA include:

Advanced Synthesis Options (ASO) studios
_Theater Arch with School of Drama and MAMM (Hayes/Block/Heidemann)
_UDBS with Trade Institute of Pittsburgh (TIP) and Construction Junction (CJ) (Folan)
_Re_Cast with Heinz Architecture Center (HAC) (Bard/Torello)
_Mass Timber with Bensonhurst Homes (Ficca/King)

Master’s and PhD of Science in Architecture Engineering Construction Management CM (MSAECM) with Department of Civil & Environmental Engineering (CEE).

Center for Building Performance & Diagnostics exchange program with TU-München, DE and Paul Sabatier University (PSU), Toulouse, FR

Extensive CoDe Lab collaboration with the Frank-Ratchye Studio for Creative Activity

Erasmus+ program with Politecnico di Torino (PolTo)

SoA Lecture Series w/ Heinz Architectural Center (HAC)

NOMAS Crit Live

Bard/ Cupkova research with CMU’s Manufacturing Futures Initiative (MFI)

Summer workshops with AutoDesk Build Space in Boston (Ficca)


Frequent BxA collaborations

IDeATe: The Integrative Design, Arts and Technology Network (IDeATe) at CMU connects diverse strengths across the university to advance education, research and creative practice in domains that merge technology and arts expertise. The IDeATe concentrations aim to train a student to be excellent in one area of technology or arts and be able to collaborate within diverse cohorts of technology and arts experts. To achieve this goal, IDeATe has sponsored the development of 30 new interdisciplinary technology-arts studio based courses. These studio classes are focused on hands on collaborative learning and are structured to combine students from many different disciplines. The curriculum is being developed and delivered by 65 faculty across 15 different academic units of CMU and being delivered at the new IDEATE collaborative making facility housed at the central Hunt Library.

A description of how the program’s course of study encourages the holistic development of young professionals through the integrated study of the liberal arts and the specific discipline of architecture.

CMU’s new M.Arch is built from an ethos of combining professional training and interdisciplinary education that is at the heart of our university, other post-professional master’s programs in the SoA, and the B.Arch. By bringing students trained at other architecture schools around the world, we will be adding to the intellectual and global diversity and experience of our community (we do not currently anticipate admitting students from CMU’s own SoA to the M.Arch). Candidates for CMU’s M.Arch require a previous baccalaureate from an accredited institution, where we anticipate they will have pursued broad, interdisciplinary undergraduate studies and have developed critical thinking about architecture’s rich and complex connections to other fields. Candidates for the advanced standing, 2-year track should also have acquired fundamental architectural design skills, an understanding of architectural history and precedents,
as well as rudimentary technical courses such as building physics. The admissions process seeks to attract candidates from a variety of degree programs (liberal arts and pre-professional) and previous experiences, including non-traditional backgrounds, with a passion to study architecture. By bringing together a diverse cohort, we seek to lay the foundations for them to teach and inspire each other, to understand a larger diversity of ideas, inspirations, and means of engagement within the world through architecture.

Similar to the 3+2 curriculum of our B.Arch, the new M.Arch will focus on professional and technical coursework in the first years, and then offer a choice of Advanced Option Synthesis Studios (ASOS) in the last year. Here M.Arch students are integrated with students from other design-based programs, including perhaps an optional 1-semester Thesis, and are taking a slate of electives to support their studio or other areas of interest. Students can choose between focusing within the traditional aspects of the discipline, or working in interdisciplinary or non-traditional topics, including coursework towards masters programs in areas such as computation, urbanism or sustainability. The small program and careful mentoring allows students to determine their own path through the M.Arch, at the same time as the school assures the holistic development of young professionals through the integrated study of liberal arts and the specific disciplines of architecture.

I.1.2 Learning Culture

In addition to the matters identified in the Condition, the program should be prepared to describe how studio culture addresses the values of time management, general health and well-being, work-school-life balance, and professional conduct. A description and assessment of the learning culture within the program.

The learning culture of the M.Arch program is being built from the learning culture that has been promoted in the B.Arch program, as well as the SoA, and the university more broadly. CMU’s “2025 Strategic Plan” states: “the university is committed to cultivating an active, technology-enhanced, “know how to learn” environment where each individual can grow and thrive…. We will remain dedicated to nurturing student, faculty, and staff growth in key areas such as deep disciplinary knowledge; leadership, communication, and interpersonal skills; as well as physical and emotional well-being. We will continue our focus on attracting a diverse and inclusive community of students, faculty, staff, and alumni willing to cross academic boundaries in a culture where innovation, entrepreneurial thinking, and action are valued and fostered.”

The relatively small size of CMU, of the SoA, and of the M.Arch program, as well as a culture that promotes both interdisciplinarity and collaborative research, allows us a great deal of personal contact from faculty to students, and from students in one grad program to the other, and even from one department to the next. Students are constantly interacting with each other, as well as with faculty and staff in studios, but also in labs, classrooms, offices, as well as on campus, in the Pittsburgh neighborhood nearby, as well as further afield on study trips. Studios and classes frequently engage experts from outside the school, from the Pittsburgh area, and from farther away to deliver guest lectures, review studio projects, or interact in other professional ways with students. We strive to create a friendly, respectful, collaborative, and professional relationships across the entire community, from students to faculty to staff.

The learning culture in the studios is guided by the “Studio Culture Policy” (see also below) that applies to all studio-based programs, both undergraduate and graduate, but also by the values of the community we seek to build in the SoA and at CMU, and constantly reiterated by the upper administration. In graduate student (as well as freshmen) orientation, faculty and staff outline the expectations and opportunities of the SoA curricula, but also the support services that are accessible through faculty and staff, SoA advising and mentoring programs, and especially university led support services. Both the university and the School encourage instructors to include messages about health and wellness, but also about support services in all syllabi, and introductions to all courses. Learning culture policies are reinforced to all students through various course and programmatic offerings in the SoA, individual and group academic
advising sessions for all current students, clubs such as AIAS and NOMAS, the student advisory councils (GSAC and SAC), social events, semester town meetings, and special topic sessions as needed. Participation and engagement in these sessions are measured and evaluated to continually improve performance, delivery, and opportunities.

Although graduate students in the M.Arch are expected to have more previous experience managing the opportunities and stresses of university life than freshmen, we do recognize that CMU’s high level academics pose challenges for some incoming students from other schools, both domestic and international. Through the summer “Digital Skills Workshop” (DSW), the graduate orientation in August, and the portal “Architectural Theory” course required for all students, we introduce all students to SoA expectations and the many resources of the university, including advising and support services. Following their own recommendations, M.Arch students have been hired to create an “M.Arch Handbook” that will contain both official information about university resources, as well as student-to-student advice about succeeding at CMU. This will be updated annually to reflect changing circumstances, but also the ever-growing institutional legacy of the M.Arch program and its students. In the graduate sections of the “Integration 1&2” studios we reinforce helpful lessons about time management, finding ways to become “unstuck,” managing between multiple design parameters and different feedback, teaching about collaboration and team building, and other tactics to help students become successful students and professionals.

All CMU students have access to the learning and support services such as:

- **Coaching** ([https://www.cmu.edu/acadev/programs/counseling/index.html](https://www.cmu.edu/acadev/programs/counseling/index.html)) that covers topics such as time management, effective work and study technique, etc. It also helps set up peer Academic tutoring, and other supplemental instruction

- **Global Communications Center** ([https://www.cmu.edu/gcc/](https://www.cmu.edu/gcc/)) a resource supporting students’ efforts to improve their communication skills and prepare for a complex global economy

- **Intercultural Communications Center** ([https://www.cmu.edu/icc/](https://www.cmu.edu/icc/)) to help non-native English speakers (NNES) improve the language and cultural skills needed to succeed in their academic programs

- **Counseling and Psychological Services (CaPS)** ([https://www.cmu.edu/counseling/](https://www.cmu.edu/counseling/))

- **Student Health Services** ([https://www.cmu.edu/health-services](https://www.cmu.edu/health-services)), including wellness and fitness initiatives

A description of the program’s Studio Culture Policy including by what means and how frequently the policy is distributed to faculty, students, and staff

The official policies and aspirations of the learning culture, including the “Studio Culture Policy” (SCP), serve as supplements to the standards and policies that the university has adopted and established, and are described in The WORD ([https://www.cmu.edu/student-affairs/theword/](https://www.cmu.edu/student-affairs/theword/)), the official handbook for members of the CMU community. The SoA’s learning culture, alongside SoA mission, academic curriculum, academic policies, student opportunities, and valuable resources in SoA are detailed in the undergraduate and graduate student handbooks. The university ethos and policy states in part:

“Carnegie Mellon is a community of diverse members committed to maintaining an environment that encourages personal and intellectual growth that promote our traditions of innovation, leadership, responsibility to society, learning, dedication, commitment to quality and commitment to each other. We are a community with high standards and high expectations for those who choose to become members, including established community standards intended to foster behavior that is consistent with a civil and educational setting. It is the responsibility of each community member to become familiar with the standards and expectations of the Carnegie Mellon community.”
The Carnegie Mellon University School of Architecture’s Policy on Studio Culture is written by the school’s chapter of the American Institute of Architecture Students (AIAS) to build a strong community that is inherently unique to the architecture studio environment. It is updated every year and it is available to all in the undergraduate student handbook on the SoA website. With the new cohort of M.Arch students in studio, we have encouraged them to join AIAS and to run for elected office, so their voices can be heard in this process. In the SoA “Studio Culture Policy”, and indeed through the SoA, the philosophy is maintained that professionalism should be embodied by faculty, staff, and students and demonstrated in the work exhibited in a professional degree program. The SoA realizes that the studio is a ‘melting pot’ of sorts that contains these interactions and their outcomes. Therefore, as a premise for deriving the guidelines for studio culture, we embrace the idea of professionalism as means to instill positive and productive relationships between all parties present in architectural education. Under the heading of professionalism, the SoA supports core values that further emphasize the importance of collaborative engagement, critical interaction, and decision making within the studio environment:

**Critical Practice:** Innovate, question, reevaluate, and redefine in order to push for forward thinking in the study and practice of architecture.

**Process/Product:** Demonstrate the ability to actively participate in studio by creating work that challenges oneself in his/her specific skill-set level. Contribute – to the best of one’s abilities – a product that is well-developed based on the conceptual objectives assigned.

**Critique:** Promote constant interaction between students and faculty in the critical discussion of both precedent study and student. Engage in public discourse about architecture whether it be at a personal final critique, a gallery showing, or a town hall meeting.

**Engagement:** Understand and be committed to studio content, and take advantage of resources. Work to achieve personal and academic goals in an effort to learn more from your work and that of your peers. Be present at every studio session as attendance and attentiveness are essential to success.

**Communication:** Voice suggestions, concerns, and opinions frequently. Have the judgement to understand on what level to communicate with peers and colleagues in all areas of architectural learning.

**Respect:** Be respectful of others - their ideas, work and philosophies. Embrace the diversity of our community with regard to: race, color, national origin, sex, handicap or disability, age, sexual orientation, gender identity, religion, creed, ancestry, belief, veteran status, or genetic information.

**Integrity:** Commitment to honesty without compromise, as well as truth without equivocation and a willingness to place the good of the community above the good of the self. Obligations, once undertaken, must be met and commitments kept. Official policies on academic integrity, including cheating and plagiarism are outlined in The Word.

Keeping in mind the overarching theme of professionalism, the official Studio Culture Policy sets forth in great detail the guidelines for the development of the curriculum, the grading policy, the crit and review policy, and the responsibility of the design process. It also sets forth expectations for professional student-faculty interactions, student-student interactions, as well as expectations about the conduct in various SoA facilities.
M.Arch students are introduced to the SCP during August orientation and encouraged to make revisions. The Track-Chair for the M.Arch program, who will be mentoring and supervising the curricular progress of all M.Arch students. B.Arch students are introduced to the School’s policy on studio culture during orientation and in first semester seminar as a part of the School of Architecture policy review. In seminar, students are quizzed on policies including the studio culture policy.

A description of the process by which the policy is evaluated and updated, including those involved and the frequency of the review.

The Executive Board of the Carnegie Mellon chapter of American Institute of Architecture Students (AIAS) developed the studio culture policy in collaboration with the School of Architecture Head and AIAS staff advisor, and are responsible for assessing and updating the policy, in collaboration with the Student Advisory Council (SAC), the Graduate Student Advisor Council (GSAC) and the Head of SoA. Student handbooks that contain the Studio Culture Policy, are made available to all students/faculty/staff online on the SoA website, are evaluated through feedback from the SoA faculty, staff, and student advisory councils (SAC & GSAC), and are updated annually.

I.1.3 Social Equity:

A description of institutional initiatives for diversity and inclusion and how the program is engaged in or benefits from these initiatives

Closely related to policies and aspirations for a positive learning culture are those related to guaranteeing social equity. The policies and aspirations related to social equity for the M.Arch program are built from the policies promoted in the B.Arch program, as well as the SoA and CMU more generally.

Previous CMU President Suresh made it a top priority to improve the quality of life for all members of the CMU community, especially in matters of physical and mental health, equity, and inclusivity. CMU’s new strategic plan includes 8 “values”, of which three relate specifically to social equity: Empathy and compassion, reflected in our focus on improving the human condition and on the personal development of the members of our community; Inclusion, reflected in a culture and climate that seeks, welcomes, and advances talented minds from diverse backgrounds; Integrity, reflected in our adherence to the highest ethical standards in personal and professional behavior and in our commitment to transparency and accountability in governance and everything we do. The SoA and the M.Arch program aspire to the same values.

