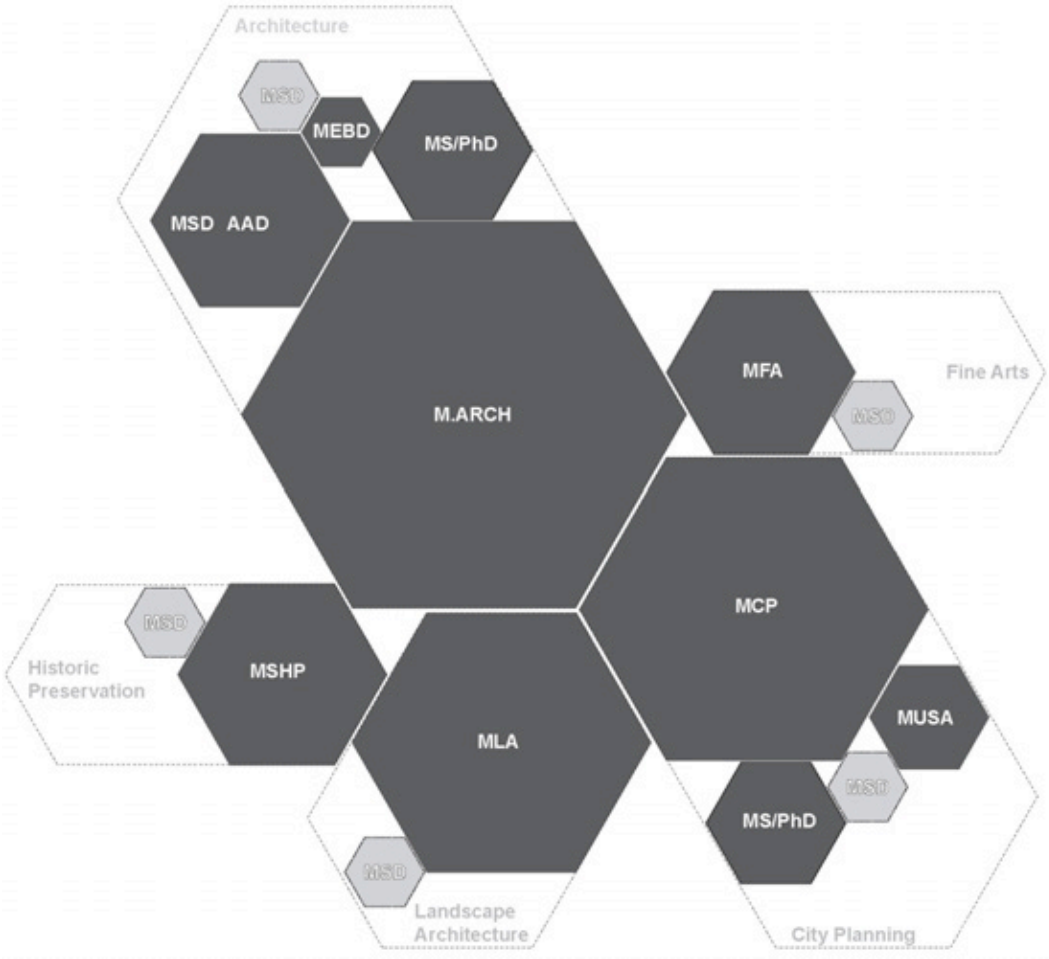
University of Pennsylvania
School of Design
Department of Architecture

Architecture Program Report for 2016 NAAB Visit for Continuing Accreditation

Master of Architecture I [Baccalaureate degree (any discipline; and typically 124 undergraduate credit hours) + plus 84 graduate semester credit hours]

Year of the Previous Visit: [2010]
Current Term of Accreditation: [Six-year term of accreditation. The accreditation term is effective January 1,2010. The program is scheduled for its next accreditation visit in 2016.]



Submitted to: The National Architectural Accrediting Board
Date: September 2015

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Table of Contents

Section 1. Program Description

Part One. Introduction to the Program

I.1.1 History and Mission [Description of the Institution]

I.1.1A The University of Pennsylvania, History

This year the Department of Architecture celebrates its 125th year. Originally it was Benjamin Franklin who founded the University of Pennsylvania in 1740, which was then called the College of Philadelphia, and became the nation's first University [1791]. Traditionally Ben Franklin's University has emphasized practical knowledge and the Art of Making as important aspects of human understanding. The original College of Philadelphia was an urban university, unlike its early contemporaries such as Harvard and Princeton, which were both established in village settings. By the end of the century, however, its original center city site was no longer capable of accommodating its growing activities and size. For greater space, the College Trustees purchased the house erected for the President of the United States, and had its architect, Benjamin Latrobe, add to it a medical amphitheater. In this building two of the nation's most important architects, Robert Mills and William Strickland, learned their professional skills. Later, Strickland enlarged this building, and in the coming years he and Mills built additional buildings for the College in the immediate vicinity. In 1872, the University of Pennsylvania moved to a new location, where it could expand without impediment. It relocated to a site that would grow to include 247 acres in West Philadelphia across the Schuykill River from the historical city center.

The academic structure of the University consists of four undergraduate schools and eight graduate and professional schools. It is one of the country's largest private universities, with over 4555 faculty members and 24,806. The student-faculty ratio is 5:1.

The Department of Architecture exists in one of the eight graduate schools, the School of Design (PennDesign), with approximately 646 graduate students. It includes the departments of Architecture, City and Regional Planning, Fine Arts, and Landscape Architecture and Regional Planning, as well as the program in Historic Preservation. The Professional Degree Program in architecture exists within the Department of Architecture of the School of Design at the University of Pennsylvania. The architecture faculty also teaches architecture and fine arts undergraduate programs in the university.

Institutional Mission

The University of Pennsylvania

Excerpt, President Amy Gutmann, Penn Compact, 2020

Penn Compact 2020 builds on the past decade of progress we have made in advancing the University of Pennsylvania. It is a far-reaching vision that outlines next steps to increase access to Penn's exceptional intellectual resources; integrate knowledge across academic disciplines with emphasis on innovative understanding and discovery; and engage locally, nationally, and globally to bring the benefits of Penn's research, teaching, and service to individuals and communities at home and around the world. Three major points are stressed:

INCLUSION

Penn is increasing access to its exceptional resources by

1. - Meeting the full financial need of undergraduates with all-grant aid packages, expanding the Penn World Scholars program, and strengthening graduate and professional financial aid.
2. - Increasing diversity and excellence at all levels with high-priority efforts including the Action Plan for Faculty Diversity and Excellence.
3. - Advancing Open Learning at Penn with other high-quality online education initiatives that promote the most innovative teaching and educational research on Penn's campus.

INNOVATION
Penn is integrating knowledge across academic disciplines with emphasis on innovative understanding and discovery, by:
4. - Increasing Penn Integrates Knowledge University Professors and other endowed professorships to recruit and retain the most eminent and collaborative interdisciplinary faculty.
5. - Building highly collaborative, inter-school research and teaching programs including Penn Brain Science and Penn Nanoscience.
6 - Expanding Penn's culture and practice of innovation through the Penn Center for Innovation, where Penn discoveries find rapid application to pressing social needs

IMPACT
To realize the bold and far-reaching vision of the Penn Compact 2020, we depend most of all on our Penn people. The Compact reflects our shared values and it exemplifies our passion for bettering our community, country, and world. Penn is engaging locally, nationally, and globally to bring the benefits of Penn's research, teaching, and service to individuals and communities at home and around the world. Major new and recent initiatives are the Perry World House and Penn-Wharton China Center, bringing the world to Penn and Penn to the world through broad-ranging university-wide programs.

Engaging Locally and Globally: Through our collaborative engagement with communities all over the world, Penn is poised to advance the central values of democracy: life, liberty, opportunity, and mutual respect. As we prepare to expand Penn's campus to the east, we strengthen our ties with our neighbors and help drive economic and technological development throughout the City and Commonwealth. At the same time, we will share the fruits of our integrated knowledge wherever there is an opportunity for our students, faculty, and alumni to serve and to learn.

Service Learning. Penn—one of only three schools nationwide to receive the Presidential Award for General Community Service—supports distinguished programs that allow students to integrate service activities into their academic work. More than 4,000 Penn undergraduates (more than 40 percent) already engage in sustained service and help strengthen communities in concert with their studies.
Penn's Global Reach. Penn is the school of choice for students from around the world. Students from abroad currently comprise 14 percent of under-graduates and international student enrollment has increased 20 percent since 2004; enrollments from China and India are up 50 percent.

I.1.1A The School of Design

Mission Statement
Dean Marilyn Jordan Taylor, 2015
As one of the twelve schools of the University of Pennsylvania, the School of Design is dedicated to using the creativity and power of design to address the challenging issues of our times. We seek architecture that performs, urban strategies and systems that bring efficiency and expression to the demands of 21st century urban societies, art that promotes self-awareness and identity, a public realm that brings us together, a responsibility for maintaining the fundamental legacies of history and place, and a respect for the landscape settings that sustain us.