The university has recently created the Center for Student Diversity and Inclusion (CSDI) that actively cultivates a strong, diverse and inclusive community capable of living out these values and advancing research, creativity, learning and development that changes the world. The Center offers resources to enhance an inclusive and transformative student experience in dimensions such as access, success, campus climate and intergroup dialogue. Additionally, the Center supports and connects historically underrepresented students and those who are first in their family to attend college in a setting where students’ differences and talents are appreciated and reinforced. This is a physical location where student can meet as well as a series or programs and resources for the students.

A description of plans to maintain or increase the diversity of faculty, staff, and students when compared with the diversity of the institution.

CMU recognizes that other institutions with larger endowments are able to offer better financial packages to faculty and students to create a more diverse and inclusive community. Funding for these purposes at CMU primarily tuition driven so the new administration is actively fundraising to create fellowships, scholarships and start-up packages to help attract and retain the very best candidates in underrepresented groups. For students, the University has created a program of “Presidential Scholarships” for undergraduates and “Presidential Fellowships” for graduate students. These are intended to attract the very best graduate students from around the world, including underrepresented groups. The current capital campaign will look to enlarge these pools of funds.
The SoA offers four (4) programs to support our efforts to improve diversity.

Center for Architecture Explorations (CAE): A collection of programs for K-12 students reaches a wide range of students in an effort to develop an interest in architecture and prepare interested students for undergraduate admission. The Saturday Program offers significant need-based scholarships to individual students. Academic workshops and after school programs serve a range of schools, including several schools with a majority of the student body eligible for the federal free- and reduced-fare lunch program. Architecture Building Communities, a free architecture and urban design summer program, reaches out to a local urban primary school and recruits diverse high school students from the region.

Pre-College: Each summer, the university sponsors through full tuition, room and board, four or five diversity students into our six-week intensive Pre-College program. Upon the expression of a student’s interest and ability, we will provide supplementary information in the form of recommendations, to the Office of Admissions to promote enrollment. The SoA has admitted and matriculated several of these students.

UDream, currently seeking new funding: (Urban Design Regional Employment Action for Minorities) provides recent graduates of architecture, landscape architecture, urban design and urban planning programs the opportunity to deepen their knowledge of urban design in a summer and fall immersion experience in a real project in a Pittsburgh neighborhood. Participants receive free tuition, housing, bus passes, and a monthly stipend of $1,000 for food and necessities from June to October. UDream begins in June on the Carnegie Mellon University (CMU) campus with a five-week intense program of academic courses and studio work with an emphasis on urban design and sustainability, followed by a two-week mentoring program in July with local high school students. Senior CMU architecture faculty and experienced local urban design practitioners teach the courses and design studio. The academic and community engagement program is followed by a twelve-week internship at an urban design firm, public agency, or nonprofit organization engaged in planning and community development. The goal of UDream is to increase diversity in the profession of urban design nationally, and in the Pittsburgh region specifically, by offering opportunities for permanent employment in Pittsburgh. In 2009 there were only five practicing minority architects in Pittsburgh. Now there are well over thirty.

National Organization of Minority Architects: A measure of UDream’s success is the number of participants that have reamind in Pittsburgh. UDream participants reached critical mass and formed a new chapter of the National Organization of Minority Architects (NOMA) in Pittsburgh and a new student NOMA chapter at CMU.

A description of the process by which these plans are developed and the individuals involved in the process.

Professor Erica Cochran Hameen represents the SoA on the university Diversity and Inclusion Committee. She is the chair of the SoA faculty search committee this year and is liaising with the University to provide diversity and inclusion training for the entire committee. The SoA looks to the central administration for overall guidance in these efforts and at the school level, the head is actively engaged in all activities. Lee’s approach is to think of diversity and inclusion as a cradle to grave endeavour from K-12 (Kappelt) to Pre-College (Pertierra) to Grad School Prep (Hameen) to post-professional programs (Hameen) to elder activities with the Osher Academy for Lifelong Learning (Kappelt).

A description of whether and how these initiatives are linked to the program's self-assessment or long-range planning.

Long range planning is informed by the NAAB accreditation process, the Carnegie Mellon Presidential Advisory Board process, by the STEM- and Studio- based committees, the Full Time faculty and feedback from alumni and those firms that hire our graduates at all levels for the school.
I.1.4 Defining Perspectives

The perspectives offer programs the opportunity to define the means and methods most appropriate to their mission, history, and pedagogy to prepare students with a set of core values that are essential and fundamental to the practice of architecture. These values are held as perspectives instead of SPC, as they must transcend any one course and must be over-arching across the program. Notes on the Perspectives should include:

- A description of the program’s approach to each of the five perspectives. Identification of individual courses, curricular and co-curricular activities, or learning experiences/opportunities available to students to develop the knowledge, skills, or understandings described in each perspective.

- A description of how the perspectives inform or support some or all of the following activities (not inclusive): Learning culture; Curriculum design, review, and development; Specific course review, development, or revision; Off-campus, extracurricular, or co-curricular learning experiences (e.g., field trips, service projects, student organizations, or design centers); Long-range planning for the program; Self-assessment activities for the program

A. Collaboration and Leadership

The program should address this perspective by describing how students develop the interpersonal skills for fostering team unity, communication and decision-making, conflict resolution, cultural awareness and empathy, and the motivating purposes to effectively achieve commonly held goals, and where those skills are being taught/demonstrated. Graduates should be prepared to function in a diverse world of practice with the ability to adapt to complex team situations and effectively address a climate of shifting priorities. This perspective also includes how a program prepares emerging professionals to serve clients and the public, engage allied disciplines and professional colleagues, and rely on a spectrum of collaborative skills to work successfully across diverse groups and stakeholders. This condition can be satisfied by demonstrating how students lead and collaborate across multiple opportunities ranging from structured coursework opportunities to program activities and events and external programs and events.

Collaboration, and with it the opportunity for leadership but also the importance of being a responsible partner or teammate, are at the very core of the new M.Arch, the SoA, and CMU more generally. The university’s strong culture of interdisciplinary thinking, communal inquiry, and collaborative research across the disciplines foregrounds these values from the top down. As a school, and especially in the small M.Arch program, we value initiative in our students, and strive to create opportunities for them to shape their own education, both individually, and through collaboration, to become leaders in the community. SoA students lead and organize strong chapters of the American Institute of Architecture Students (AIAS), as well as the National Organization for Minority Architecture Students (NOMAS). The AIA awards the Alpha Rho Chi medal for student highest level of leadership.

At both the undergraduate and graduate levels, students are encouraged to pursue courses in other departments, promote interdisciplinary agendas, collaborate in joint research projects, seek outside advising, etc. The M.Arch curriculum and program explicitly promotes M.Arch students taking courses and engaging with other STEM-based graduate programs in the SoA to develop expertise in addition to the professional degree. The relatively small size of the SoA, as well as the M.Arch, allow students direct access to leading experts in the field and all the advanced facilities, as well as a great deal of latitude in determining their education.

We see the architectural studio not just as a place, or a course, but also a collaborative way of learning and thinking. Studio renovations over the past 10 years have continued to work towards ever more open and flexible planning that promotes interactivity between studios, students, and instructors. We have phased out separate computer clusters in order to integrate that workflow more seamlessly into the studio culture. Although the academy has often foregrounded the experience of the individual learner, and the master-apprentice model of studio education has long been a staple of architectural education, SoA aims to move towards other more collaborative models of learning and teaching, practicing and researching. Nearly every studio contains group projects, as well as individual ones. Although it is often difficult for students, an explicit part of the pedagogy includes collaborating in the design process, effectively achieving commonly held goals, conflict resolution, sharing work, responsibility, and success.

An embrace of diverse viewpoints and community engagement is an explicit part of several studios and courses, including the Urban Design Build Studio (UDBS) track of the M.Arch program. This year-long
studio is focused the idea of “Public Interest Design,” and includes extensive work with local tradesmen, residents and community leaders, often from disenfranchised communities, as well as local non-profits supporting various programs in these communities. The “Integration II: Advanced Construction” studio track for the M.Arch is taught in collaboration with the “Ethics+Practice” and the “Real Estate Design & Development” courses, and all three explore the design of an environmental charter school in various communities in Pittsburgh. The Master of Urban Design program, which helped establish the practice of participatory design, as well as the urban focused studios in the ASO studios almost always feature close collaboration with many different stakeholders in the community. The larger ethos of sustainability that is a core value of SoA encourages students to understand all things as part of larger systems and ecologies that are interdependent, and thus the architect or any one person or group as just one of many participants in a larger process of enacting change, at any scale.

The collaborative team approach also extends to teaching: the Core studios, including the “Integration I&II studios of the M.Arch, are all organized by a full-time, tenure track coordinator, who leads other instructors in ways that allow students to recognize both leadership and shared values and ideas. Our proposal for the 1st M.Arch Atelier Studio will feature team-teaching, where students are taught by a team of three equal co-instructors and learn to balance different kinds of feedback, as well as “subject consultants” from the profession, community, or SoA who are brought in and integrated into the teaching to help students understand the value of different expertise in our collaborative profession.

Financially and administratively, CMU strives to promote a “bottom up” approach to initiating projects and developing leadership in specific, strategic areas of focus. The administrative and financial structures of the university grant great autonomy to the Head of SoA about programs and financing, allowing faculty of the School to initiate many new projects, often including students. The university provides small grant programs for undergraduates and graduate students to initiate both individual and collaborative research and educational projects, including Graduate Small project Help (GuSH) Research Grant, Graduate Student Conference Funds, student taught courses (StuCo), and university-wide student-run interdisciplinary events such as “Lunar Gala” fashion and design show. Architecture students are included in many aspects of the administration and business of the school. They are part of the admissions process, and through the “Graduate Student Advisory Council” (GSAC) have direct access to the Head, and can demonstrate both leadership and collaboration as we work together to improve the SoA, or enable all manner of projects.

B. Design

Programs should describe how graduates are prepared to engage in design activity as a multi-stage process aimed to address increasingly complex problems, and provide value and an improved future. This includes how students learn the combinations of methods, skills and cognitive processes, as well as identifying and framing problems from a complex milieu; generative and evaluative strategies; cycles of conjecture, implementation and evaluation; methods of research, technical expertise, skillful action and judgment.

Design is at the forefront of the core values of the M.Arch program, with: 1) a deep conviction about the unique disciplinary knowledge of the architect, and the power of design and “architectural thinking” to improve both society and our planet; 2) a studio culture that promotes the values of speculation, critical thinking, and research that lead to innovative architectural solutions within the built environment; 3) a relentless focus and insistence on good design; design excellence at the center of all work; 4) the development of integrative design thinking within a collaborative studio environment, promoting understanding of the design process as the primary means of synthesizing many forms of expertise, knowledge and learning; 5) a commitment to teaching and inculcating design thinking as an iterative, reflective decision-making process to solve problems and discover new opportunities needed to be an influential professional; 6) an emphasis on future oriented, digital workflows and the integration of computation, systems analysis, and data into the creative design process so that computation becomes more than a technique or tool, it changes how we design, and in the process supports the collaboration and the exchange of knowledge among many programs and disciplines.
The new M.Arch program was created as part of a larger effort to make “Design” more central to the mission of the SoA, especially its graduate program. Although CMU has been training professional architects for over a century, always with design as the center of their expertise, SoA’s graduate programs, some of the oldest and most respected in the country, have focused more heavily on research into technical, scientific, and STEM-based areas of the discipline. As a result, the SoA recently reorganized its graduate program structure to acknowledge the different attitudes towards design, distinguishing the more scientific and research-based MS/PhD graduate programs (MSSD, MSBPD, MSCD, MSAECM, MSTID), from the Studio-based programs (M.Arch, MUD, MAAD).

Another major curricular reorganization involving turning from a sequence of 10 themed studios from beginning design to urbanism for the B.Arch, to one based on design thinking: year 1 is “Foundation,” year 2 is “Integration,” and year 3 is “Elaboration,” part of which is the “comprehensive design” studio. In the last two years the students choose from a suite of vertically integrated “Advanced Synthesis Option Studios” (ASOS) in the last two years. The 3-year M.Arch will use the same sequence, working through Foundation and Integration in the first year, using an “atelier model” for design instruction. In place of the typical 18-unit (6 credit-hour) introductory design studios taught in parallel with separate support courses, we have created a comprehensive 45-unit (16 credit-hour) studio: full time, M-F 9-5, much like an office. The atelier studio combines and integrates studio design instruction with the closely related content from history/theory, computing/representation, and materials/construction. Underlying this design pedagogy is our conviction that design is best learned through projects in which many kinds of knowledge and thinking are integrated into a constantly iterative process of action and reflection.

The suite of ASO studios offered each semester integrates upper level B.Arch students with students from each of the graduate studio based programs including: urban design (MUD), advanced design (MAAD), Architecture, Engineering Construction Management (AECM), and the M.Arch students, beginning to simulate office teams where people with varying backgrounds and expertise work together towards shared design goals. The new M.Arch thus bridges between the deep roots in professional architectural design established by the B.Arch, and the more research and lab-oriented STEM-based grad programs, but also tie into the culture of innovation and entrepreneurialism that is at the heart of the CMU brand. It also provides a flexible forum to accommodate M.Arch students of varying backgrounds, interests, and future career ambitions to prepare them for the architecture profession, but also many allied fields involving design and systems thinking.

C. Professional Opportunity

As programs reflect their approach to preparing students for traditional settings responding to this perspective includes how students are prepared for the transition to internship and licensure; with an understanding of the requirements for registration in the jurisdiction in which the program is located; and with the information needed to enroll in the Intern Development Program (IDP). For programs with students preparing for other-than-traditional settings this should include how programs develop students’ understanding of alternative roles for architects in the building industry (e.g., developer, owner’s representative, program manager, or civic leader), as well as roles in numerous other disciplines where architectural expertise is highly valued.