We educate in a context of cross-disciplinary thinking and integrated, team-based strategies for improving our landscapes, our cities, our buildings and our public realm. Our studios and seminars investigate and propose concepts that support individuals and societies and help advance their visions. As our students hone their design talents and as they explore design concepts and devise the ways through which those concepts can be realized, they become the prospective leaders across the fields of inquiry and operation that contribute to the influence and impact of design.

We are committed to research and to embedding what we learn from collaboration with scientists, sociologists, economists, engineers, humanists, and environmentalists into our designs. We understand

that design is a global enterprise, implemented locally. We engage in the act of making what we propose, through simulations and field experimentations, through new means and methods of fabrication, learning and correcting as we advance our work. We learn from the breadth and depth of data now accessible, which we make visible, promoting greater public understanding. We embrace the search for innovations that can advance our knowledge and be applied to improving quality of life and equality. We seek a world of greater equity and challenge ourselves to find the ways in which design can contribute to reducing inequalities. We believe in investing in visions aimed at increasing public good, even when they may take decades to realize.

Through our scholarship, team learning, experimentation and use of advanced technologies, and integrative thinking, we support the University's goals of inclusion, integration of knowledge, and positive impact on individuals, cities and societies. We believe in scholarship and utility, in collective and reiterative learning that can be put to use.

History of the Department of Architecture

Excerpt, Winka Dubbeldam, School of Design, External Review, Spring 2015

This year the Department of Architecture celebrates its 125th year, not a small feat. While architects were associated with the University since its founding in 1740, the idea of establishing a Department of Architecture and associated arts was not raised until the 1850's. In 1868 the University established the Department of Arts, which was later renamed the Department of Science. Architecture courses were taught in the Department of Arts in 1869, making architecture at the University of Pennsylvania the **second oldest program** in the United States.

Thomas Webb Richards both headed the initial program and designed the first building constructed on the University's West Philadelphia campus, College Hall, a commission he won in an open competition in 1870. The direction of the program was next assumed by Theophilus Chandler, who also became president of the AIA, the first of many University of Pennsylvania graduates to assume this position. Chandler developed and expanded the program, bringing such figures as Frank Furness, Wilson Eyre, Walter Cope and John Stewardson onto the faculty. In 1890, the School of Architecture achieved independent status as the Towne Scientific School of the University offering a four-year undergraduate architectural program. Many of the early professors of architecture in the program were trained at the Ecole des Beaux-Arts and the ateliers and clubs they established in Philadelphia provided a broad professional framework for architectural education in the program.

The T-Square Club was founded in 1883 as a break-way organization from the Philadelphia AIA. Close connections were established between the program, the A.I.A. and these clubs and ateliers. Warren Powers Laird, one of the Beaux-Arts trained architects who became a professor in the program shaped the curriculum in the manner of the Beaux-Arts method. The emphasis was on design through competitions and preparation for professional practice. One of Laird's colleagues, Paul Philippe Cret, emphasized architecture as a creative art. During these years the program sought to balance the concerns of artistic expression with the increasing demands of professional competency.

The arrival of G. Holmes Perkins in 1951 was a turning point in the program's history. Under his leadership the disciplines of architecture, landscape architecture, and city planning were consolidated into a GSFA. In 1956 he established the Civic Design Program, later re-named Urban Design, as a joint program between architecture and city planning. As both Dean of the GSFA and Chairman of the Department, Perkins assembled a distinguished faculty including Lewis Mumford, Robert Le Ricolais, David Crane, Ian McHarg, Erwin Gutkind, Robert Geddes, Louis Kahn, Romaldo Giurgola, Robert Venturi and Denise Scott Brown. Many of these faculty members were instrumental in developing the movement in architecture known as the "Philadelphia School."

Today, the School of Design and its architecture programs are strongly integrated in the University. During the recent decades, the Department has dramatically increased the number of its faculty and students, expanded its facilities, and modified its curricula and courses in response to contemporary developments in architectural practice, theory and design.

Mission of the Professional Degree Program in Architecture

Excerpt, Winka Dubbeldam, Chair, School of Design, External Review, Spring 2015

The primary mission of the Master of Architecture Professional Degree Program is to educate architects through the development of the advanced design education combined with disciplinary skills, technological knowledge, and methods of inquiry into the professional practice of architecture. Architecture recently has undergone a change from an analog to a digital platform and with that the architectural practice and the production and construction of architecture has changed and innovated. The architecture department as an educational institution is at the forefront of this development and has combined traditional skill-based education with highly advanced digital design studios and advanced courses taught by experts in the field.

The Department is situated within a multi-disciplinary School of Design and a strong research University, this allows for many kinds of connections and specialized studies, including certificate studies at the Master's level, and dual degrees in a host of disciplines. The Professional Degree Program aims at a disciplinary education in architecture incorporating the traditional subjects of design, representation, technology, and theory with the contemporary topics of digital media, 3D printing, and robotics. While disciplinary in its orientation, the program encourages engagement with the related disciplines of fine arts, historic preservation, landscape architecture, urban design, and city and regional planning. Finally, the program extends architecture beyond these related disciplines into the realms of culture, new technologies, and society.

The goal of the program is to develop skills, knowledge, and methods of inquiry in the discipline of architecture while encouraging an interdisciplinary understanding of the environment and fostering professional ethics and social responsibilities. Required and elective courses explore the knowledge and methods of inquiry in architecture in a wide range of traditional subjects and contemporary topics. The curriculum combines representational skills and technological knowledge as part of a unified architectural design process. Critical theory is considered as a means towards developing an understanding of architectural production, in a cultural and historical context, as well as to educate the students to create an conceptual argument, and to understand their design work as essentially connected to a larger ongoing discussion.

Architecture is experiencing an extraordinary renaissance in the practice, fuelled by many different sources: new technologies and materials; information technology; advances in engineering and manufacturing; globalization of culture, education and practice; crossovers with the sciences, visual arts and other design fields; a growing audience for design culture in general, and ecological architecture in particular; and a focus on creativity and innovation in leading schools around the world. At the same time, society faces many challenges, including global warming and environmental change, pollution and waste, transition to new energy and resource economies, the redistribution and reorganization of political and economic power worldwide; globalization of the construction and development industries; population growth, shrinkage and migration; urban intensification and attrition; privatization of public sector activities; and the transformation of cultural identities and social institutions. We seek to bring the expansion of expertise and creativity in architecture to bear on these challenges.

In this context, we will formalize our emerging identity as a laboratory for ideas, expertise and innovations, a think tank for exchanges and debates across disciplinary boundaries, and a broadcast center engaging a growing audience and international network. We will rebuild our standing faculty, develop new advanced degree options in specialized areas, and expand doctoral studies. We will develop

collaborations among our various programs, with other departments of the school and other divisions of the university. We will prepare the next generation of leaders to evolve the discipline and renew its capacity to enhance the quality of life.

To summarize, our goal is to be at the forefront of advanced research & design by creating a advanced research institute that focuses on new design methodologies and future manufacturing through the interlinked intelligence of digital design, scripting and robotics.

We will also focus on Social awareness and responsibility, and be a think tank for critical exchanges and advanced debates within and across disciplinary boundaries. We will be a connective device through inviting experts for ongoing lectures and publications in order to engage a growing international audience and an increasing network of experts.

I.1.2 Learning Culture

Education in the Professional Degree Program is centered on the culture of working in the design studio, while providing students with the opportunity to learn from each other as well as get educated in developing projects that vary in content and context and emphasize different aspects of architecture. Different than the European schools, students here are allowed to work in their own studio space open and available at all times. This aspect of collaborative teamwork helps the students to understand this important aspect of their profession; the fact that almost all their work in their future practice will be in team format. It also provides the possibility in the ever more international context of the school to learn from different cultures. It also facilitates to experiment with the available 2D and 3D digital printing facilities, and reviews can be held in studio, as digital projectors are now integral to each studio space. The Architecture Department at PennDesign is one of the rare examples to have this readily available for all levels.

Our newly designed departmental spaces provide an open, collegial and supportive environment for faculty and students to develop design and digital expertise, think laterally, and experiment creatively. We aim to prepare graduates to be leaders in the profession and contribute to society and culture at the highest level. As planned we now integrated a deepening of our capacity to engage the challenges of society locally and globally by evolving the expertise of architecture, integrating across fields to create new knowledge, skills and modes of practice.

The Faculty adopted a studio culture policy in 2009 and has recently adopted a new one. Students are now given multiple channels and roles to participate in student governance and evaluation. New accommodations have been made to foster a more positive and engaging atmosphere for students through the recent renovations and the encouragement of the development of social and cultural student organizations, as well as a design-build group of students who partake in an annual construction on campus. The development of a studio culture into an immersive and interactive environments for students and faculty to engage as a community, and as a culture which allows students to engage and reinforce each other in social and academic realms.

In particular, the studio representative structure has been one of the primary regulators of the studio culture at Penn. In recent years, meetings of the studio representatives have regularly addressed both everyday housekeeping issues and deeper questions about equity, overwork, and health. Recently a second studio representative was added, a tech representative responsible for the maintenance and fair distribution of use of the 3D printing facilities, who reports back to the Chair directly. Meetings with the student representatives and student council are held every semester.