CMU and the SoA have been educating architects for the profession for over a hundred years, and remain committed to doing so. Training the next generation of professionals for industry and practice was at the heart of Andrew Carnegie’s vision for the university, and continues to be central to the mission of SoA and CMU more generally. Both seek to have a real, transformative impact on society through continual innovation and the solutions of real problems in education, research, creativity, and entrepreneurship. The M.Arch program was created in part to strengthen the professional architecture community in the region and the City, to encourage and enable more people from the area to study architecture, and by educating older, master’s level students, have a better chance of retaining them in Pittsburgh. The local AIA has been an enthusiastic supporter of the new degree.

Every studio at Carnegie Mellon focuses at least one project on buildings and the professional
architectural design process. The “Materials & Assembly,” “Ethics+Professional Practice,” and “Real Estate,” courses all take as their primary subject matter the requirements of the profession and licensure. Many of the studio teaching instructors are professional architects from the community who not only teach design and offer feedback, but help inculcate a sense of professionalism in the studios and work. In recent years we have also made a conscious push to create new special faculty with the position of “Studio Professor,” as well as tenured a full-time professional architect, all of whom bring relevant, current professional experience to our students.

Although the B.Arch and many of the master’s programs were built to provide education and innovation for the traditional architecture profession and building construction industry, we find that an increasing number of our students are interested in pursuing interdisciplinary work here at CMU, as well as after they graduate. In addition to the architecture profession, recent graduates have gone on to work for software companies, fabrication facilities, entertainment technology companies, government jobs, and have chosen to pursue further studies in graduate programs in urbanism, landscape, computational design, and more general design studies.

Students are encouraged to look for internship and employment opportunities that can make use of their skills already after the first year. Alexis McCune Secosky, the “Architecture Licensing Advisor (ALA) is responsible for helping students understand and then engage in the “Architectural Experience Program (AXP), as well as the steps to licensure. Kristen Frambes, the Director of Alumni & Professional Relationships, has been active in engaging alumni, in large part for job connections and career opportunities for our students. She issues a weekly newsletter with job opportunities called “Opportunity Knocks,” and in close collaboration with the CMU Career and Professional Development Center (CPDC), including a staff member responsible for architecture, develops career fairs and other career development programs. Although SoA does not offer a guaranteed job placement program, the SoA has created a series of arrangements with prestigious firms such as SOM, KPF, Payette and others to take one or more current CMU students for summer internships, which often translate into employment after graduation. In recent years nearly all grads have been able to find employment readily in the profession of area of their choice.

D. Stewardship of the Environment

This includes teaching design practices that seek to minimize negative environmental impact and to connect people with the natural environment. The program’s approach may also include individual courses that develop a student’s understanding of climate, geography and other natural characteristics and phenomena. Further, these courses may also include content on the laws and practices governing architects and the built environment as well as the ethos of sustainable practices. Finally, the program’s approach may also include opportunities for students to engage in political advocacy on environmental issues; involvement in organizations for a sustainable future; or participation and leadership in university initiatives supporting environmental awareness and sustainability.

CMU SoA has been a world leader in research, teaching, and practicing sustainable design in architecture and urbanism around the world for over four decades. We see architecture’s complex relationship to energy, natural resources, and the environment as perhaps the single most important issue facing our planet and civilization. Our design studios, at both the graduate and undergraduate levels, all understand sustainability as a basic premise for all building and planning, and are eager to promote and support innovation and speculation in the field. Our graduate PhD and masters programs in Building Performance & Diagnostics (BPD) and Sustainable Design (SD) have long led the world in advanced research and building technologies that sustainably reshape the built environment. “Sustainability” was our passion and expertise long before it became a buzzword. Graduate students in our sustainability-focused programs (MSSD,MSBPD,PHDBPD) work side-by-side in the Robert L. Preger Intelligent Workplace, benefiting from one another’s experiences.

The M.Arch program has a nearly even split of domestic and international students, while the other graduate programs at CMU lean more heavily to international students and, within the SoA by a blend of national and international faculty. This rich mix heightens the awareness that sustainability is contextual,
and global. The varying distribution of natural resources and human populations around the globe requires that designers have the ability to think critically about many kinds of sustainability (energy, water, economics, social, etc.) in context and to design for resiliency and sustainability in that context. The University and the SoA understand that rapid global development, ongoing population increases and the concomitant pressures on natural resources and atmospheric health mean that today’s students will face different and perhaps more intense challenges than we do today. As a result, faculty within the SoA and across the campus strives to heighten students’ understanding of the interaction between human development and the environment and to hone critical analysis and solution-seeking skills.

Overall, the faculty within the SoA approach architectural sustainability within the broad categories found in US and global building rating systems, examining the interplay between buildings and the environment with respect to transportation; the physical site, its environmental qualities and future potential for flooding; water resources; materials use, durability and disposal; energy resources and their carbon intensity; and indoor environmental quality. Quantitative and qualitative analysis of the current built environment is emphasized through the use of increasingly affordable meters, sensors and intelligent controllers. The use of software, for community mapping, for integrated design and building performance modeling, and for system performance feedback and control are emphasized. Because US building codes are moving toward zero energy capable buildings, these codes are introduced, but these codes are also compared with code requirements, or their absence, in other countries in which students are likely to live and practice.

The Master of Science in Sustainable Design (MSSD) program is a post-professional degree intended for recent graduates and practicing professionals who seek to gain expertise in sustainable design methodologies and return to professional work in a short time. This intensive 12-month curriculum stresses the importance and value of total-building performance, human-centered design and the integration of Design, Technology and Construction knowledge and experience. Classes provide both depth and breadth, while the culminating Synthesis Project allows each individual student the opportunity to narrow his or her research focus to a topic of personal interest. M.Arch students will have access to these same classes, and the opportunity to get a head start on an MSSD degree through the GAMP advanced standing program.

The Building Performance & Diagnostics (MSPPD) degree program is intended for practitioners, researchers, and educators in architecture and the building industry who wish to be leaders in advanced building technologies and their performance. It is a research-based and research-oriented program, best for those ultimately interested in pursuing a PhD in building performance.

In the B.Arch and M.Arch professional programs, fundamental principles of “Building Physics” are introduced in a first year course that helps students understand, simulate, and begin to draw design principles around issues of heat and light. Ideas about ecology and nested systems of environments, both natural and human, are introduced in the second year. Two “Environmental Science” courses are required, one focused on passive systems and mostly at a smaller scale, the other on more technical advanced systems integration in larger scale buildings. The 3rd year required studio (taken in the 2nd year for M.Arch students) “Integration I: Environment, Form, and Feedback,” focuses on systemic design thinking linked to the development of forms and organizations in large scale urban environments. Engaging processes such as climate data, daylighting and water flow, students move away from the design of discrete buildings toward architectural interventions that spans across scales to give new shape to the contemporary city edge. The “Advanced Construction” studio that follows, is concerned with advanced systems integration, and focuses heavily on building performance. The UDBS track of studios focuses heavily on public interest design including economic and social sustainability, on reuse of materials, on energy saving systems, and a general ethos of resilience, sustainability, and long-term “pay back” for the community member. Students have the chance to deepen their expertise in the sustainability- or urban ecology-based ASOS studios.
E. Community and Social Responsibility

The social responsibility of architects lies in part in the belief that architects can create better places, and further that architectural design can create a civilized place by making communities more livable. A program’s response to social responsibility must include nurturing a calling to civic engagement to positively influence the development, conservation or changes to the built and natural environment. Addressing this perspective could include examples of public and community projects/programs outside of coursework, or as structured elements within coursework.

We see “Public interest Design” as one of the three core strategic strengths of the SoA, alongside computation and sustainability. At the core of this philosophy is a belief that architects must serve the interests of the general public, the local community, and the specific clients and users of the project, and furthermore that the design process must include them as well as other major stakeholders in identifying problems and needs, in proposing new solutions and working out compromises in the decision-making process, and where possible, be involved in the implementation and even the construction of the architectural or urban project. Only through this participatory process will the public interest be served.

The M.Arch program will build on the long tradition and values of community engagement and social responsibility within the SoA. The CMU SoA helped pioneer the practice of “participatory design” and community engagement in the design process as far back as the 1960s, when Prof. David Lewis began one of the first programs in urban design at CMU. Since then, through a now defunct PhD program, the long standing Master of Urban Design (MUD), as well as decades of required coursework and studios in the B.Arch curriculum, this ethos of public interest design has been at the core of our professional architecture education at CMU. Our programs have always considered the City of Pittsburgh as well as the surrounding communities and region to be an “urban laboratory,” where new and established methods can be practiced in collaboration with local citizens and organizations.

One of the principal goals of the new MArch program is to improve the architecture and design culture and community in the region by attracting more architects to the area and helping find opportunities for them to stay and build our region. In the admissions process, applicants previously from the region, or who already live and go to school in the region and the City, especially from diverse socioeconomic backgrounds, were given special attention, to be sure we had a cohort of students with enough local knowledge and expertise to share with the entire class and maximize the opportunities of working and living locally.

Almost all studios in the core studios of the SoA feature sites in and around Pittsburgh to be sure that students visit and think concretely about the impact of architecture on the community.-The required survey of world history course is based on the idea that architecture is but one expression and output of community and human habits, and students learn early to see architecture as culturally constructed. Our B.Arch students are currently exposed to the principles of public interest design as early as the 2nd year studio, where they work on projects related to urban agriculture at several scales, and engage directly with the community. Students design and fabricate a small “hoop house,” or miniature greenhouse for local community gardens, and interact with the community both to understand their needs, and to evaluate the work. MArch students can opt for the UDBS studio track in the first or second year of their studies, and the “Advanced Construction” studio always works in a Pittsburgh community and includes social issues in the project brief.

A central part of CMU SoA’s work in public interest design occurs through the Urban Design Build Studio (UDBS), a collaborative of students, professors, and allied professionals who work with community residents on implementation of appropriate, affordable, replicable design solutions. The UDUBS has established Project_RE, an off-campus work and meeting space within the facilities of “Construction Junction,” a large architectural salvage operation that works with communities to save and recycle the heritage of Pittsburgh’s communities. Through grants from Pittsburgh-based foundations, UDUBS and Project_RE have been able to garner substantial funding to design and build an ever increasing list of projects in various communities around Pittsburgh, always in collaboration with the local community, and
always with the best practices of public interest design.

The UDBS approach to public interest design and architectural practice is also central to the new M.Arch. Students with advanced standing are able to select the UDBS track in either their first or second year, or for both years. The projects vary from year to year, but the intent is to build a real house by engaging many stakeholders, including the community, the non-profits that fund much of the work. The studio is totally collaborative, students from various programs working together to design, then produce construction documents, and then opportunities for a paid summer internship to construct a real house in a local community over the summer. Eventually this UDBS approach will be used in the “Atelier model” education of the first year of the 3-year M.Arch.

I.1.5 Long-Range Planning
The APR must include:

A description of the process by which the program identifies its objectives for student learning
A description of the data and information sources used to inform the development of these objectives.
A description of the role of long-range planning in other programmatic and institutional planning initiatives.
A description of the role the five perspectives play in long-range planning.

Long-Range planning for the M.Arch has been a long process, dating back at least a decade, as described elsewhere. Planning for the M.Arch is integrally tied to the planning for the B.Arch and the SoA overall. The small school, and it many different programs, including both undergraduate and graduate, are tightly interconnected and interdependent, with most changes affecting multiple programs. The planning process is integrally aware of this.

The last long range strategic plan for SoA was issued in 2012, in time for the NAAB review and accreditation process that same year that resulted in a 6-year term of accreditation.

The planning process was long and thorough. In 2008 both the University and the College of Fine Arts (CFA) undertook rigorous strategic planning processes, in which SoA faculty participated and which in turn helped focus our strategic thinking going forward. These larger planning efforts overlap with ongoing discussions about the direction of the SoA from within. In 2009 the Head initiated a “Curriculum Committee” to discuss and solicit a wide range of proposals on revising the curriculum. Faculty from all parts of the SoA submitted proposals that ranged from the radically new, to subtle alterations of the existing curriculum. This led to continued dialogue about the future direction of the SoA. In the spring of 2010, the Head hired the firm of Dewey & Kaye Nonprofit and Foundation Consultants, to help lead a rigorous, strategic planning process for the 1st professional degree program with a five-year horizon. A committee of three tenured faculty, two tenure-track faculty and two staff was selected to form a “Strategic Plan Drafting Committee.” The charge of the committee was to do extensive research and a SWOT (strengths, weaknesses, opportunities, threats) analysis of the SoA’s first professional degree and the external environments and to draft a strategic plan that would be constantly vetted with the overall faculty.

The drafting committee spent the fall semester collecting information and preparing summary reports on other architecture education programs here and abroad, on global trends in the profession, as well as on trends, opportunities and threats from the world at large. The committee also solicited and received a two-page “White Paper” from many faculty about any issues they felt were relevant to preparing a strategic direction. A written poll was conducted of all current students about how and why they chose CMU, as well as expectations for their education and their future careers. A questionnaire was also sent to alumni to determine how their expectations have been met over the years with regard to their education. The committee had the chance to conduct informal discussions with other faculty and brought
issues to the table not included in the other research.

In spring 2010 the drafting committee hosted three all-faculty retreats on the subjects of “Proposed Tenets of Architecture”, “Curriculum” and “Pedagogy”. The first discussed six idealized images of the work of the architect in contrasting pairs and sought input from the faculty about the present state of the first professional degree and where we wanted to be (see chart above). A discussion on the curriculum focused primarily on the weaknesses of the existing work. The pedagogy discussion sought input on how to deliver the material most effectively. The intent throughout was to focus attention on long-range plans and all-school ideals, rather than more specific and individualized agendas and program changes. The Head also engaged the Student Advisory Committee (SAC) in this feedback and review process and has scheduled Town Meetings, so that all students, not just their elected representatives, have the opportunity to comment on the Plan.