I.1.3 - Social Equity

A- In accordance with the University of Pennsylvania's Non-Discriminatory Policy, the Department of Architecture is committed to hiring talented faculty from diverse backgrounds. The dean will appoint a member of the standing faculty to serve as the school's affirmative action officer each year. Before appointments are proposed to the dean, the affirmative action officer must be satisfied that searches or other processes have been conducted in a way that identified, interviewed and gave full consideration to the most qualified women and members of underrepresented minority groups. The affirmative action officer also advises search committees on strategies that are likely to be effective in building a diverse faculty. Every effort is made to recruit women and minorities during each search process.

B- Since 2008, the School of Design has been led by Dean and Paley Professor Marilyn Jordan Taylor, and the Department of Architecture now has a dynamic female Chair, Winka Dubbeldam, who was a Professor of Practice for 10 years at Penn prior to her appointment as Professor and Chair. The department has hired two new assistant professors, Daniel Barber and recently Andrew Saunders, and Franca Trubiano, Simon Kim, and Yi Yun Kyu have been re-appointed as assistant professors since the last visit. Franca now serves as Associate Chair to the department. Joan Ockman joined the department as lecturer to enhance and deepen our history and theory classes. Hina Jamelle is the designated coordinator for ARCH 601 the housing studio, and Sarah Rottenberg serves as co-director of the Integrated Product Design program that is offered jointly by our Department of Architecture and SEAS, the School of Engineering and Applied Sciences.

The Department endeavors to enhance faculty development and assist the promotion process through a variety of mechanisms including leaves of absence, symposia, support for travel to attend and present scholarly papers at national and international conferences and the mentoring of junior faculty. Such support is provided on an equitable basis to all faculty.

PennDesign's goal to increase diversity is clearly expressed by matriculating and retaining representatives from all segments of society in order to build a diverse student population. In order to ensure this, the School, through its admissions and financial aid policies, has a "needs blind" admissions process. All accepted applicants demonstrating financial need (contingent upon the submission of required documentation) are guaranteed to receive a financial award from the school, the amount of which is determined relative to their overall need figure. The Department specifically targets merit awards to encourage the matriculation of qualified minority candidates. Each year the Department offers diversity scholarships for candidates from underrepresented minorities that provide full tuition for the duration of the student's education. The department also participates in programs that assist under-represented and disadvantaged students, such as the McNair Scholars Program and Project 1000, whereby we waive the application fees for these applicants. Lastly, we send targeted mailings to prospective applicants from the National Name Exchange and the GRE Search Service. The Dean also sends information to HBCUs, Hispanic Serving Institutions and Tribal Colleges.

I.1.4 Defining Perspectives

I.1.4A Collaboration and Leadership.

The University of Pennsylvania and the School of Design, located in West Philadelphia, provide a rich and distinctive academic environment appropriate for an education in architecture. We promote student initiatives such as COLLAB, the student-led organization that explores Design-Build projects as part of the annual exhibition of student work. The students are self–organized in sourcing material and financial resources, and consult directly with faculty to ensure appropriate and safe execution. They also extend outside of the campus and interact with the community by building seats and planters on the sidewalk and structures such as bicycle sheds, to help enhance the urban landscape.

The department integrates students as leaders in the academic environment. Students participate directly in the affairs of the Department in two ways: service on faculty search committees and participation in the PennDesign Student Council. The Student Council has a leadership group of 25 students from across the

school. Studio representatives meet regularly with the Chair, the Studio Coordinators, and the faculty to discuss pedagogical and studio life issues.

Students also serve on the Department's Lecture and Events committee, which identifies, invites, organizes, and hosts lecturers from all over the world. The committee is chaired by a faculty member, but is otherwise managed by students, who gain direct experience of architects and scholars of many different kinds.

As an international school we also encourage our diverse student body to collaborate in teams, leading events and coordinating gatherings. Since 2006, PennDesign has supported a Black Student Alliance, which has matriculated in an alliance integrating Asian, Latin, Black, and LGBT organizations, now named *Diverse Design*. The representatives meet regularly with the school and departmental leadership, and have organized a series of events to assist in the recruiting of minority students and to explore issues related to their experiences in the school and professional communities. Diverse Design Mission Statement is: "it's not design until it's diverse". Diverse Design is a student group dedicated to enriching the diversity of perspectives of potential and practicing designers here at Penn and outside our internal community. Their mission is to "Seek to engage Penn Design, Penn's Campus and the greater Philadelphia Community, to encourage new perspectives to grow within the field, to combat the inequalities that still exist within our profession, and consequently the built environments around the world". http://www.design.upenn.edu/diverse-design

Recent events include the Justice + Space panel event in April 2015 and the *Demystifying the Design Professions*, an annual Fall Open house event held each November. *Demystifying Design professions* holds a diversity panel instigating discussions amongst students, as well as having various culturally oriented events such as celebrating the lunar new year, Bollywood, Latino and Asian happy hours, open discussions on race, gender and equality in the professional and academic world, and hosting several other events raging from social gatherings to honoring or following national developments in racial, cultural and political realms that affect the lives of all students.

I.1.4B Design.
Design as a multidimensional process has been the cornerstone of our recent and long term planning. Understanding the practice as both a practical, technical, cultural and now a mostly digital set of platforms, has been the underlying strategy in improving and updating courses such as Professional Practice, Visual Studies and integrating Visual Studies in Design Studios. We also aligned the History and Theory courses with the Design curriculum. Penn's Architecture Department uses the term Design-Research, understanding research as design and design as always integrating research. New opportunities are found in emerging fields of technology, resilience, and social networks such as bottom up urban strategies. Extensive new 3D printing facilities as well as 3Dd printers in studio are a crucial step forward in design evolutionary thinking, prototyping, and execution.

I.1.4C Professional Opportunities.
Professional opportunities are fully explored in the summer internships the students engage in, but also in the feedback from those students' experiences in the design studio and professional practice course. Architecture is a profession governed by laws that protect the health, safety, and welfare of the public. The fundamental subjects of study in the Department include design, representation, technology and theory. Considerations of health and public welfare are incorporated into the educational objectives of the Department's design studios and courses. The procedures of the Intern Development Program (IDP) are explained in the professional practice courses.

The Professional Degree Program in architecture is a critical stage of preparation for a career in architecture. The principles that form the backbone of architectural practice, as well as provide a foundation for continuing self development, are emphasized throughout the program's curriculum. From

the Department's foundation studio, to the research studios, the Department prepares students who have an ethical responsibility to society, their clients and colleagues. Those topics are addressed explicitly in a series of professional practice courses that seek to understand different kinds of practices, and practitioners, and the ethical and business reasons for those differences.

Career Day, an initiative of the University as a whole, is an important tool to bring the architectural practices to the school and offer them an opportunity to directly engage with the students. This often results directly in job offers and internships.

I.1.4D Stewardship of the Environment.
With today's diminishing resources, architects must contemplate difficult questions concerning architecture. New courses and Design Studio's relating directly to issues such as resiliency planning, technological innovation, and sustainability studies are implemented in the Core as well as in advanced elective seminars, many of which are cross-program. Students are expected to develop a critical understanding of the relationship between design and the fulfillment of human needs and ecological and natural challenges. Courses such as Environmental systems I & II are directly involved in computational analysis of the environment and integrating active and passive technological systems that mediate the human environment responsibly.

I.1.4E Community and Social Planning.
The students are encouraged to broaden their knowledge and understanding of human behavior and the global environment, and take responsibility in taking direct action. Initiatives such as *Idea Days*, ask that the students interact directly with the city, its inhabitants and offer direct interaction, built solutions and social initiatives. Directly after the event, the students received great feedback from the several schools and neighborhoods that the students interacted with, who were extremely impressed with the work the students implemented in just a few days. Professional Practice educates the students in ethics both professionally and as citizens engaging society.

I.1.5 Long Range Planning
A. The program identifies its objectives for student learning by understanding that the drastic change of the profession is directly related to and the basis for the way we are updating the curriculum for Master education at PennDesign over the recent years. The re-evaluation of all core courses and the recent improvements are just the beginning of the long-term plan that was developed. Over the next few years a new team of faculty will be hired to develop an educational plan involving a robotic laboratory. We are also actively working on stronger ties to innovative manufacturers and city leaders, to allow students a more direct influence with the "real" world. This update and change also resulted in the higher ranking we received from *DesignIntelligence, who* on behalf of the Design Futures Council - raised PennDesign Department of Architecture from the 14th spot to the 7th spot in the ranking of "America's Best Architecture & Design Schools for 2015". Over 1,400 professional practice organizations were surveyed and asked to respond to the question, "In your firm's hiring experience in the past five years, which of the following schools are best preparing students for success in the profession?" This rather large jump in ranking happened in just one short year. You can find more here: http://www.di.net/articles/americas-best-architecture-schools-2015/. Furthermore we were honored that *DesignIntelligence* also ranked both The Chair of the Architecture Department and PennDesign's Dean as among the 30 most admired educators in 2015.

B. The feedback from both our alumni and the architectural practices hiring our students is crucial in informing the development and revision of several courses and their implementation. We implemented our observations of the changing architectural practice, through a complete overhaul of the Professional practice courses. [Phillip Ryan is the new coordinator], and tied it to current professional practice topics.

C. From 2013 – 2015 the goals were set at improving and updating architectural cultural understanding

through the update and adaptation of the History / Theory courses [with Joan Ockman and Daniel Barber], and the Critical Theory course [with Danielle Fabricius]. Our Visual Studies courses were reviewed and received an updated advanced digital curriculum, which is directly related to the studio subjects, thus making sure that our students graduate with a full knowledge of all digital platforms and a thorough understanding of architectural representation and prototyping. This was further enhanced by placing 3D printers directly in studio, something that allows students to real-time test their digital designs.

D. Our long-range plan is leading to the establishment of the PennDesign Advanced Technology Center, which will be a cross-school program exploring new forms of research, fabrication, field experimentation and innovative design. Winka Dubbeldam, as the founding director of this institute, is responsible for the development of a robotic lab and the concurrent education plan that underlies its mission. A search for a new faculty position is underway. We are also aware that the rapid changes in both the architectural practice and rapid changing technologies demand a flexible attitude towards a constant rethinking and adaptation of curricular content.

E. In our long range planning the five perspectives are opportunities, integrated to help excel and educate our students as independent thinkers who are pro-active and intelligent future professionals ready to lead. Therefore we plan to further elaborate the integration of the student body as leaders in the academic environment. Students not only participate directly in the affairs of the Department and participate in the PennDesign Student Council, but also take lead in Design-Build projects such as the new initiative for the annual pavilion project to be built in selected national locations. Another crucial step in Design evolution over the long range is a further development of Penn's architecture Department Design-Research concept, into not only 3D printing but also further evolving it into robotic design, production technologies, and design evolutionary thinking and execution. Even more relevant are new opportunities found in the emerging fields of new technologies, material science, resilience, ecology, and social networks, such as bottom up urban strategies.

The future practical experiences of our students as defined by the IDP are explained not only in the professional practice courses, but also in separate sessions with professionals and separate lectures focusing on licensure, employment opportunities and new ways to represent the work to future employers. We have integrated a portfolio workshop, and plan to integrate portfolio reviews and portfolio awards for our graduating students.

As our students and faculty are more and more aware of the challenging ecological and natural environmental resource constraints, we are bringing international experts to join us for lectures, and conferences on these issues as well as teach our student body to be pro-active and aware in designing solutions for those issues. This relates directly to the issue of social responsibility; our students are educated to not only design buildings, but are also trained to analyze and develop protocols for resilience studies, and plans for urban developments on a very large scale.

I.1.6 Assessment

I.1.6A Program Self - Assessment

A - The architecture program has grown and developed considerably since the 2010 accreditation visit, with a number of shifts in the student population [growth and diversity], additions to the faculty, curricular changes, and the development of new research units. A narrative assessment of those changes is provided below, as well as an overview of the opportunities and challenges we encountered.

Mission - The Program is moving toward achieving its objectives and is continuously and regularly assessed through solid feedback mechanisms. Through regular semester coordinator meetings and monthly faculty meetings, the curriculum is evaluated and changes proposed, and by hiring young advanced experts in the different fields, we have made sure that our curriculum is at the forefront of the profession. Communication with students is greatly improved and the system put in place has proven

highly effective and is well maintained. The students feel empowered to contact the chair and associate chair directly and function well and independently as a team of student representatives.

Challenges are found in our usable review and exhibition space and the limited classrooms: architecture education requires a lot of space per student. The extension now proposed is a crucial and critical need to be able to create the educational experiences we aim for. Phase 1 of the Facilities Master Plan being implemented by the Dean and the School has alleviated many space constraints but is the first step in expanding our facility capacity to meet future needs.

We have improvised and effectively overlapped certain courses and studio hours in order to not only better integrate courses and design studios but to optimize extensive space use. We also increased the amount of faculty in order to maintain a direct student / faculty relationship and quality education.

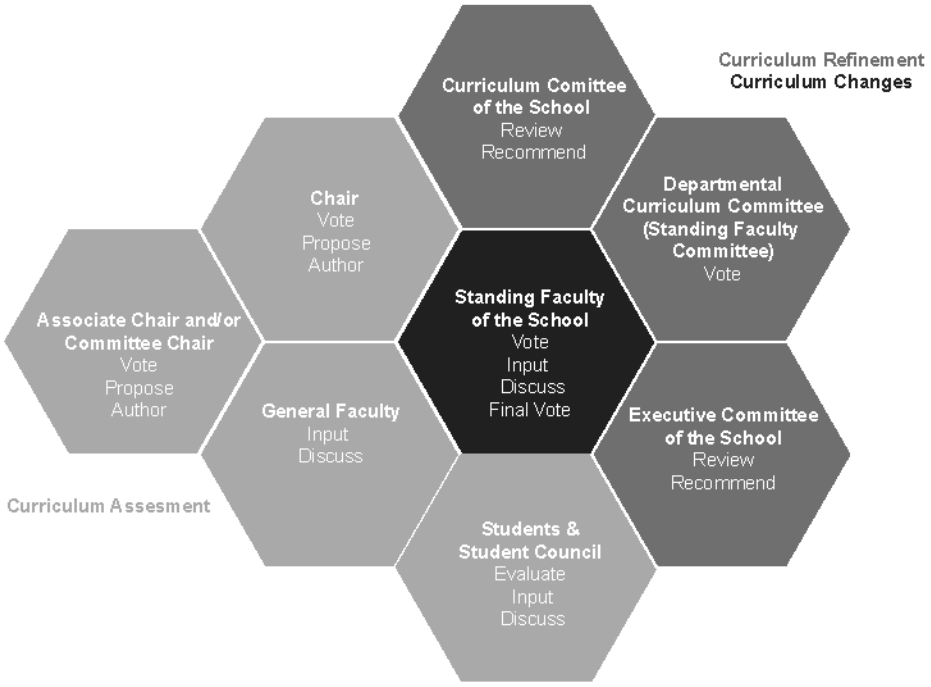


Fig. I.1.6.1 A chart identifying all the parties in the curricular assessment process, their membership (if necessary), and the roles and responsibilities of each.

I.1.6B Curricular Assessment and Development

Design Studios. The required studio sequence has settled into a new pattern, with two semester of **Foundation Studio**, moving from the topics of component order and assembly of ARCH 501 into a direct encounter with urban conditions and complex programmatic demands of ARCH 502. That is followed by two semesters of **Core Studio**, moving from the topics of housing organization and inhabitation of ARCH 601 into ARCH 602, with its emphasis on collaboration with experts and integration of technologies in design.

Since 2010 we have fully revamped the digital design studios and made them integral to 3D computer design and fabrication, by linking visual studies directly to the design studio content and introducing 3D printers directly in studio, allowing for direct prototyping of the student's design. We further evolved the digital design education by introducing a summer workshop called Digiblast, which helps the first year students to integrate in the first 501 semester more fluidly.

A half-scale pavilion project was introduced, teaching the students not only to work in teams, but also through the design and assembly of components to learn how to built large structures, using contemporary means of digital design and production. As a result of the introduction of digital design into ARCH 501 and ARCH 502, the Visual Studies sequence was also completely rewritten and adjusted, and better integrated in the design studios.

Hina Jamelle was appointed coordinator for the ARCH 601 housing studio, which she further developed into an advanced urban housing studio. This has proven an effective and provocative learning tool. Arch ARCH 601 is more explicitly focused on high density urban dwelling, allowing it to engage in the overall resolution of a more complex urban building, and the detailed resolution of individual units and the aggregation of these units.

The continuous development of our successful ARCH 602 Integrative technology design studio was refocused on also integrating ecology, which has been a growing expertise within the program. Currently we are further developing this semester by adding robotic technology and robotic fabrication, now coordinated by professor Simon Kim. We continued the integration of technology and team expertise by inviting multiple external consultants. The studio further developed the analysis by integrating building technologies, through the demonstration of comprehensive sections and 3D assemblies. Teamwork has proven greatly effective making collaborative design a key aspect of the studio and allowing greater resolution of the designs.

In the upper-level, **Design-Research Studios**, ARCH 701 and ARCH 704, we have been exploring the design-research concept as intrinsically linked and ultimately inseparable. In ARCH 701 large urban architectures are studied in urban settings, furthering what was started on a much smaller scale in ARCH 502. Currently in ARCH 704 the agendas of the studios are deepened and extended by linking them in **Topical Units** with preceding or parallel courses or with faculty research units. For example, students are encouraged to take the fall seminar, Form and Algorithm, in preparation for Balmond's spring studio. Similarly, connections were established between the Kieran Timberlake studio focused on Bangladesh and a seminar on Asia, and Paul Preisner's urban studio and urban seminar.