The strategic plan has guided our planning processes since then. It recommended the hiring of several new tenure-track faculty, in part as “succession” for professors that would be retiring imminently, and in part to strengthen the studio design program and related areas. It also provided the impetus to redesign and implement a revised 3+2 curriculum, to replace the 10-semester required sequence that had been in place for decades. And the plan also recommended the development of an M.Arch, and led to the multi-year research and development process, and ultimately to this report.

A similar long-range strategic planning process will likely be conducted with the arrival of the next Head in Fall 2020. In addition, the CFA is conducting a “Presidential Advisory Board” process in 2019, which will surely yield strategic directions for the CFA and the SoA.

I.1.6.A Program Self-Assessment:

The APR must include the following:

A description of the program’s self-assessment process, specifically with regard to ongoing evaluation of the program’s mission and multi-year planning objectives.

A description of the manner in which results from program self-assessment activities are used to inform long-range planning, curriculum development, learning culture, and responses to external pressures or challenges to the institution.

At a minimum, program self-assessment procedures shall include, but are not limited to:

Solicitation of faculty, students’, and graduates’ views on the teaching, learning and achievement opportunities provided by the curriculum.

Individual course evaluations.

Review and assessment of the focus and pedagogy of the program.

Institutional and program-level self-assessment, as determined by the institution.

Building the new M.Arch program over the past 5 or more years has been an exciting endeavor for the whole school, with much of the work of planning and assessment done by the Track-Chair and the Head, who are constantly seeking feedback and advice from the instructors and the students. Although we are building the new M.Arch very much on the structure and resources of the existing B.Arch, we remain committed to innovation, rethinking the status quo, and improvement. We seek to deliver a better and more advanced architectural education that is more embedded in the resources and opportunities of CMU’s specific blend of technical education, but also specifically tailored to more mature graduate students from a rich variety of undergraduate and professional backgrounds. The first year M.Arch “Atelier” foundation studio that is still being developed will offer a chance to rethink the foundations of architectural education. We are doing research on how other programs do it, assessing our own existing programs, and allowing ourselves to think outside the established habits of mind. But we are aware that this innovation, as with any design process, can only occur with an intense, constant, iterative system of feedback, assessment, strategic next moves, as well as longer term planning.
The small school and small program encourages students to seek their individual paths through the rich resources of CMU, but also to reach out when things stand in the way, or when opportunities do not work out as anticipated. We seek to remain flexible and nimble. The portal course in “Architectural Theory” (48-634) is in part designed to create a close and familiar relationship of the Track-Chair to all the students, to encourage dialogue. Everyone is constantly aware that it is a new program, without much precedent to get in the way of innovation and new ways of working. We talk about the opportunities of being pioneers and exploring new ways of working, within the established structures. Feedback and experiments from faculty and students to improve the planned or just finished work are always encouraged, and often received.

The M.Arch curriculum chart and the NAAB SPC chart help guide the overall structural thinking of the academic self-assessment, we feel in a very positive way. In the first two years of the M.Arch program, we have tweaked the curriculum chart several times, based on feedback from the students, as well as instructors, in order to constantly improve the inter-connection and relation of courses to each other, to maximize the learning, and to remove obstacles. One example involved a shift of courses between the first two years. The “Materials & Assembly” course was moved from the spring to the fall. This led to a cascade of realignments that has greatly improved the organization of the M.Arch curriculum chart. In the 2nd year of the M.Arch (1st year for the Advanced Placement students), they now take “Materials & Assembly” in their first fall. This made room for both the required “Ethics & Professional Practice” and the “Real Estate Design & Development” programs to move from the 3rd year into the 2nd year spring, in line with the Integration 2 “Advanced Construction” studio. It also opened up more elective slots in the last year of the M.Arch. Other minor tweaks have involved how the M.Arch Thesis is developed and delivered, the Structures class, and others. We are aware that this is a new program, still very much “in development,” and with it hyper aware of the need for self-assessment, reflection, and constant striving to improve and perfect.

A recent example of feedback, assessment, and action involved the summer “Digital Skills Workshop” that M.Arch students take before starting the program. Before our first year, we worked to fit extensive computer skills workshops and lab introductions into the two weeks of CMU graduate student orientation before the begin of classes. Students were asked for feedback, and faculty were asked about the efficacy of our DSW, and the desire for constant improvement. It led to a major replanning, ramping up, and improvement of the DSW in the 2nd summer. SoA developed a 6-8 week online summer course that students could take from anywhere in the world, even while working in offices. The DSW included both self-scheduled tutorials, in-person help and feedback sessions, as well as assignments that were submitted and graded. The students told us they learned a lot and appreciated the attempt to take the many diverse M.Arch students from across the US and from around the world, and help bring their computing skills up to the CMU level, making their entry into the program easier and better. Faculty reported much greater competency of the incoming M.Arch students in the 2nd year. Because they were still not at the level of our undergraduates, we have planned yet another revision for the 3rd summer DSW experience in 2019. We’ll give the admitted students more advance warning, the course will be slightly longer, the exact mix of software that is taught will be improved.

Another example of self-assessment and improvement for the M.Arch involved career advising. It began with questions about how to resolve the problem of different cohorts of students, especially M.Arch and B.arch, working together in the UDBS and other courses, and the slightly different grades and learning experiences that were coming out of the process because of previous educational experience (issue described elsewhere). We engaged CMU’s Eberly Learning Center to help with advice and remediation. They offered suggestions based on their extensive, campus-wide experiences and expertise, but also offered to create several feedback sessions for the two different cohorts of M.Arch students. We felt this dovetailed nicely with our need to self-assess how we are doing, and get student input. We planned the sessions and questions carefully, and the Eberly Center met with the M.Arch students without SoA faculty...
or staff, so they could talk freely. The three most important issues they brought up were the desire for more social events to engage with other students and faculty in other contexts, the cleanliness/mess of the studio spaces, and the uncertainty about how career development was handled at CMU in comparison to their previous schools. We quickly organized a special M.Arch session with the CMU Career Development staff member responsible for the SoA, as well as SoA staff members who deal with AXP, CPT/OPT, job opportunity collection and announcement, as well as alumni engagement and career development. We reviewed all existing resources and programs to help students to get jobs, and students were able to ask any and all questions. This coincided with several different career fairs offered by the SoA and the CFA, which we helped the M.Arch students to get more closely involved with, as well as resume workshops. After these events, the students came back with suggestions on how they could be improved. The Track Chair helped get the word back to various parts of the staff and administration, as well as encouraged the students to use the Graduate Student Advisory Council (GSAC), as well as talking directly to the Head and various staff, especially those charged with helping students in the career and internship opportunity process. It remains an ongoing process; we are assessing how we did, and seeking improvement.

Given the long track-record and practices of implementing the B.Arch, we are aware that new M.Arch students are often not as aware of how things work at CMU and in the SoA, and are working to improve the communication and awareness about resources and programs, but also the need for feedback and the desire to improve. Often the resources are in place, the students just do not know exactly how and where to access them. The Track-Chair is working with several existing M.Arch students to develop a bigger, more thorough student handbook that more clearly explains the best practices and resources that M.Arch students need to know about. We are aware that this kind of student-to-student advice needs to be resourced and promoted by the school, since the student network and M.Arch culture of ideas and advice that spreads from one class to the other is only just being established.

As with many other things, including self-assessment, the practices of the new M.Arch are based very much on, and often included in, the practices of the successful B.Arch program, as well as the SoA overall. The Studio Programs are thoroughly inter-connected through faculty, space, funding, and other structures, so we are always aware of the need to think of how interconnected the M.Arch is to everything else in the SoA.

The SoA is constantly self-assessing and evaluating the performance of its faculty, staff and students, its long-range strategic direction and progress in relation to previously set goals, as well as to the external environment around it in the College, at the University, in the profession and in the world at large. Long term strategic planning and visioning grows out of this ongoing self-assessment process.

CMU is a very “bottom up” institution. Heads of schools are given a great deal of authority to decide on program details, and a great deal of control over the finances of their unit. As a result, there are few “top-down” directives or imperatives, and few top-down assessments. The University as a whole is assessed and accredited through a voluntary, peer-review self-assessment process coordinated by the Middle States Commission on Higher Education (MSCHE). At its session on 21 November 2013, MSCHE accepted the Periodic Review Report, reaffirmed the accreditation and commended Carnegie Mellon for the quality of the process and the report. See the section “II.2.1. Institutional Accreditation” below.

CMU’s Presidential Advisory Board process is a standard self-assessment tool used by the CMU President and Provost to evaluate all units on campus. The Presidential Advisory Board visited the SoA in February 2014 and issued a report dated December 2014. Previous PAB advisor boards occurred in 2001 and 2007. The 2014 report summarized the assessment process and succinctly stated the major strengths, challenges and long-range recommendations that the SoA has used to help guide long term hiring goals and curricular development. Among other things, the 2014 report advised the SoA to create an M.Arch program. The school provided a written response in coordination with the Provost’s office in May 2015.
CMU has long used a Faculty Course Evaluation (FCE) system for students to evaluate the quality of courses and instructors. FCE’s are used to improve the quality of teaching and learning at Carnegie Mellon through feedback to individual faculty member, promotion committees and the Head for adjunct hiring. Responses to the FCE provide information on students’ perceptions of their engagement, learning outcomes, the instructor’s behavior and course activities. This feedback helps guide changes in future iterations of the course and/or the instructor’s teaching.

The NAAB accreditation process forms another layer of institutional assessment, and invariably includes a great deal of self-assessment. The last B.Arch NAAB accreditation process took place in 2012. It noted strengths, as well as weaknesses. These weaknesses are re-investigated every year, and the APR reports document efforts towards remediating deficiencies or weaknesses.

These more formal self-assessment efforts overlap with ongoing discussions about the performance of the school and our students. The studio coordinators meet several times each semester to discuss the status and direction of the studio sequence. At the end of every academic year they host an all-faculty discussion of the studio sequence, with examples of student work displayed, to gather feedback on each studio year and to discuss how closely the student work fits with the faculty’s expectations.

Every spring, as part of its awards program, the SoA requests that the best students in the class create individual exhibits on four years of their work. Faculty as well as outside professionals from the local AIA are invited to assess and rank the student work exhibits. Voting and discussion leads to the awarding of prestigious travel grants for the students, but also to a rigorous discussion on the state of the student work and by implication the teaching and learning that is taking place with respect to the SoA’s goals, but also the profession’s needs.

In addition to these SoA and faculty assessment tools, the Student Advisory Committee (SAC), which consists of three undergraduate representatives from each graduating class, and the “Graduate Student Council”, with representatives from each program, meets monthly with the Head and staff to discuss issues of concern to the students, including feedback on instructors, courses, facilities and other academic and non-academic opportunities. Their assessment is used to help shape the policy and programs of the school.
I.1.6.B  Curricular Assessment and Development

A chart identifying all the parties in the curricular assessment process, their membership (if necessary), and the roles and responsibilities of each.

The track chairs are responsible for holding regular meetings with the faculty in their track to assess the effectiveness of their current curriculum and to propose revisions. To coordinate within a domain, the MS/PhD faculty have monthly meetings and the Studio-based faculty have monthly meetings to assess integration across the individual programs. The revisions are then vetted in monthly, full time faculty meetings as required.

**School of Architecture – Academic Structure**

**Head**, Stephen R. Lee  
**Associate Head**, Mary-Lou Arscott  
**Assistant Head**, David Koltas

**MS/PhD Track Chairs**  
MSAECM: Joshua D. Lee  
MSBP: Vivian Loftness  
MSCD: Daniel Cardoso Llach  
MSSD: Dana Cupkova  
PhD-AECCM: Erica Cochran Hameen  
PhD-BP: Vivian Loftness  
PhD-CD: Ramesh Krishnamurti  
DPP: Erica Cochran Hameen

**Studio-based Track Chairs**  
MAAD: Jeremy Ficca  
MArch: Kai Gutschow  
MUD: Stefan Gruber  
**BA/B.Arch**  
Core 6: Stephen Lee  
ASO: Mary-Lou Arscott

**Stream Chairs**  
Bldg, Technology: Gerard Damiani  
Enviro, Science: Dana Cupkova  
Practice: Hal Hayes  
History: Diane Shaw

A description of the results of faculty, students’, and graduates’ assessments of the accredited degree program’s curriculum and learning context.

The SoA relies on the following formal mechanisms for assessment:

- **Ex-Change**, the school-wide review in May
- **Graduate Student Advisory Council & Undergrad Student Advisory Council**
- **FCE’s**
- **Alumni Critics**
- **Visiting Critics**
- **Employer visits**
- **NAAB Visits**
- **Presidential Advisory Boards**
A description, if applicable, of institutional requirements for self-assessment.

The SoA, along with all academic units at CMU, have successfully completed the 2018 Middle States Council on Higher Education (MSCHE) Accreditation Self-Study. Curricula and required courses for each academic program offered by the SoA were documented and reviewed for specific, measurable, and learner-centered learning outcomes.
APR – Section 2 – Progress Since the Previous Visit (Not Applicable)
APR – Section 3 – Compliance with the Conditions for Accreditation

I.2.1 Human Resources & Human Resource Development:

The APR must include the following

A resume, using the required template, for each full-time member of the instructional faculty who teaches in the professional degree program.

Core M.Arch Faculty Resumes:
https://cmu.box.com/s/xw0ya9snoiegw7lirv2stya6hwdy4k8d

Elective Course M.Arch Faculty Resumes:
https://cmu.box.com/s/dsqv6dlmt77d1yc8mf6kbzxf88vxn36o

A matrix for each of the two academic years prior to the preparation of the APR, that identifies each faculty member, including adjuncts, the courses he/she was assigned during that time and the specific credentials, experience, and research that supports these assignments. In the case of adjuncts or visiting professors, only those individuals who taught in the two academic years prior to the visit must be identified. (The required template is available on the NAAB website). Also, the matrix must be updated for the current academic year showing the semester during which the visit takes place. This supplemental matrix should be available to the team 30 days in advance of the visit and also placed in the team room.