Technology. The formal structure of the technology sequence has remained constant since 2010, with the 3 course streams of structures, construction, and environmental systems (ARCH 531-536) converging in case studies (ARCH 631) and then branching into specialties in the designate electives (ARCH 632 & 638). However, considerable effort has been devoted to the introduction of digital simulation techniques in that sequence, with initial sessions in the first year courses converging in dedicated sessions in ARCH 631, and then studio based sessions in ARCH 602. The technology faculty has identified two challenges for the sequence, the first is the busyness of the first year, which seems only to increase as new requirements or ambitions are added. The second was highlighted by the difficulties encountered with the enhancement of simulation techniques. The discrete nature of the three technology courses seems at odds with the increasingly integrated demands on the profession and even with the synthetic understanding required for meaningful simulation studies and design generally. We have now formed a

technology workgroup, focused on relieving pressure in the first semester and better distributing the workload over the Core, whole keeping the level of the education the same. Professor Bill Braham spearheads this effort.

History-Theory. The sequence of required courses in history-theory was recently completely updated by introducing a more critical overview of recent design ideologies and their direct influence on implementation in architectures and urban environments. ARCH 511 has focused more fully on the early history taught by highly acclaimed professor Joan Ockman, and was developed to help articulate and make evident the historical and theoretical basis for the new design techniques, this series runs from 1850 - 1945.

ARCH 512 continues on from 1945 – now. It focuses more on the city and ecological implications of modernism. ARCH 611 covers contemporary theories and their historical roots. This has drastically improved on the earlier courses where the faculty believed that students were not as versed in either historical or theoretical topics. We also further broadened the student's capacity to understand and argue their thinking by inviting important critical theorists and writers to participate in our lecture series and conferences. We also greatly expended the elective theory series, making sure that this is an integral part of a continuous learning process

Professional Practice. Since 2010, there has been a drastic curriculum change and staffing change in the professional practice courses, especially as we completely reorganized the ARCH 671 and ARCH 672 courses. A new coordinator was hired to help rewrite the updated sequence and to get it more critically connected to different kinds of firms and to bring practitioners directly into the classrooms. This was also coordinated to some degree with the offerings of Career Services, who have increasingly brought alumni practitioners to speak to graduating students. That convergence has raised the possibility of a formal internship requirement in the professional degree program, which would enable more direct links between professional practice courses, career services, and work in the profession.

Dual-Degrees and Certificates. The number of students participating in certificates and dual degree programs, especially with the Landscape program, regularly constitutes about 20% of the department. The freedom of students to use their electives across department and school boundaries has also enhanced their ability to pursue certificates, and 15% of students now also pursue certificates.

Certificate in Ecological Architecture. In 2007, the faculty voted to approve a new certificate program in Ecological Architecture, and it was made available in the 2007-08 school year, with 12 students accepted in the first year. In the School of Design, certificates require 5 CUs of courses not otherwise required for the degree. The certificate has two required courses, one of which was offered specifically for the certificate and a selection of elective courses from other departments and schools in the University. The success of the certificate has led to the development of a new Master program, the Masters of Environmental Building Design. Both programs are directed by William Braham.

Integrated Product Design. Beginning in Fall 2008, the Department began supporting a new, one-year, jointly offered MSE degree program in Integrated Product Design. It is offered jointly with the School of Engineering and Applied Science (SEAS) and the Wharton School of Business. The Architecture department provides the design courses for the program, and has mounted three new courses to support the initiative, ARCH 403, Design Fundamentals, ARCH 728/729, Design of Contemporary Products, and ARCH 727, Industrial Design. The degree can be achieved by students in the MArch, with one additional semester of study. Two MArch students are currently pursuing the combined degree.

Students and Admissions. Since the last accreditation review, the average number of applicants has increased to a very high number after a few years of reduced numbers. The quality of the students has also improved, with the recent rise in applicants who have undergraduate degrees in architecture. Currently between 60% and 70% of the students entering the first year of the MArch had undergraduate majors in architecture. The addition of summer workshops and increased undergraduate skills, especially studio skills has continued to reduce the technical training required in the 500 studios.

The program has increased the numbers of under-represented minority students, especially among Latinos, but has struggled to increase the number of Black students. The newly developed 3 diversity scholarships have been used almost exclusively to attract talented Black students to the program, but even with full scholarships, we are competing with other schools for a small pool of students. More effort needs to be devoted to developing relationships with schools outside Penn's traditional relationships.

Faculty

The faculty has also grown since the last visit. Cecil Balmond of Arup was reappointed as a Practice Professor in 2014. He has taught a seminar and a studio each year. Thom Mayne was appointed as the Cret Chair and Practice Professor in 2015, and started this fall. Daniel Barber was hired in 2012 as a tenure track Assistant professor and was recently reappointed. Andrew Saunders was hired in 2014 as a tenure track Assistant Professor.

In 2009, the Miller chair was converted to support visiting faculty, and will be used to support the appointment of Tom Wiscombe to teach an ARCH 704 design studio in the 2015-16 academic year.

Since the last accreditation visit, Franca Trubiano was re-appointed and continues to teach in the area of construction and integrated practice. Simon Kim was also re-appointed and has further evolved his research in robotics and was this year appointed as the 602 coordinator for the integrative design studio.

With the latest developments the Department has shrunken to a standing faculty of 12. We are fully aware we need to grow the standing faculty in the short and long term, and are currently in a search for an advanced technology position. We hope to add 2 more standing faculty within the next year.

Research Units

Bill Braham, Associate Professor at the architecture department, is currently the Director of the **TC Chan Center for Building Simulation and Energy Studies** and developed into a large research and consulting unit with a growing staff. Braham also directs the MEBD post-graduate program at the architecture department. See: www.design.upenn.edu/bses/intro.swf. The success of the Chan center has contributed to the MArch program in a number of ways. Most immediately it has provided a source of summer and part time jobs for many MArch students interested in extending their environmental expertise. It has also increased the expertise available for courses and studios in this area, and has grown symbiotically with the development of the certificate in ecological architecture. As was originally planned this continues to be a growing strength of the program.

The Kleinman Center of Energy Policy, directed by Mark Allen Hughes, was established at PennDesign with a $10 million five-year term gift from Scott, C'94, W'94, and Wendy Kleinman. Launched in Fall 2014, the Center seeks to advance energy productivity by reframing the relationship between research and practice in support of policy innovation.

The Kleinman Center for Energy Policy will focus on overcoming persistent barriers to energy productivity in order to construct energy policy options that provide fairness for stakeholders, reliability for investors, and opportunity for innovators. It will provide a forum that brings together eminent scholars and multiple stakeholders in a collegial and productive environment that generates tangible progress on energy policy. At the same time, it will expand the engagement of faculty and students through distinguished guests, visiting fellows, lectures, courses, internships, and research support.

It is overseen by Mark Alan Hughes Hughes, an IUR fellow, Professor of Practice at PennDesign, and former Chief Policy Adviser to Philadelphia's Mayor Michael A. Nutter, with a focus on "collective intelligence" in which research is one of several contributors to improving practice.

Facilities

The School has invested in a design for an extensive extension of Meyerson, and has undergone significant transformation over the last 3 years. The PennDesign Master Facilities Plan is included in the Supplemental Materials to this report.

Outreach and Promotion

The Department experienced a period of visible growth and innovation under the leadership of Chair Winka Dubbeldam, achieving a higher profile and broader level of awareness. The Department hired the NYC office WSDIA to help rethink and develop the branding for a new annual department publication. The publication; Pressing Matters II, III and most recently IV, features recent student work, news, important symposia and lectures, and special articles on student initiatives such as the "YES pavilion", a wonderful smart structure designed by our first year students under guidance of Professors Daniele Willems and Ezio Blasetti, and executed and build by a collaboration of 500, 600 and 700 students under the guidance of Professor Mohamad Al Khayer. We are also happy to welcome Andrew Saunders, who after an intense search was invited to join us at the Department, and who immediately took on the coordination of both the first year ARCH 501 studio and the construction of the YES pavilion.

In our lecture series we have looked a bit deeper into the subject of OOO Object Oriented Ontology with a lecture by Graham Harman, which subsequently led to collaboration with Syracuse's Dean Michael Speaks and resulted also in a day long symposium and great discussion in NYC around the same subject. These conversations are a continuation of many of the subjects we had started to discuss in the "The New Normal, Experiments in Contemporary Generative Design," a conference we held at PennDesign in 2013. Last spring, Penn's focus on Design-Research was also going strong with lectures by David Benjamin, Antoine Picon, and Florian Idenburg to name a few, details can be found at: http://www.design.upenn.edu/architecture/graduate/events. Visiting studio critics this past year included internationally renowned architects such as: Neil Denari, Tom Wiscombe (both from LA), Michel Rojkind from Mexico City, and Laura Baird and Reinier de Graaf of OMA & AMO from Rotterdam, The Netherlands.

Last Fall the Architecture Department of PennDesign was invited by the ACSA's president elect Ming Fung, to host the ACSA's Administrator's conference "*EXPANSE, architecture in an expanded field"*, where Winka Dubbeldam, the Department Chair, was joined by Nader Teherani to co-chair, run and moderate the conference sessions. We greatly enjoyed having the ACSA as our guest and look forward to future collaborations.

Conclusion

The program has grown and prospered over the last five years, increasing its applicant pool, becoming more and more international, adding to the faculty, expanding the range of degrees and certificates, and adding or intensifying research units.

The curriculum has been steadily adjusted to adapt to changes from within and from without of the program, but more remains to be done. Following a preliminary review in 2008-09 the faculty had identified three areas of the curriculum that needed review: History-theory, Visual studies and Design Techniques, and Technology and Simulation, we have completely reorganized those areas successfully. In each area the content and sequencing was thoroughly reviewed, and the coordination and integration with the studio sequence implemented. This process was reviewed thoroughly again in 2013 and these courses have gone through another refinement and revision process in order to keep them technically and topically up to date.

From the broadest perspective, the challenges from within and without seem to lead toward integration of various kinds, which challenge the conventional division of subjects. The design studio remains the exemplary site of integration and problem-based-learning, while subjects like Visual Studies and Performance Simulation are converging and collapsing the distinctions between older categories. Our largest challenge remains the capacity limits of Meyerson Hall's existing studios, meeting and review spaces, the limited space for 3D printing Lab and the recent spurt of growth the department has experienced.

Section 2. Progress since the Previous Visit

2.1 Summary of Responses to the Team Findings

The Visiting Team Report of 2010 identified the following deficiencies. Our progress since this report is discussed with respect to each numbered item.

2.1.1. Responses to Conditions Not Met

Item 13.9 Non-Western Traditions

Understanding of parallel and divergent canons and traditions of architecture and urban design in the non-Western world

Visiting Team Report [2010]: The criterion is not met. Though the team appreciates the broader global view offered throughout the curriculum, there is not sufficient evidence found in required coursework to satisfy that an understanding of the non-Western traditions of architecture and urban design is expected from all students.

Program Activities in Response [2010-2015]:

Modifications to Core History and Theory Courses (first year)
Joan Ockman
ARCH 511, Architecture Culture 1851-1951" (fall)
ARCH 512, Architecture Culture 1951-2001" (spring)
Both courses emphasize international, transnational, and global developments in the evolution of modern architecture. Issues of national and regional identity, cross-cultural influence, technological transfer, etc. are explored. Students may choose non-Western case studies for their in-class presentation. They may also choose to address non-Western traditions as the topic of their term paper. The textbook used in both courses is Jean Louis Cohen, *The Future of Architecture since 1889*, the first truly comprehensive global history of modern architecture.

Modifications to Core History and Theory Course II (first year - spring)
Daniel Barber
ARCH 512, Experimental and Ecological Architecture
This course covers the history of modern architecture from World War II to the 1980s. A number of global issues are discussed, as are specific episodes of non-western architecture including but not limited to: the Metabolist movement in Japan; the tension between traditional and modern practices in Brazil, West Africa, and Indonesia; the importance of China in the architecture of the past few decades.

Modifications to Core History and Theory Course III (second year – fall)
Daniel Barber
ARCH 611, Global Architectural Discourse Colloquium
This course is run as a colloquium with invited guests sharing their expertise in contemporary theoretical issues with the students. The course is global in its reach, including recent visits exploring the dynamics of air conditioned space in Singapore (Jiat-Hwee Chang, National University of Singapore); the role of design in disaster relief and refugee camps in Africa and the Indian Subcontinent (Anooradha Iyer Siddiqi, Bryn Mawr College); the history of “self-help” and other informal design strategies in Venezuela (Helen Gyger, UPenn HUD Fellow) and the expansion of alternative models of architectural pedagogy across the global south (Evangelos Kostorious, Princeton). Students are also encouraged to discuss non-western topics in their semester long project, which involves mapping the global scope of architectural discourse.

New Elective Seminar
Ariel Genadt
ARCH 711-005, Modern Architecture in Japan
This seminar explores the diversity of forms and meanings that modern architecture took on in Japan since its industrialization in the 19th century. With this focus, it opens up wider questions on the capacity of construction, materials and their assembly to express and represent cultural, aesthetic, climatic and social concerns. Rather than an exhaustive chronological survey, the course demonstrates salient topics and milestones in the country's recent architectural history, and places them in contexts of parallel practices in the world. It examines drawings, images, texts and films on architects whose work and words were emblematic of each topic.

Item 13.14 Accessibility

Ability to design both site and building to accommodate individuals with varying physical abilities.

Visiting Team Report [2010]: The criterion is not met. Though there is an attempt to integrate aspects of accessibility within design presentations, there remains insufficient evidence to indicate the ability level for use of accessibility standards in both building and site design.

Program Activities in Response [2010-2015]:

Modifications to Core Design Studio (second year – fall)
Coordinator – Hina Jamelle
ARCH 601 – Urban Housing Design Studio
The following requirements were instituted into the 601 Urban Housing Methodology:

- *1/16" Building Floor Plans Showing Housing Unit Variation. Detailed to Include Building Services, Elevators, Emergency Stairs, and Door Swings.*
- *1/8" Housing Unit Detail Plans. One unit detailed to include Accessibility Requirements.*
- *Building Circulation Diagram [Including Life Safety Routes].*

Modifications to Core Design Studio (first year – fall)
Coordinator – Andrew Saunders
ARCH 501 – Design Studio I

In 501, students are introduced to basic ideas of circulation through the 6-week design of a small gallery. Faculty members discuss fundamental rules regarding access including ramping and stairs as per code requirements. Site-design integrates parking facilities.

Item 13.20 Life-Safety

Understanding of the basic principles of life-safety systems with an emphasis on egress.

Visiting Team Report [2010]: This criterion is not met. There is not sufficient evidence of an understanding of the principles of life safety particularly with insufficient and incorrect representation in cumulative core studio work. This subject is also not addressed in detail in either lecture or technology course work.

Program Activities in Response [2010-2015]:

Modifications to Core Design Studio (first year – fall)
Coordinator – Andrew Saunders
ARCH 501 – Design Studio I

In 501, students are introduced to basic ideas of circulation through the 6-week design of a small gallery in which fundamental rules regarding egress and life safety are discussed.

Core Construction Technology II Course (first year - spring)

Philip Ryan
Modifications to ARCH 532 Construction II

Using the International Building Code as a departure point, this lecture introduces students to fundamental concepts related to the design and construction of a structure that meets life safety code requirements. The lecture covers the following code subject:

1. Determining Building Use and Occupancy Classification and evaluating unique, but relevant circumstances (atriums, high-hazard)
2. Types of Construction (steel, wood, concrete)
3. Working with zoning, building area and height limitations
4. Rated Construction and Material characteristics
5. Calculating occupant load, egress locations and path, and egress size and quantity
6. Meeting accessibility requirements
7. Evaluating elevator size and use
8. Managing exterior wall design in relation to code requirements along lot lines and adjacent to buildings

This lecture engages concepts discussed in the fire protection and fire alarm system lecture as well.

2.1.2. Responses to Causes of Concern

Item 5.1

Visiting Team Report [2010]: Student success and performance may at times be compromised by a lack of communication and coordination among faculty and lecturers regarding coursework expectations and deadlines.

Program Activities in Response [2010-2015]:

In collaboration with Core studio coordinators (ARCH 501 and 502), faculty who teach core courses in technology and theory share, revise, and coordinate their class schedules to ensure a minimum number of work related conflicts during the semester. In addition, each studio section is asked to identify a class representative who is tasked with sharing studio wide concerns with faculty and lecturers. Students with more individual questions have access to an assigned academic advisor throughout their three years in the program. And PennDesign has appointed a new Associate Director of Student Affairs who actively helps the department coordinate student activities and scheduling issues.

Item 5.2

Visiting Team Report [2010]: The pressures of enrollment growth may result in life safety and accessibility issues in the existing facility.

Program Activities in Response [2010-2015]:

Since the capital projects renovation project of Meyerson Hall began in 2012, initiated by the Dean's Office at Penn DESIGN, the physical environment of design studios has been drastically reconfigured and improved. Over the past three years, all architecture studio spaces have been renovated introducing increased levels of technology and opening up the spatial experience of studio. Removing vertical dividers from works spaces and introducing greater flexibility of movement has greatly improved communication amongst students and faculty.

Building security has been expanded and ameliorated with new card access limiting entry to studio floors, to card carrying students and faculty only.

During the past summer, as a part of a University wide Century Bond project, the building's entire antiquated HVAC system has been removed and replaced for greater comfort and energy efficiency.

And in order to accommodate the pressures of growing enrollment, the post-professional program in architecture (now the MSD – AAD) has been moved outside of Meyerson Hall, with the result being that more space has been allocated in the building for the Masters of Architecture program. This has enabled greater working flexibility for our third year students.

Item 5.3

Visiting Team Report [2010]: Students and faculty expressed critical concern regarding the spatial capacity of the existing facility in particular, studio/presentation space, fabrication labs and faculty office space.