M.Arch Faculty Experience Matrix for the Last Two Years in All Programs:
https://cmu.box.com/s/afsxtwwm4k9yxow5795wo35a50h3mnh4

A description of the manner in which faculty members remain current in their knowledge of the changing demands of the discipline, practice and licensure.

Faculty members are encouraged to present their work in global conference venues, to attend local and regional continuing education workshops, to participate in juries at benchmark institutions and to pursue research and/or endowment funding to support their creative activities. Funding is available from their GM accounts (below), the Gruger Faculty Discretionary Fund, The LiCeaga Fund, the Ferguson-Jacobs Prize and the the College Frontiers of Research Fund. At the university level, the Berkman and the Wimmer Funds are available for full time faculty.

A description of the resources (including financial) available to faculty and the extent to which faculty teaching in the program are able to take advantage of these resources.

On an annual basis, an allocation is put into each faculty member’s GM account based on the number of units they teach and their rank. These funds can be used for teaching expenses, travel, conference registration and/or equipment. The process does not involve applying to the Head. Receipts for the expenses are submitted to the Business Manager and then reimbursed.

A list of past and projected faculty research (funded or otherwise), scholarship, creative activities by full-time instructional faculty since the previous visit.

Faculty Funded Research | 2015 - 2017:

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 Research Total:</td>
<td>$2,121,478</td>
</tr>
<tr>
<td>2016 Research Total:</td>
<td>$1,372,670</td>
</tr>
<tr>
<td>2017 Research Total:</td>
<td>$913,383</td>
</tr>
<tr>
<td>2018 Research Total to Date:</td>
<td>$642,863</td>
</tr>
<tr>
<td>2015-18 Research Grand Total to Date:</td>
<td>$5,050,394</td>
</tr>
</tbody>
</table>

Faculty Funded Research Matrix in Box (https://cmu.box.com/s/fbsdv05pw82jjxzgse9zovs94kgj11)

A description of student support services, including academic and personal advising, career guidance, and internship placement
where applicable.

A number of student support services are available to SoA students; students receive academic and personal advising in the School from a full-time staff academic advisor, a special faculty academic advisor, and assigned mentors through both the Faculty Mentor and Peer Mentor programs. Additional academic resources are available through Academic Development, the Carnegie Mellon Advising Resource Center, the Intercultural Communication Center, and the Global Communication Center. Personal advising is also available from the Office of International Education through assigned Foreign Scholar Advisors for international students. Personal support resources including Counseling and Psychological Services and University Health Services are also available to students.

Professional, career, and internship advising are available through a full-time CFA Career Consultant in the Career and Professional Development Center who provides individualized support at all phases in students’ academic career and coordinates annual employer visits for internships and post-graduation jobs. Within the School, students are supported by a full-time staff Architect Licensing Advisor, School organized alumni and firm visits and portfolio reviews, and an internal communication campaign, “Opportunity Knocks,” that curates and promotes internship and job opportunities for SoA students.

The name of the Architect Licensing Advisor (formerly the IDP Coordinator) and a summary of his/her recent activities, including professional development, in support of his/her responsibilities.

Alexis McCune Secosky is the Architect Licensing Advisor (ALA) and is currently registered as such on the NCARB website. She keeps current by attending national and regional workshops and conferences.

1.2.2 Physical Resources:

For programs whose pedagogy requires physical resources, the APR must include the following:

A general description, together with labeled 8-1/2” x 11” plans or images of the physical resources assigned to the program, including all spaces used for teaching/learning, scholarship, and public interaction.

The School of Architecture occupies two wonderful turn-of-the-century buildings on the central part of campus. With over 50,000 square feet of space in these two buildings, (Margaret Morrison Carnegie Hall and the College of Fine Arts), the School is able to provide dedicated studio space for every full-time student.

As the foundation to the pedagogy of the first professional degree programs, the studios are of ultimate importance. CFA 200 has been the traditional “main” studio for the School of Architecture and currently houses all first- and second-year students. MMCH 312 is the home of all studio-based programs (including M.Arch) and the fourth floor is home to all MS/PhD students.

Specialized Facilities:

Digital Fabrication Lab (dFAB) (MMCH C)

Because architecture is fundamentally physical, dFAB offers students and faculty advanced digitally-driven design, prototyping and manufacturing equipment to span the divide between virtual simulation and physical design investigation. Students and faculty from the Schools of Architecture, Art and Design use the lab that is open 40 hours per week—throughout the design process and at multiple scales. The lab is located in the basement of Margaret Morrison Carnegie Hall (MMCH) and comprises 4000 square feet, including 1000 square feet of dedicated robotic fabrication space.

Robot lab equipment:

- ABB IRB 120 6-axis industrial robotic cell, including mobile cart
- ABB IRB 1600 6-axis industrial robotic cell
ABB IRB 4400 7-axis industrial robotic cell, including external rotary axis table (45kg payload rating)

ABB IRB 6640 8-axis industrial robotic cell, including 6-meter linear rail axis and tool axis (180kg payload rating)

Automated tooling:
- Tool change milling spindle
- Pneumatic gripper
- Sensor probe
- Hot wire cutter
- Incremental metal former

Other equipment:
- 4-axis CNC router (48” x 96” x 11” cutting volume), includes oscillating tangential knife
- 24” x 36” 75W laser cutters (2)
- Vacuum forming machine (22” x 22” x 16” forming volume)
- 60” x 96” vacuum laminator
- Fused deposition soluble and breakaway support 3D printers (2)
- Polyjet resin 3D Printer
- Plaster powder color 3D printer
- 3-axis CNC Bed Mil, includes vacuum and jaw workholding fixtures

Computational Design (CoDe) Lab (MMCH 403)
The Code Lab is a multidisciplinary research and learning laboratory within the School of Architecture at Carnegie Mellon University. It houses a dynamic community of graduate students and faculty investigating relationships between people, spaces and computational ideas and processes. Current research includes speculative design tools, spatial analytics, computational making, virtual and augmented realities, data visualization, architectural robotics, tactical media, as well as research into historical and theoretical questions concerning technology in design. Code Lab faculty and students often collaborate with partners in the scientific fields and the humanities, and endeavor to form and maintain alliances with peer centers in academia and industry both nationally and internationally.

The lab primarily houses graduate students and faculty in the Master of Science in Computational Design program, but collaborations with students and faculty from other programs and departments are common, and encouraged. The lab offers spaces and resources for collaborative and individual work, presentations, prototyping, and fabrication.

The lab is actively seeking to update its computational, fabrication and prototyping resources. The facility is home to around 20 Master students in the Computational Design program but is an open research platform for interested students at all levels, from any background.

The lab is divided into two spaces: an open space with individual and communal work areas, and a fabrication space.

Equipment:
Robert L. Preger Intelligent Workplace (IW) (MMCH 415)

This living and lived-in office/laboratory provides hands-on experience with the performance of advanced integrated building technologies including acoustics, lighting and materials. It also affords interaction with leading researchers and professionals in architecture, engineering, manufacturing, government and the nonprofit sector who visit to participate in research and demonstration projects. Research undertaken in the IW aims to improve organizational flexibility; technological adaptability; energy and environmental effectiveness; and the health, productivity and motivation of white-collar workers. The IW is home to the Center for Building Performance and Diagnostics but is open to all interested students.

At 6700 square feet, the IW sits atop Margaret Morrison Carnegie Hall.

Selected components:

- radiant heating and cooling
- energy recovery ventilation
- modular components (e.g., structure, façade, access floor tiles, power, voice and data, interior systems)
- windows that maximize daylight, ventilation and heat rejection
- environmental control and feedback via iOS apps
- extensive insulation, including stress-skinned insulated metal panels
- design for disassembly

The Shop (CFA A)

The Shop provides a setting for each member of the School of Architecture to work with a range of tools and raw materials as they fabricate hand-made objects of their own design. Every first-semester undergraduate student receives introductory shop training, and is subsequently encouraged to develop classic wood- and metalworking skills throughout their course of study. Many graduate students take advantage of the same training and resources.

The shop is nearly 3,800 square feet in size with a large machine and assembly room, a separate metalworking room, tool and material storage areas, a project storage area, offices and an adjacent pin-up area for design review.

Woodworking equipment includes:

- Three vertical band saws
- Two SawStop table saws
- 12" jointer
- 20" surface planer
- 24" dual-drum thickness sander
- Radial arm saw
Slot and hollow chisel mortisers  
Stationary jig saw  
Router table  
Two drill presses  
Vertical and horizontal belt sanders  
Three disc sanders  
Oscillating spindle sander  
Variable-speed lathe, 20” swing  
Several vise-equipped workbenches  
...plus a range of powered and manual hand-held tools

Machining and sheet metal equipment includes:  
Machine lathe, 14” swing  
Vertical mill  
Horizontal band saw  
Bench and foot shears  
Finger and magnetic brakes  
Bench punch  
Slip roll  
English wheel

Remaking Cities Institute (RCI)

An urban design research center based in the School of Architecture, the RCI aims to promote an improved quality of life in cities and towns through academic, applied and action research into place-making and community redevelopment. The RCI expands the regional and global impact of the School of Architecture’s Urban Laboratory studio and Master of Urban Design (MUD) program by fostering multi-sector collaboration between faculty, researchers, professionals and community organizations. With the AIA, the RCI recently co-hosted the Remaking Cities Congress, a working meeting of 300 urban-design delegates from around the world.

A description of any changes to the physical resources either under construction or proposed.

We recently (summer 2017) relocated all third, fourth and fifth-year studios to MMCH 312 and first and second-year studios to CFA 200. This move would allow for the newly created studio-based master’s programs (MArch, MAAD, MUD) to reside in the same space as the upper-level undergraduate studios. This move entailed modifying existing workstations and adding new ones, installing large screen LCD monitors at every desk, and new 8 ft by 8ft perforated steel, rolling pin-up panels in CFA and MMCH. This work was made possible by the generosity of Jim Halpern (B.Arch ’81) President, Measuring & Monitoring Services and his wife, Lisa Ficcarelli. Also, during this summer, the Dean of CFA provided funds to upgrade the acoustics in CFA214 with ceiling and wall SoundSoak fabric panels.

During winter break (mid-December 2018 – mid-January 2019) the CMU Campus Design & Facility Development office substantially completed a major capital improvements project ($930,000) for the 3rd floor of MMCH. The completed work includes zoned fan coils for air conditioning, new dedicated outside
air (DOAS) unit, dimmable LED lighting, sprinklers, fire protection, painting and other miscellaneous repairs.
Identification of any significant problem that impacts the operation or services, with a brief explanation of plans by the program or institution to address it.

The unique structure and culture of Carnegie Mellon is built upon the notion that the School of Architecture is a part of the College of Fine Arts and not a separate school with departments onto itself, as might be seen at other universities. The SoA lacks a “front door” by being split in two buildings on upper or deep basement floors. It is not feasible in the near future to consolidate the architecture spaces into one building with a direct ground floor entrance. The Margaret Morrison Extension (MMX) is the ideal future for the school. The university has embarked on an ambitious capital campaign and the MMX is a priority. The MMX is in the queue of university capital projects, but will remain visionary until adequate funding is acquired. This proposed 125,000 gsf facility, represents a monumental opportunity to address space issues for each of the schools and units. More importantly though, it is the 21st century embodiment of Hornbostel’s original vision of co-locating five artistic disciplines together in one building to support interdisciplinarity. Combining the existing Margaret Morrison Carnegie Hall spaces with the MMX means that all five schools and the Frank-Ratchye STUDIO for Creative Inquiry can be located in one building – the “CFA” building of the 21st century.

A description of how the program provides space for faculty to fulfill all four of their roles: teaching, scholarship, service, and advising.

All tenured and tenure-track faculty have individual office space while teaching, special, research and adjunct faculty are provided shared office spaces.

Adjacent to the studios are lecture and seminar spaces that accommodate both didactic and interactive learning; analog and digital workshops for making and research laboratories.

The faculty and staff all have access to specialized facilities in the SoA - Shop, dFAB, CoDe, RCI & Project Re_ by appointment with the respective directors of those facilities.

Programs that leverage international programs, or off-campus settings such as urban centers, to teach courses where student performance criteria are being met, must provide a description of these venues in the APR and how they affect a program’s on-campus physical resources.

Our internationally recognized Urban Design Build Studio (UDBS) is co-located within CFA 212, MMCH 321 and Project Re_ at Construction Junction, approximately 3 miles from the center of the main campus. This 14,900 sf space has been converted from a warehouse to a custom fabricated community room, studio and gallery space, metal, stone cutting and wood shops and digital fabrication lab.

We have collaborative arrangements with La Salle University School of Architecture in Barcelona, ES and Politecnico di Torino (PoliTo) in Torino, IT. We are hosting three masters students from PoliTo through the European Erasmus program.

1.2.3 Financial Resources

The APR must include the following: A description of the institutional process for allocating financial resources to the professional degree program.

Funding for the SoA comes predominantly from an annual allocation from the Provost to the College of Fine Arts, and then to each of the units within the college. Graduate tuition income flows directly to the unit that houses the degree program after a share of roughly $9,000 is withheld for central administrative services and expenses. Gifts from institutions and individual donors, as well as endowment income and sponsored projects round out the revenue streams.

A description of the expense categories over which the program has either control or influence.