Facilities Actions in Response [2010-2015]:

The PennDesign Director of Facilities and Operations has worked closely with the University office of Facilities and Real Estate (FRES) to eliminate the use of egress paths for temporary storage of cleaning materials and excess furniture.

Program Activities in Response [2010-2015]:

As previously mentioned, extensive renovations have been undertaken on all six floors of Meyerson Hall. This has greatly improved the spatial capacity of the existing facility, particularly the studio spaces.

In 2011, **renovations to the Lower Gallery** significantly transformed this review space to make it more flexible and adaptable to the needs of studios and school wide lectures.

In addition to the already existing digital fabrication resources located on the top floor of Meyerson Hall, all studios are now fitted out with **multiple in-studio Maker Bots** for additive printing/manufacturing since 2013. These extensive resources are supervised and maintained by a student graduate from the architecture program who in turn supervises a series of student technical representatives who ensure fair use and operations of the equipment.

Studios on the second, third and fourth floors have been fitted out with i**ndividual digital projection technology** for use by each of the studio sections. The studio modules allow multiple desk and working space arrangements, at the direction of each studio leader and student.

Since last spring, the Architecture Department has gained access to off site fabrication capacity. **South Bank facilities** expanded PennDesign's workspace for the fabrication and assembly of structure and components for the design and installation of a full-scale pavilion, installed on Penn's campus during summer 2015. The facilities offer three large workspaces, which have been equipped with large heavy-duty metal presses for the folding of light gauge aluminum panels. Students built and tested physical models that simulated the actual pavilion before turning to lightweight materials to fabricate the pavilion's components, including structural members, panels and joints required for the pavilion's superstructure and envelope.

And lastly, the Architecture Department has developed a proposal for a three-year integrated plan to **introduce Robotic Fabrication** to PennDesign in order to open a new arena of design research and scholarship for its faculty and students. In addition to augmenting traditional subtractive techniques including laser cutting and milling, robotic arms open PennDesign to more contemporary automated modes of additive and formative manufacturing including, but not limited to bending, folding, 3D printing and deposition, composite material filament winding, 3D scanning, real-time sensing and much more. Access to robotic arm technology will enable designers to develop unique routines and customize material manipulation and transformation through an endless range of end effectors.

2.2 Summary of Responses to Changes in the NAAB Conditions

Due to the changes in the conditions and SPC, the Architecture Department has taken a variety of approaches and responses to respond to these changes. The most significant change in Student Performance Criteria has been a focus on Realm C, and is in line with the revision of the second year studio curriculum and technical required courses to be more focused and explicit regarding integrating design, research, technology, and code compliancy into the studio projects. The technical courses of Construction and Environmental Systems have focused on design integration and innovation that can directly contribute to the work the students are producing in studio.

Other responses have sought to find more focused and integrated relationships in both the History and Theory and Visual Studies curriculum. These changes reflect a more direct approach to research, investigation and design representation. These courses have significantly evolved since the last teams visit in 2010.

A new strategy was set forth in the past five years for Long-Range Planning and a vision of curricular refinement, as well as strategic planning for the renovation of facilities and the development of student government and representation as part of a larger Studio Culture Policy. The plan has already begun, starting with the replacement of the Post-Professional Degree with a Masters of Science in Design (MSD), along with curricular refinement of Professional Practice courses to ensure students have a better understanding of their own career planning for academic and professional development.

Student representation and communication with faculty has been developed both in response to concerns and changes in conditions. Student government and studio representatives serve to engage the faculty in regular meetings, and can communicate on a variety of issues and concerns at any time with studio coordinators and the administrative office. The establishment of the studio representative gives a more established framework for communicating student interests and issues in a more direct and organized manner to ensure more direct and stronger communication with faculty.

Section 3. Compliance with the Conditions for Accreditation

I.2.1 Human Resources and Human Resource Development

I.2.1A A resume, using the required template, for each full-time member of the instructional faculty who teaches in the professional degree program.

The standing faculty shown here and our lectures resumes are also included in the supplemental material available at the link on the last page of this report in Section 4 Supplemental Material.

Name: Daniel Barber
Assistant Professor and Associate Chair

Courses Taught (Four semesters prior to current visit):

Spring 2015	ARCH 512 – History and Theory II
	ARCH 712 – Cultural Ecology
Fall 2014	ARCH 611 – History and Theory III
Spring 2014	ARCH 638 – Mechanisms for Design

Educational Credentials:

2010	PhD Architecture (History and Theory), Columbia University
2005	Master of Environmental Design, Yale University
2000	MFA Studio Art, Mills College

Teaching Experience:

2012-present	Assistant Professor and Associate Char, University of Pennsylvania Department of Architecture
2011-2012	Term Assistant Professor of Architecture, Barnard College
2010-2011	Ziff Environmental Fellow, Harvard University Center for the Environment and Graduate School of Design

Professional Experience:

Licenses/Registration:

Selected Publications and Recent Research:

Forthcoming	*Architecture and the Environmental Imaginary* in Jon Christensen, Ursula Heise, and Michelle Niemann, eds., *The Routledge Companion to the Environmental Humanities* (New York: Routledge, 2016).
Forthcoming	*Energy Accounts: Architectural Representations of Energy, Climate and the Future*, Braham, Muramoto and Willis, editors (New York: Routledge, 2016.)
	Measuring Machines: Architecture, Media and Climate in the 1950s in *Architecture/ Machine: Programs, Processes, and Performances* (eth Verlag, 2016).
2014	*Tomorrow's House: Solar Housing in 1940s America* in *Technology and Culture,* vol. 55, no. 1 (February 2014): 1---39.
2013	*The World Solar Energy Project, ca. 1954* in *Grey Room* 51 (Spring, 2013), 64---93.
	Experimental Dwellings: Modern Architecture and Environmental Research at the MIT Solar Energy Fund, 1938---1963 in Dutta, ed., *A Second Modernism: MIT, Architecture, and the Technosocial Moment* (Cambridge: MIT Press, 2013): 252---285.
	Visualizing Renewable Resources in William Braham and Dan Willis, editors, *Architecture and Energy: Performance and Style* (New York: Routledge, 2013): 256---279.

Professional Memberships:

Name: William Braham
Professor of Architecture

Courses Taught (Four semesters prior to current visit):

Fall 2015	ARCH 751 – Ecology, Technology & Design
Spring 2015	ARCH 534 – Environmental Systems II
	ARCH 708 – MEBD Design Studio
Fall 2014	ARCH 751 – Ecology, Technology & Design
Spring 2014	ARCH 534 Environmental Systems II

Educational Credentials:

1995	Ph.D. Architecture, University of Pennsylvania
1983	Master of Architecture, University of Pennsylvania
1979	B.S.E. Civil & Environmental Engineering, Magna Cum Laude, Princeton University

Teaching Experience:

2015-present	Professor of Architecture, University of Pennsylvania
2010-present	Director Master of Environmental Building Design, University of Pennsylvania
2008-2011	Interim Chair, Architecture, University of Pennsylvania
2001	Associate Professor, Architecture, University of Pennsylvania
1995	Assistant Professor, Architecture, University of Pennsylvania

Professional Experience:

2001-1995	Design Consultant, Ivalo & Lutron Electronics
1983-1989	Principal, Studio Luxe, Architecture and Illumination
1978-80	Associate, Buttrick White & Burtis Architects, NY
	Princeton Energy Group/Harrison Fraker Architects

Licenses/Registration:

1985-present	Registered Architect, PA, NY, NCARB

Selected Publications and Recent Research:

2016	*Energy Accounts: Architectural Representations of Energy and Climate,* Co-Editor
2015	*Architecture and Systems Ecology: Thermodynamic Principles for Environmental Building Design*
2013	*Architecture and Energy: Performance, and Design.* Co-Editor.
2006	*Rethinking Technology: A Reader in Architectural Theory.* Co-Editor.
2001	*Modern Color/Modern Architecture: Amédée Ozenfant and the genealogy of color in modern architecture*

Professional Memberships:

1985	American Institute of Architects, Fellow (2006)
2003	American Society of Heating, Refrigeration, and Air-conditioning Engineers (ASHRAE)
1992	Society of Building Science Educators (SBSE)

Name: Winka Dubbeldam
Professor of Architecture, Chair

Educational Credentials:

1991 -1992	M Arch II, Columbia University
1983 -1990	Professional Masters degree in Architecture, Academy of Architecture, Rotterdam

Teaching Experience:

2013-Current	Professor and Chairman of the Department of Architecture, University of Pennsylvania
2003 – 2014	Director of Post-Professional Program (MSD-AAD), University of Pennsylvania
2003 – 2013	Professor of Practice, 3rd Year Masters Design Studio, University of Pennsylvania
2002, '08, '09	Visiting Practice Professor of Architecture, 3rd year Masters Studio, Harvard University

Professional Experience:

1994 – Current	President [WBE certified], Archi-Tectonics • NY//NL [New York & Netherlands]
1992 – 1994	Project Leader, Eisenman Architects • New York