All faculty and staff salaries and operating expenses, as well as graduate student tuition, are initiated at the School level and approved by the Dean. The School has no discretion over the offers of financial aid to our undergraduate students.
### Uses of Funds

<table>
<thead>
<tr>
<th></th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
</tr>
</thead>
<tbody>
<tr>
<td>FT Faculty Salaries:</td>
<td>$2,281,000</td>
<td>38%</td>
<td>$2,592,000</td>
</tr>
<tr>
<td>Grad Expenses:</td>
<td>$1,042,000</td>
<td>17%</td>
<td>$1,036,000</td>
</tr>
<tr>
<td>Staff Salaries:</td>
<td>$765,000</td>
<td>13%</td>
<td>$755,000</td>
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<tr>
<td>Adjunct Salaries:</td>
<td>$443,000</td>
<td>7%</td>
<td>$531,000</td>
</tr>
<tr>
<td>Other:</td>
<td>$1,547,000</td>
<td>25%</td>
<td>$1,246,000</td>
</tr>
<tr>
<td>Total:</td>
<td>$6,078,000</td>
<td>$6,160,000</td>
<td>$6,455,000</td>
</tr>
</tbody>
</table>

Note: Masters Tuition Sharing amount described below (estimated at $90,000) is not included.

A description of the revenue categories over which the program has control or influence.

The Head works with CFA and University Advancement to cultivate gifts from foundations, corporations and individuals to provide additional revenue for the School, which may be unrestricted in purpose, or restricted to support specific activities through expendable or endowed funds. The School also manages a number of existing endowed funds supporting faculty salaries, scholarships and fellowships, and other activities such as a lecture series, and student prizes and travel awards.

### Sources of Funds

<table>
<thead>
<tr>
<th></th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allocation:</td>
<td>$3,582,000</td>
<td>59%</td>
<td>$3,803,000</td>
</tr>
<tr>
<td>Grad Income:</td>
<td>$2,440,000</td>
<td>40%</td>
<td>$2,316,000</td>
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<tr>
<td>Other:</td>
<td>$56,000</td>
<td>1%</td>
<td>$41,000</td>
</tr>
<tr>
<td>Total:</td>
<td>$6,078,000</td>
<td>$6,160,000</td>
<td>$6,455,000</td>
</tr>
</tbody>
</table>

A description of the scholarship, fellowship and grant funds available for student and faculty use.

The SoA currently offers all masters students annual scholarships of $6,000 to $25,000, entered as 50% in both the Fall and Spring semesters. These scholarships are contingent upon timely payment of tuition and successful completion of the previous semester as a full time student. In addition, a limited number of Graduate Assistantships are available to full time master’s students in the Fall semester, with a possibility of continuing in the spring. This assistantship entails working as an employee of the University for approximately four (6) hours per week at a rate of $15 per hour for up to 135 hours, based upon full time enrollment. There are also opportunities for fellowships in the final year to teach in the undergraduate program, as well as existing faculty research projects that may offer assistantships and other funding opportunities.

A brief summary of the following (limited to 1 page; may be a bulleted list):

Pending reductions or increases in enrollment and plans for addressing these changes.

In reviewing a program’s physical resources, the NAAB is not offering an opinion as to whether, or certifying that, the institution’s facilities comply with all applicable fire, safety, building, and health codes and regulations.
Pending reductions or increases in funding and plans for addressing these changes.

Changes in funding models for faculty compensation, instruction, overhead, or facilities since the last visit and plans for addressing these changes (include tables if appropriate).

Planned or in-progress institutional development campaigns that include designations for the program (e.g., capital projects or endowments).

The financial model at CMU encourages units to expand their financial resources through strategic development of graduate programs as the tuition rebate system is completely different between undergraduate programs and graduate programs.

The Provost’s allocation was originally intended to fund the direct and indirect costs of the undergraduate program, as well as any graduate program offerings. In 2006, the university encouraged the individual departments and schools to build their graduate programs by returning to the programs 75%-80% of graduate student tuition dollars. In 2016, the university adjusted their stance and agreed to let the Deans of the 6 colleges reallocate Masters Tuition Sharing (MTS) to the various colleges, based on the number of units a college taught to a student from another college. This new model works directly against SoA graduate student income when we are offering a broader, general education as part of the M. Arch curriculum. This will necessitate the SoA developing specialized, in-house versions of external (other College) courses that are specialized for the various degree requirements. Until that time, the additional cost to the SoA is approximately $90,000 per year.

Another challenge is that, with this increase in enrollment and offerings, the SoA needs to increase the number of full time faculty. See “Human Resources, I.2.1” above for more information. That funding comes from the annual allocation and graduate program income, as well as special allocations as noted below.

The SoA anticipates undergraduate enrollment to remain flat while the master’s programs will see incremental growth into the future.

As an institution we have an obligation to weigh the costs and borrowing that students undertake to afford their whole education, undergrad and grad. Even though many caution against straight “return on investment” (ROI) calculations for higher education, the ROI for a five-year B.Arch degree at a private institution like CMU is a growing concern. In general, the 5-year B.Arch is the quickest way to finish architecture school towards licensure, but not always the cheapest. With careful planning, the M.Arch has the potential to reduce the cost for a student to attain a first professional architecture degree.

Costs and CMU tuition for the M.Arch will be similar to other SoA “professional” (terminal-degree) master’s programs (PFM). Track 3 students will require 6 semesters of tuition; Track 2 will require 4 semesters of tuition. The annual tuition will be $39,750 for graduate students entering in Fall 2019. In addition to tuition, CMU estimates additional costs of approximately $22,400 or greater for compulsory fees, living expenses, and health insurance. Current information is available at the [HUB](#).

To enroll the best students that receive admission offers, the SoA is committed to offering significantly larger scholarships than the other master programs and is also committed to raising funds for merit-based support.

**Significant Gifts and Funding:** The SoA has also received a number of significant gifts in support of our school. The advancement staff within the College of Fine Arts and the University assist the department head, individual faculty and students with identifying and securing funding. The Assistant Dean for Research in the college supports faculty and students in preparing and submitting proposals for research.
These college staff have been tasked with assisting our incoming M.Arch students in the same way.

The SoA received the following gifts, grants and/or major research funding for equipment, facilities, centers and other projects:

A $2 million gift was received from the Heinz Endowments. This is the most significant gift the SoA has ever received.

A $1.5 million was dedicated to a named endowment: The David Lewis Directorship of the Remaking Cities Institute. A total of $500,000 was dedicated to funding 3 years of the UDream - (Urban Design Regional Employment Action for Minorities) program and continues to fund the program into its 8th year.

A $930,000 allocation was received from the Provost and Facilities Management and Campus Services (FMCS) to fund the renovation of the Margaret Morrison Carnegie Hall (MMCH) 312 studios and ancillary spaces with air conditioning, ventilation, dimmable LED lighting, sprinklers and new steam risers.

Eight years ago, the SoA received a $750,000 endowed gift from the P.J.Dick Corporation to support fellowships in the AECM PhD program. In February 2019, they signed a new agreement for an additional $500,000 gift.

A grant of $250,000 was received from the Enkeboll Foundation for the Arts and Architecture in support of Integrated Design and Practice as well as the purchase of a 6-axis robotic milling system with rotating materials table, controlling hardware and software ($134,000) and the funding of student projects.

A special $491,000 allocation was received from the Provost to fund the renovation of the Margaret Morrison Carnegie Hall (MMCH) C Basement for the creation of a Digital Fabrication Lab in conjunction with the hire of tenure track faculty member Jeremy Ficca.

An additional special allocation of $215,000 was received from the Provost to fund additional renovations of the Margaret Morrison Carnegie Hall (MMCH) C Basement as well as the addition of an 8-axis ABB IRB 6640 robot on 7 meter track to support the research and teaching of tenure track faculty member, Josh Bard.

A special allocation of over $300,000 was received from the Provost over a 3 year period to fund Assistant Professor Erica Cochran to work full time at the Navy Yard in Philadelphia to oversee the SoA’s $3.6M of the DOE funded Consortium for Building Energy Innovation (CBEI) project, then an additional $69,000 as a University contribution to her Full Time salary as a Tenure Track faculty member over 3 years (2017-2019).

I.2.4 Information Resources:

The APR must include the following:

A description of the institutional context for library and information resources.
A description of the library and information resource collections, services, staff, facilities, and equipment that includes the following:
A brief description of the content, extent, and formats represented in the current collection including subject areas represented.
A brief description of any significant problem that affects the operation or services of the libraries, visual resources collections, and other information resource facilities that support the accredited program and plans for addressing them.

The Carnegie Mellon University Libraries supports teaching, learning, and research activities of the faculty and students of Carnegie Mellon University. The Libraries strives to meet the university’s contemporary needs and aspirations with an increasing support for researchers and graduate programs in addition to support for undergraduate education. Carnegie Mellon’s information resources are competitive in an environment that encourages resource sharing and plays to the University’s technological strengths. The Libraries supports all School of Architecture curriculums and programs including the five-year
undergraduate first-professional degree program as well as graduate Masters and Ph.D. programs including the M.Arch program.

The position of Architecture Librarian and Archivist is divided between liaison responsibilities for the School of Architecture and responsibility for the Carnegie Mellon University Architecture Archives. The Architecture Librarian and Archivist reports to the Libraries' Associate Dean for Research and Academic Services. The Dean of University Libraries reports directly to the University Provost. Librarians and Archivists have faculty status at Carnegie Mellon under the Policy on Librarian and Archivist Appointments. Library faculty must meet criteria for reappointment and promotion by mastering professional practice and by pursuing scholarly and creative activity and professional service. The current Architecture Librarian and Archivist is appointed at the Principal Librarian/Archivist level, the highest faculty rank. The Architecture Librarian and Archivist has no faculty status within the School of Architecture, but is welcomed as a faculty colleague within the School. The current Architecture Librarian and Archivist holds a Master of Library Science (M.L.S.) degree and an M.A. in American Studies and Historic Preservation, and is a member of the Association of Architecture School Librarians (AASL).

The Architecture Librarian and Archivist is responsible for:

- Reference and consultation services
- Instruction, teaching, and classroom support activities
- Collection development and management in various media
- Communications regarding issues in scholarly communications
- Outreach to faculty, staff, and students through promotion of library resources and services, participation in school culture and project reviews, and so forth

When not present in the School, the Architecture Librarian and Archivist is based in Hunt Library, a central arts, humanities, social sciences, and business library within short walking distance of School of Architecture facilities. The Engineering and Science Library in Wean Hall is also a short walking distance from School facilities.

A program of library instruction supports the educational objectives of the School of Architecture. First-year architecture students participate in the University’s C@CM program, which provides instruction in computer skills, research skills, and information ethics. Instruction sessions tied to specific courses and assignments in the School of Architecture orient students to the Libraries, instruct them in the uses of information resources and technology, and introduce them to research topics and methods. The Architecture Librarian and Archivist and teaching faculty are jointly responsible for instruction throughout the curriculum. Presently, library instruction occurs most explicitly in the first-year studio and other required courses, and in some upper-level studios and classes that require research. Incoming graduate students are introduced to the research environment at Carnegie Mellon.

The Libraries provides ever-expanding access to electronic information resources that are available without regard to place. At the same time, the Libraries continues to grow its print collections, and maintains a commitment to providing information resources in whatever media are necessary and appropriate. For architecture and the arts in particular, active collecting in a variety of media will continue for the foreseeable future.

Carnegie Mellon University Libraries’ book collections surpass one million volumes. Though subject-based collection figures are difficult to compile in a central library, collections include approximately 50,000 volumes in NA and other classes related to architecture, landscape architecture, construction, and urbanism. The collection includes an increasing number of e-books, especially reference works and titles in technical fields. Print books are classified using the Library of Congress Classification system. The Libraries offers interlibrary loan and document delivery services, greatly
expanding the scope of available resources on an as-needed basis. Carnegie Mellon affiliates have borrowing privileges at the University of Pittsburgh and the Carnegie Library of Pittsburgh.

The Libraries provides access to hundreds of active and ceased print journals and e-journals in architecture and related fields. "A Core List of Periodical Titles for a First Professional Degree in Architecture," developed by the Association of Architecture School Librarians (AASL), has long been used to shape this collection. The Libraries provides access to thousands of additional journals via aggregated databases and other online collections. The Libraries also provides access to dozens of web-based databases that are of use for architectural research including the Avery Index to Architectural Periodicals, Art & Architecture Source, Design and Applied Arts Index, JSTOR, and Compendex. Subscriptions to more specialized electronic products include BuildingGreen Suite, MADCAD.com, and ARTstor. Increasingly, such resources provide online access to images and full-text articles and other documents. Architecture-related videos are available in the Video Collection and through the Kanopy Streaming Service.

The Carnegie Mellon University Architecture Archives is a special collection of architectural drawings and other records documenting the architects and architecture of Pittsburgh and its region. The Archives serves as a resource for the School of Architecture, the University, and the community at large. It encourages class visits and student projects, and sponsors and participates in exhibits, publications, and other special projects.

Funding for library operations takes place within a centralized University Libraries context. Carnegie Mellon has increased funding for library materials by up to 6% annually for the last twenty years. This sustained record of funding increases demonstrates institutional commitment and has had a significant impact on the library and its users. The Architecture Librarian and Archivist is responsible for expending funds in allocated and shared accounts that surpass $60,000 annually. Though subject to a number of special circumstances that may affect annual totals, this spending level is sustainable. The Caste Architecture Resources Endowment Fund, valued at approximately $44,000, provides additional funding for library materials. Endowment funds dedicated to the Architecture Archives are valued at approximately $197,000. Substantial funding expended for other library collections also benefits the School of Architecture as architectural education becomes increasingly interdisciplinary.

I.2.5 Administrative Structure & Governance:

The APR must include the following:

A description of the administrative structure for the program, the academic unit within which it is located, and the institution.

The University consists of seven colleges and schools: the College of Fine Arts (which includes the School of Architecture), the Carnegie Institute of Technology (engineering), the Dietrich College of Humanities and Social Sciences, the Mellon College of Science, the Tepper School of Business, the School of Computer Science, and the H. John Heinz III College (Public Policy & Information Systems).

The CFA includes the five schools; Architecture, Art, Design, Drama & Music, the Frank-Ratcheye Studio for Creative Inquiry and the Miller Institute for Contemporary Art (Miller ICA).

A description of the opportunities for involvement in governance by faculty, staff, and students in the accredited program, including curriculum development.

At the university level there is the Faculty Senate, the Student Senate, and the Staff Council.

At the College level there is the College Council (faculty), for staff there is the newly formed Staff Council and for students the College Student Advisory Council.

In the SoA there are the MS/PhD and Studio-based program committees (faculty and staff), the Graduate Student Advisory Council (GSAC) and the undergraduate Student Advisory Council (SAC).
The lunch hour on the last Wednesday of every month is reserved for a Full Time Faculty meeting. Agenda items include reviews of faculty and staff needs, vetting job descriptions, reviewing proposed changes to the school, design awards, planning for Presidential Advisory Boards, planning for NAAB visits and presentations by the University Administration concerning University initiatives, issues and/or priorities.

The Head convenes a search committee for new faculty as openings are available. The roster is determined by core expertise relative to the search, balancing gender/ethnicity/race and rank (from tenured to tenure-track to studio professor).

A chart or graphic that illustrates the description.

Governance Positions for Full Time Faculty in the SoA:

**Head**, Stephen R. Lee

**Associate Head**, Mary-Lou Arscott

**Assistant Head**, David Koltas

---

**School of Architecture – Academic Structure**

**MS/PhD Track Chairs**
- MSAECM: Joshua D. Lee
- MSBPD: Vivian Loftness
- MSCD: Daniel Cardoso Llach
- MSSD: Dana Cupkova
- PhD-AECM: Erica Cochran Hameen
- PhD-BPD: Vivian Loftness
- PhD-CD: Ramesh Krishnamurti
- DPP: Erica Cochran Hameen

**Studio-based Track Chairs**
- MAAD: Jeremy Ficca
- M.Arch: Kai Gutschow
- MUD: Stefan Gruber
- **BA/B.Arch**
- Core 6: Stephen Lee
- ASO Mary-Lou Arscott

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Graduate Program Structure in the SoA:

**School of Architecture – Grad Program Structure**

**Graduate Program Executive Committee (GPEC)**
- MS/PhD: Erica Cochran Hameen/ Joshua D. Lee
- Studio-based: Kai Gutschow/ Jeremy Ficca
The Staff Structure for the SoA:

**School of Architecture – Professional Staff**

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head</td>
<td>Stephen R. Lee</td>
</tr>
<tr>
<td>Associate Head</td>
<td>Mary-Lou Arscott</td>
</tr>
<tr>
<td>Assistant Head</td>
<td>David Koltas</td>
</tr>
<tr>
<td>Business</td>
<td>David Koltas, Diana Martin</td>
</tr>
<tr>
<td>Mkting &amp; Comm</td>
<td>Meredith Marsh, Carolyn Ristau</td>
</tr>
<tr>
<td>Alumni &amp; Career</td>
<td>Kristen Frambes</td>
</tr>
<tr>
<td>Relationships</td>
<td></td>
</tr>
<tr>
<td>Facilities &amp; Shop</td>
<td>Jon Holmes, Alex Troyer, &amp; Monitors</td>
</tr>
<tr>
<td>dFAB</td>
<td>Terry Hritz, &amp; Monitors</td>
</tr>
<tr>
<td>Computing</td>
<td>Bob Armitage, Brian Staley</td>
</tr>
<tr>
<td>Admissions</td>
<td>Alexis McCune Secosky, Carolyn Ristau, Jenna Kappelt, Julie Kachniasz, Erica Oman (Studio), D. Covington-Davis (MS/PhD)</td>
</tr>
</tbody>
</table>
### Student Performance Criteria:

**Bachelor of Architecture Student Performance Criteria (SPC) Matrix from CA VTR:**

Full size PDF: [https://cmu.box.com/s/3usvdyjyihtgjpeu0nryq9maap77tea](https://cmu.box.com/s/3usvdyjyihtgjpeu0nryq9maap77tea)

<table>
<thead>
<tr>
<th>Course</th>
<th>Criteria 1</th>
<th>Criteria 2</th>
<th>Criteria 3</th>
<th>Criteria 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course A</td>
<td>1</td>
<td>2</td>
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<tr>
<td>Course B</td>
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<td>Course C</td>
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<td>Course D</td>
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<td>Course E</td>
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<td>Course F</td>
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<td>Course G</td>
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<tr>
<td>Course H</td>
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<tr>
<td>Course I</td>
<td>1</td>
<td>2</td>
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<td>4</td>
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</tbody>
</table>

Carnegie Mellon University
Architecture Program Report for Initial Accreditation
February 2019 | Page 56
A brief description of the pedagogy and methodology used to address Realm C.

Realm C will be accomplished through a sequence of courses that include:

- Statics & Structures
- Materials & Assembly
- Enviro 1: Climate and Energy
- Enviro 2: Advanced Building Systems Integration
- Masters Studio: Integration I & II

From the March 2018 Visiting Team Report. “Realm C. General Team Commentary: The level and quality of the work of undergraduate students as demonstrated in studios 300, 305 and beyond warrants that as graduates of the CMU they have acquired the ability to synthesize a wide range of variables into an integrated design solution. The Team observed that student work demonstrated a consistently high level of proficiency in the following Student Performance Criterion and noted that they were met with distinction in SPCs C.2 and C.3. Students work reveals a process of evaluating options, and implications of design decisions, as well as synthesis of variables from diverse and complex systems into an architectural solution. Students work is inherently responding to environmental stewardship goals as an integrated solution.” NB: Studios 300/305 for B.Arch students are the 630/640 studios for the M.Arch students

A brief description of the methodology for assessing student work (i.e., “high” v. “low” pass).

Having conducted the B.Arch program since the early 1900’s, we have a legacy of work that has been produced and the institutional memory of our faculty that defines what we consider to be the “SoA” standard. For undergraduates, the SoA considers work receiving an “A” to be “High Pass” work receiving a “B” or “C” to be “Pass” and work receiving a “D” to be “Low Pass”.

The grading standards for all the master’s programs at the SoA stipulate that a “C” or better must be earned for the class to count units toward graduation and that to be certified for graduation, a graduate student must have a QPA of 3.00 or better. We have come to realize that the learning curves for our M.Arch students are very different than our B.Arch students. An M.Arch student coming from the outside has not had two years of comprehensive coursework that our B.Arch students have had. We have reached outside the school to the Eberly Center for Teaching Excellence & Educational Innovation for help with establishing an appropriate approach that will work with our M.Arch cohorts. We have changed the Digital Skills Workshop (DSW) from voluntary during orientation to a required online summer course (no cost to students), we have created separate sections with a dedicated instructor so we can tweak the syllabus and expectations for the M.Arch students, we are explicitly mapping the NAAB SPC’s to the work that is produced and while the work in the first semester might not achieve the highest level of the CMU standard, we are confident that it meets the SPC and will meet the CMU standard by the time they enter their fourth and final semester. This process has been very informative to guide us in developing the pedagogy for the 1st year of the 3 year track when we open that to students in the future.

The standard rubric in the SoA describes general requirements to attain the grades of A, B, C, D and R as follows:

A: Superlative or exemplary work, initiative beyond the description of the problem. Significant understanding of the problem. Conceptual clarity. An attitude of self-motivated exploration, open-mindedness, and a willingness to benefit from criticism.

B: Very good, some exemplary work, a thorough understanding of the problem. Project displays conceptual foundation, well crafted. Competence and mastery of skills. Open, inquisitive attitude.

C: Satisfactory or adequate work that meets the minimum requirements of the problem and course.
Shows understanding of the problem, with some deficiencies. Reasonable mastery of skill and concepts. This grade is seen to represent the average solution.

D: Passing, work that is complete, but does not show an understanding of the problem or expectations, and demonstrates deficient skills. Work often attended with belligerent or closed-minded attitude with respect to criticism and self-motivation. Although technically passing, this work is unacceptable in a professional program and can lead to being dropped from the B.Arch program.

R: Failing work that does not meet the requirements of the studio, shows a serious deficiency in skills or is incomplete. Raises questions with respect to the future success within the program.
II.2.1 Institutional Accreditation:

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

Middle States Commission on Higher Education (MSCHE) Accreditation Statement: Page 1 below and full letter here: (https://www.msche.org/institution/0476/)

Carnegie Mellon University - Statement of Accreditation Status

**Statement of Accreditation Status**

**CARNEGIE MELLON UNIVERSITY**

The Middle States Commission on Higher Education (MSCHE or the Commission) is one of seven regional accrediting organizations in the United States and is recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation (CHEA). MSCHE is an institutional accreditor; therefore, it examines and reaffirms accreditation for each of its member institutions as a whole, rather than the specific programs within the institution. MSCHE does not approve individual programs. MSCHE accreditation does not expire but is reaffirmed at the time of the institution’s next review.

The Statement of Accreditation Status (SAS) is the Commission’s official public statement about each institution’s current accreditation status and scope of accreditation. The SAS also provides a brief history of the actions taken by the Commission.

**CEO:** Dr. Farzana Jahanian, President
**Carnegie Classification:** Doctoral Universities: Highest Research Activity + Four-year, large, highly residential
**Control:** Private (Non Profit)
**Former Name(s):** Carnegie Institute of Technology (7/1/1967)

5000 Forbes Avenue
Pittsburgh, PA 15213

(412) 268-2000

[www.cmu.edu](http://www.cmu.edu)

**Accreditation Information**

**Phase:** Accredited
**Status:** Accredited
**Initial Accreditation:** 1921
**Last Reaffirmation:** 2018
**Next Self-Study Evaluation:** 2026-2027
**Next Mid-Point Peer Review:** 2023

**Accreditation Actions**

**Last 10 Years:**

- **June 21, 2018**
  To reaffirm accreditation. The next evaluation visit is scheduled for 2026-2027.

- **November 21, 2013**
  To accept the Periodic Review Report, to reaffirm accreditation, and to commend the institution for the quality of the Periodic Review process and report. The next evaluation visit is scheduled for 2017-2018.

- **January 19, 2011**
  To acknowledge receipt of notification from the institution that it has closed its additional location at CyLab Japan Campus, Hyogo Institute of Information Education Foundation (to University of Hyogo, Japan, effective March 31, 2010). Because the cohort enrolled at the location has completed the program offered there. The Periodic Review Report is due June 1, 2011.
II.2.2 Professional Degrees and Curriculum:

The APR must include the following: Title(s) of the degree(s) offered including any prerequisite degree(s) or other preparatory education and the total number of credits earned for the NAAB-accredited degree or track for completing the NAAB-accredited degree and a table showing the distribution of general studies, required professional studies, and optional studies.

Bachelor of Architecture:
450 CMU units (150 credit-hrs) including 135 CMU units (45 credit-hrs) of general studies

Full size PDF: https://cmu.box.com/s/du4jz58gho28msfc2zkynya92ceeygk0
Minor in Architectural History: The Minor in Architectural History is intended for those students that want to deepen their knowledge in architectural history. It is earned by completing the three required architectural history courses and then an additional four elective courses in architectural history.

Minor in Building Science: The Minor in Building Science is intended for those students that want to deepen their knowledge in the building sciences and for those who are interested in gaining advanced placement (AMP) in the M.S. programs offered by the School in the areas of Building Performance & Diagnostics and Sustainable Design. It is earned by completing the two required building technology and three environmental science courses and then an additional three elective courses in the building sciences.

Minor in Architectural Representation and Media: The Minor in Architectural Representation and Media is intended for those students that want to deepen their knowledge in architectural representation and media and for those who are interested in gaining advanced placement (AMP) in the M.S. programs offered by the School in the areas of Computational Design, Tangible Interaction Design and/or Emerging Media. It is earned by completing the four required media courses and then an additional three elective courses in these areas.

Minor in Architectural Design Fabrication: The Minor in Architectural Design Fabrication is intended for those who wish to develop focused, disciplinary expertise in both analog and digital material methods for shaping the built environment and become involved in a community of practice dedicated to a rigorous pursuit of making as a mode of architectural research and cultural expression. It is also for students interested in gaining advanced placement in the SoA’s Master of Advanced Architectural Design (MAAD) program.

Study Abroad opportunities are available to in upper years of the Studio-based programs, including the M.Arch students, through an Advanced Synthesis Options (ASO) studio that is designated as the Global Studio Fund (GSF). The new SoA Global Studio Fund, started by a donation from Head Steve Lee and his wife Yoko Tai, enables global travel and study for architecture students, including M.Arch students.
The GSF has supported study abroad in London, UK; Barcelona, ES; Bratislava, SK; Madrid, ES; Vicenza, IT; and Paris, FR. The Theater Architecture program has supported ASO studio travel to Sibiu, RO; Avignon, FR; Havana, CU; San Francisco, CA; Las Vegas, NV; and New York City, NY.

In addition to studio field trips, the SoA offers its own international “Study Trips” for 2-3 weeks each summer for 6-18 units of CMU credit. In recent years we have planned study trips and travelled to Scandinavia (Copenhagen, Stockholm & Helsinki), Germany (Ruhr Valley & Hamburg), Holland (Amsterdam, Rotterdam, Groningen, and Brussels, Belgium), two different trips to Switzerland (3-week tours of highlights in the cities and rural mountain regions), three weeks from Bilbao in the north to Granada in the South, and finishing in Barcelona), Italy (stationed mostly in Venice), and India (Chandigarh, Ahmedabad, and Delhi). In each case, we have sought a good mix of urban highlights as well as more place specific regional buildings and sites. We focus both on highlight buildings, and the more subtle fabric and contexts of cities, especially revitalized neighborhoods and brownfield redevelopments, which often help students understand our own city of Pittsburgh in a different light. The trips depend on interests, familiarity, and expertise of the faculty, as well as enough students signing up to fund the trip. We do all the planning, reservations, and tours on our own, with extensive background work by students and faculty on the highlight sites. Much as the studio trips during the semester, students have found it invaluable to travel alongside professors who know the cities and the buildings so well, and in such different ways.

Because of the intense nature, and short length of the program, and the invaluable resources we feel we have on campus, but also because many of our students are international students, and we hope students had the chance to travel in their undergraduate years, the M.Arch curriculum does not currently allow students to spend an entire semester abroad. However, M.Arch students are also encouraged to pursue international experiences during the summer, either in their employment, or in any summer program offered by other accredited universities. For many international students, working or travelling to other US cities constitutes a kind of international travel, so they frequently ask for advice on what to see in New York, Washington DC, San Francisco, or elsewhere.

More generally, the CMU Office of International Education (OIE) notes:

“Carnegie Mellon continually seeks opportunities to partner with institutions abroad to exchange students, faculty, and researchers. Because of Carnegie Mellon’s active approach to making international connections, we have several exchange partners abroad. These programs are based on faculty relationships between the two institutions and have been evaluated for academic compatibility.

University Exchange Programs allow students, in most cases, to use their Carnegie Mellon funding while attending a university abroad. These programs are reciprocal. We also receive students from the institutions to which we send students. This allows Carnegie Mellon students to build friendships with the students from that institution both prior to and during the study abroad experience, providing a true cultural exchange.

Carnegie Mellon students participating in these programs continue to pay tuition (billed at the junior/3rd-year level) directly to Carnegie Mellon and receive, in most cases, the same financial aid package. Students are responsible for paying all other fees, such as room and board, directly to the exchange institution.

Sponsored Programs offers study abroad opportunities to students from a variety of economic backgrounds and are ideal for students with significant Carnegie Mellon funding. Sponsored Programs allow students to pay regular Carnegie Mellon tuition, room and board (billed at the junior year rate) while receiving the same financial aid package (minus work study) while abroad. Offering Sponsored Programs reflects Carnegie Mellon’s commitment to ensure that all students have the opportunity to study abroad. While the main purpose of Sponsored Programs is to provide options that will allow the use of Carnegie Mellon aid, they are also programs that are researched and
reviewed for academic quality and compatibility by our Study Abroad Advisory Board.

When choosing the Sponsored Program arrangement, Carnegie Mellon will pay tuition, room, board and approved fees to the study abroad institution or program and may distribute funds to the student for other fees as appropriate.

Departmental Exchange Programs function similarly to University Exchange Programs, except that the exchange is department-to-department instead of university wide. Many departments at Carnegie Mellon have exchange partners abroad. These programs are based on faculty relationships between the two departments and have been evaluated for academic compatibility.”

Students in the B.Arch program have access to University Exchange programs with:

- Ecole Polytechnique Federale de Lausanne (EPFL), Lausanne, Switzerland
- Monterrey Tech (ITESM), Monterrey, Mexico
- National University of Singapore, Singapore
- Pontificia Universidad Catolica de Chile, Santiago, Chile
- Technion Institute of Technology, Haifa, Israel
- University of Melbourne, Melbourne, Australia

Students also have access to Sponsored Exchange programs in Australia, Denmark, Germany, Italy, Japan, New Zealand, Spain, and the United Kingdom and External programs in Australia, China, Czech Republic, Finland, France, Hong Kong, Ireland, Italy, Korea, Latvia, New Zealand, Poland, Spain, and the United Kingdom.

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

Studio–based Programs
- Bachelor of the Arts in Architecture
- Master of Advanced Architectural Design (MAAD)
- Master of Urban Design (MUD)
- Master of Tangible Interaction Design (MTID) (F17 merged into MSCD)

MS Programs
- Master of Science in Architecture Engineering Construction Management (MSAECM)
- Master of Science in Building Performance & Diagnostics (MSBPD)
- Master of Science in Sustainable Design (MSSD)
- Master of Science in Computational Design (MSCD)
- Master of Tangible Interaction Design (MTID) (F17 merged into MSCD)

PhD & Doctoral Programs
- PhD in Architecture Engineering Construction Management
- PhD in Building Performance & Diagnostics
- PhD in Computational Design
- Doctor of Professional Practice (DPP)
We do not currently offer post-professional degree programs that use the titles B.Arch, M.Arch or D.Arch.

II.3 Evaluation of Preparatory Education

The APR must include the following:

A description of the policy or policies regarding admission requirements and admissions decisions.

A description of the process by which the preparatory or pre-professional education of students admitted to the accredited program is evaluated. This description must include the process for verifying general education credits, professional credits and, where appropriate, the basis for granting “advanced standing.” These are to be documented in a student’s admissions and advising record.

NOTE: If applicable, SPC that are expected to have been met in preparatory or pre-professional education are to be documented in the top line of the SPC matrix (see Part II, Section 1.)

Unlike the undergraduate admissions for the NAAB-accredited B.Arch, which is handled largely through the CMU central administration and admissions office, the admissions process for the M.Arch is done completely in house, within the SoA. The process is led by the Track-Chair, with the assistance of SoA staff, and colleagues to help evaluate applications. The application and admissions process for the new M.Arch follows procedures very similar to the other SoA MS and PhD graduate programs in terms of timing and many protocols

The new CMU SoA M.Arch program are currently in the midst of our first admissions season. Although we are building a 3-year professional accredited M.Arch, we are currently only accepting and enrolling Track-2 “advanced standing” candidates, who will require two years to complete the degree.

Applications and a description of the program and curriculum were made available on the SoA website in October 2016. The application deadline was Jan. 15, 2017, for Fall 2017 enrollment. We will only offer fall semester matriculation. All applicants to SoA M.Arch program had to complete the online application, which was done through www.slideroom.com, linked from our website. Alongside the typical personal data and dates, applicant had to submit: 1) a portfolio of creative work, 2) a statement of past accomplishments and future ambitions, 3) a CV, 4) three letters of recommendation, 5) baccalaureate and other graduate transcripts. They were also allowed to submit a link to a personal website, and one other pdf document that represented their accomplishments and promise. A GRE score is not required for the M.Arch (though it is for other SoA STEM-based masters programs). According to CMU policy, all international students whose first language was not English had to submit a recent TOEFL and/or IELTS scores. The SoA recommended minimum is a TOEFL score over 100 with a minimum of 23 on any one part, and/or IELTS scores over 7, with a minimum of 6 on any part.

We received many more applications than anticipated, from around the world, but also with a nice concentration of applicants who were connected to the Pittsburgh area, exactly as we had hoped. The track-chair looked carefully through all the applications, giving each a score and a comment. The primary criteria were a strong statement or portfolio, as well as sufficient strong coursework to allow them to gain “Advanced Standing” into the 2-year track of the M.Arch. Many applications were deemed to have insufficient experience to be granted “advanced standing” in the 3-year M.Arch. Other applications were dismissed because language abilities were too low to be considered. The smaller set of applications was then made accessible to the M.Arch admissions committee, who each gave scores on all applications. Discussions by the committee and decisions by the Track-Chair resulted in a shorter list of applicants that were ranked from strongest to weakest.

This list of candidates was divided into three groups, according to the amount of Merit Scholarship each candidate in the group would be offered, from a group that would receive a $25,000 scholarship to reduce the approx. $37,000 tuition, to a group that received $6,000 towards tuition, the minimum accorded to all grad students in SoA. These scholarships are contingent upon timely payment of tuition and successful...
completion of the previous semester as a full time student. In addition, a limited number of Graduate Assistantships are available to full time master's students in the Fall semester, with a possibility of continuing in the spring. This assistantship entails working as an employee of the University for approximately four (6) hours per week at a rate of $15 per hour for up to 135 hours (up to $2,000), based upon full time enrollment. There are also opportunities for fellowships in the final year to teach in the undergraduate program, as well as existing faculty research projects that may offer assistantships and other funding opportunities.

Each admitted candidate was sent a congratulatory letter revealing their Merit Scholarship. Although they were given until Apr. 15 to decide and accept our admissions offer, we asked for them to accept or reject the scholarship offer by Mar. 1. We received many more deposits for admissions than anticipated.

In order to account for the vast differences between coursework, transcripts, and levels of experience and competence in our global applicant pool, and to insure that or “evaluation of preparatory education” in relation to the NAAB SPC is thorough and fair, M.Arch applicants will be sent a recommended curriculum chart and a description of all required courses. They will be allowed to petition to be exempted from courses that they feel duplicate part of their previous academic or professional experience. Decisions will be made by the M.Arch Track-Chair and admissions committee. Each candidate seeking to be exempted from specific courses will be asked to submit supplementary material, including syllabi and documentation of the kind of work they did in the previous courses, so that SoA can judge whether NAAB SPC were likely met. This rigorous process will insure that every candidate has met all the SPC by graduation after two years.

Each admitted candidate will work with the Track-Chair to create a unique curriculum schedule for their two years of study, based on background and previous experience, current interests, as well as future ambitions and career goals. The Track-Chair and graduate advisor will keep track of all previous coursework as well as all completed work through a chart that lists all CMU SoA M.Arch required courses, along with where, when, and how well they completed the coursework or its equivalent. Recognizing that every course at every university is somewhat different, we will work hard with each candidate to insure that all SPC have been met.
II.4 Public Information

II.4.1 Statement on NAAB-Accredited Degrees
NAAB Accreditation Statement for the Bachelor of Architecture Program
https://soa.cmu.edu/accreditation

II.4.2 Access to NAAB Conditions and Procedures
2014 NAAB Conditions for the Bachelor of Architecture Program
2015 NAAB Procedures for the Bachelor of Architecture Program

II.4.3 Access to Career Development Information
Career Development Information for the Bachelor of Architecture Program
https://soa.cmu.edu/career-development

II.4.4 Public Access to APRs and VTRs
2018 APR for the Bachelor of Architecture Program
https://soa.cmu.edu/s/CMU_SoA_BArch_APR-CA_20171231.pdf
2018 VTR for the Bachelor of Architecture Program
2018 APR for the Master of Architecture Program
https://soa.cmu.edu/s/CMU_SoA_MArch_APR-IC_20171231.pdf
2018 VTR for the Master of Architecture Program

II.4.5 ARE Pass Rates
NCARB ARE Pass Rates for the Bachelor of Architecture Program
ARE 4.0: https://www.ncarb.org/pass-are/are4/pass-rates/are4-pass-rates-school
ARE 5.0: https://www.ncarb.org/pass-are/are5/pass-rates/are5-pass-rates-school

II.4.6. Admissions and Advising
Admissions for the candidate Master of Architecture Program
https://soa.cmu.edu/march-application-requirements
Advising for the candidate Master of Architecture Program
https://soa.cmu.edu/student-organizations

II.4.7. Student Financial Information
Master of Architecture Program
https://soa.cmu.edu/grad-app-faq
General Carnegie Mellon Student Financial Information
https://www.cmu.edu/sfs/
Part Three (III): Annual And Interim Reports

III.1.1 Annual Statistical Reports:

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.

Full Size PDF: https://cmu.box.com/s/ot7bvavq0vf2h1qrpxxj89okbnkxj3pu

To Whom It May Concern:

The below information submitted to the School of Architecture at Carnegie Mellon University for their annual NAAB submission is accurate and consistent with reports sent to other national and regional agencies, including the National Center for Education Statistics:

Section B, question 7, 'B. Architecture'
Section D
Section E
Section G, questions 2 and 4

Thank you,

Melissa L. Baker
Assistant Director
Institutional Research and Analysis
mlbaker@andrew.cmu.edu
412-268-6342

January 29, 2019
III.1.2 Interim Program Reports:

These are NOT to be included in the APR. The NAAB will provide the following directly to the team at the same time as the VTR template and other materials:

These reports will be provided by NAAB headquarters.
The program shall provide a number of documents for review by the visiting team.

The general link to the SoA NAAB folder, “Final MArch IA Documents” on the CMU Box is:
https://cmu.box.com/s/k8o30j8dq56qoy9ua7giblqas2fhztgo

Inside the SoA NAAB folder are:

Descriptions for MArch Core Courses Final:
https://cmu.box.com/s/3xnoee5up4hr2bvwtqas9r6o9718b29d

Descriptions for MArch Elective Courses Final:
https://cmu.box.com/s/kc1owuwkmeodrzi8f2buffhqduvbn8t8b

Resumes for MArch Core Faculty Final:
https://cmu.box.com/s/lprgo9520c3gnvqjw1rlx4nqy4plfark

Resumes for MArch Elective Faculty Final:
https://cmu.box.com/s/dsqv6dlmt77d1yc8mf6kbzxf88vxn36o

The following URL’s link to official SoA or CMU web pages:

Studio Culture Policy:
https://soa.cmu.edu/s/19-20_CMU_SoA_StudioCulturePolicy.pdf

Self-assessment policies and objectives:

Policies on academic integrity for students:
https://www.cmu.edu/student-affairs/ocsi/

Policies relative to computing and information resources:
https://www.cmu.edu/computing/start/students.html

Policies and procedures relative to EEO/AA for faculty, staff, & students:

Policies regarding opportunities for human resources professional development services:
https://www.cmu.edu/hr/resources/hr-partners/pds.html

Guidelines for faculty appointment, promotion, and tenure:
https://www.cmu.edu/policies/faculty/appointment-and-tenure-policy.html

Schedule for Visit:
https://docs.google.com/spreadsheets/d/1_rYTroN_vjt2JGnnYaieTHbnoEPUK3meICEx2vUMTZc/edit?usp=sharing