Licenses/Registration:

Winka is a licensed and Registered Architect in Holland

Selected Publications:

2015	*Celebrity Conversations with Architects, In the Age of Celebrity.* By Vladimir Belogolovsky, DOM Publishers Berlin, May 2015, 584 pages
2015	*Thirty Years of Emerging Voices, Idea, Form and Resonance*, The Architectural League of New York, 2015
2014	*World Architects*, April 2015, *"Women in Architecture"* by John Hill.
2014	*Arquine*, Spring 2014, *"Futures: Downtown Bogota, My Ideal City"* 2013
2013	New Directions in Architecture Education, September 2013, International Architectural Education, Conference & Summit Document.
2011	*Archi-Tectonics*, a Monograph, 176 pages. Published by DAAB MEDIA, Germany
2007	*AT-Index: Winka Dubbeldam*, a Monograph 224 pages, Publisher: Princeton Architectural Press, NYC

Recent Research

2014	Urban Design for Downtown Bogota, Colombia, Team Leader, "bottom-up" design with direct interaction of the People in Bogota
2013	Yulin Art Center, Master plan and architecture for a 355,000 m2 [3,821,188.2 sf] cultural area. First Prize

Professional Memberships:

Associate member of the American Institute of Architects
WBE certified

Name: Annette Fierro
Associate Professor

Courses Taught (Four semesters prior to current visit):

Spring 2015	ARCH 502 – Design Studio II
	ARCH 706 – Thesis
	ARCH 738 – Modern House: Tech Then and Now
Fall 2014	ARCH 719 – Archigram and its Legacies
Spring 2014	ARCH 502 – Design Studio II
	ARCH 706 – Thesis
	ARCH 738 – Modern House: Tech Then and Now

Educational Credentials:

1984	Masters of Architecture, Rice University
1980	B. Science Civil Engineering, Rice University

Teaching Experience:

2002-present	Associate Professor of Architecture, University of Pennsylvania
2008-2009	Associate Chair of Architecture, University of Pennsylvania
1993-2002	Assistant Professor, University of Pennsylvania
1989-1993	Assistant Professor, Georgia Institute of Technology

Professional Experience:

1989-present	Annette Fierro, Architect, Philadelphia
2006-2015	Partner, Cabin Studio+, Philadelphia
1991-1993	Principle, RPAF Architects, Atlanta
1984-1989	Assoc. Architect, Smith-Miller and Hawkinson Architects, NY

Licenses/Registration:
New York

Selected Publications and Recent Research:

2015	Currently writing and researching on London, the city and the effects of the technological and cultural revolution of 1960's London.
2009	*"Inscriptions of Violence: London's Landscape of Commemoration" Architecture and Violence.* (Actar, Barcelona, New York)
2008	*"Engaged Theatricality and Resigned ideologies: Street Theatricality in Richar Roger's London" UmBau 24* (Vienna)
2006	*The Glass Sate: The Technology of the Spectacle*, Paris 1981-1998"

Professional Memberships: None

Name: Simon Kim
Assistant Professor

Courses Taught (Four semesters prior to current visit):

Fall 2015	ARCH 701 – Design Studio IV
	ARCH 724 – Immersive Kinematics
Spring 2015	ARCH 704 – Design Studio IV
Spring 2014	ARCH 704 – Design Studio IV

Educational Credentials:

2009	Master of Science, Massachusetts Institute of Technology
2003	Master of Architecture, The Architecture Association

Teaching Experience:

2009-present	Assistant Professor, University of Pennsylvania
2013	Lecturer, Yale University
2012	Lecturer, Harvard University
2008-2009	Lecturer, Massachusetts Institute of Technology

Professional Experience:

2007	Gehry Technologies, Los Angeles
2003-2006	Zaha Hadid Architects, London
2002	Skidmore Owings & Merrill, London

Licenses/Registration:

2000	California Licensure
2000	AIA member

Selected Publications and Recent Research:

Exhibitions and Installations

2014	*Orpheus and Eurydice: Mechatronic Opera,* with Opera Philadelphia, at the Slought Foundation
2013	*Nervous Matter,* with the Dufala Brothers and RAIR, at Traction Company
2012	*Science per Forms,* with Carbon Dance Theatre, at the Christ Church Theater
2010	*Robot Etudes*, with Pig Iron Theatre, at the Annenberg Theater

Publications

2015	*Soft Robotics in Architecture,* ACADIA Conference.
2013	*Design Methodology or Mythology,* Paradigms in Computing, Making, Machines, and Models for Design Agency in Architecture.
2012	*Beyond Mechanics and the Desire for the Dynamic,* Inside Smart Geometry, Expanding the Architectural Possibilities of Computational Design, AD.
2011	*The Robot Etudes,* IEEE / ICRA Conference

Professional Memberships:

2000-present	American Institute of Architects
2000-present	California Architects Board

Name: Yun Kyu Yi
Assistant Professor

Courses Taught (Four semesters prior to current visit):

Spring 2015	ARCH 632 – Performance and Design
Fall 2014	ARCH 753 – Building Performance Simulation
Spring 2014	ARCH 632 – Performance and Design
	ARCH 754 – Performance Design Workshop

Educational Credentials:

2008	Ph.D., Architecture, School of Design, University of Pennsylvania
2005	M.S. Architecture, School of Design, University of Pennsylvania
2001	M.S. Architectural Engineering, Department of Architecture Engineering, Honk-Ik University

Teaching Experience:

2009-present	Assistant Professor, School of Design, University of Pennsylvania
2007 - 2009	Lecturer, School of Design, University of Pennsylvania
2003 - 2006	Teaching Assistant, School of Design, University of Pennsylvania
2002	Lecturer, WooSong University, Korea (South), ChungCheong Collage, Korea (South), and Hoseo University, Korea (South).

Professional Experience:

2013-present	Founder and Investigator, Envitect.LLC, Delaware, USA
2008 - 2009,	Post-DOC, T. C. Chan Center for Building Simulation and Energy Studies, University of Pennsylvania.

Licenses/Registration:

2006	Accredited Professional, LEED
1995	Certificate of Architectural Engineer, 1st grade, Korea

Selected Publications and Recent Research:

2015	Yun Kyu Yi, and Hyungsub Kim, *"Agent-Based Geometry Optimization with Genetic Algorithm (GA) for Tall Apartment's Solar Right,"* In: *Solar Energy*, Elsevier, 113, March, Pages 236–250
2013	Yi Yun Kyu, Ning Feng, *"Dynamic integration between Building Energy Simulation (BES) and Computational Fluid Dynamics (CFD) simulation for outdoor conditions,"* In: Building Simulation An International Journal. Tsinghua University Press and Springer-Verlag Berlin Heidelberg, Vol.
2012	Yi Yun Kyu, Malkawi A, *"Site-Specific Optimal Energy Form Generation Based on Hierarchical Geometry Relation,"* In: Automation in Construction, Elsevier, Vol 26 77-91.

Professional Memberships:

2013-present	Committee, SPC 209 Energy Simulation Aided Design for Buildings Except Low-Rise Residential Buildings, ASHRAE.
2013-present	Member, Korean-American Scientists and Engineers Association
2013-present	Editorial Board, Journal of the Korea Institute of Ecological Architecture and Environment, Korea
2008-present	Assoc. AIA, American Institute of Architects
2007-present	Member, International Building Performance Simulation Association (IBPSA).
2006-present	Member, U.S. Green Building Council, Delaware Valley Chapter.
2001-present	Member, Architectural Institute of Korea.

Name: David Leatherbarrow
Professor of Architecture

Courses Taught (Four semesters prior to current visit):

Fall 2015	Arch 811/711: Theories of Architecture
Spring 2015	sabbatical
Fall 2014	Arch 811/711: Theories of Architecture
Spring 2014	Arch 412: Modern Architecture as Cultural Ecology
	Arch 402: Undergraduate Architecture Studio

Educational Credentials:

1990	Master of Arts, Honorary degree, University of Pennsylvania
1983	Ph.D. in Art, Department of Art, School of Comparative Studies, University of Essex, Colchester, England; "Character and Situation in 18th Century Architecture and Gardens"
1976	B. Arch, University of Kentucky

Teaching Experience:

1984-present	Professor of Architecture (1996-present); Chair (2011-2013); Associate Professor (1990-1996); Assistant Professor (1984-1990) School of Design, University of Pennsylvania
1980-83	Design Tutor and Lecturer, Department of Architecture, Cambridge University
1979-83	Design Tutor and Lecturer, Department of Architecture, University of Westminster (former Polytechnic of Central London)

Professional Experience:

1984-1996	Private practice, Philadelphia, PA
1981-84	Private Practice, London, England

Licenses/Registration:

Selected Publications and Recent Research:

2009	*Architecture Oriented Otherwise*, Princeton Arch. Press
2004	*Topographical Stories*, University of Pennsylvania Press
2002	*Surface Architecture*, MIT Press
2000	*Uncommon Ground*, MIT Press
1993	*On Weathering*, MIT Press
1993	*Roots of Architectural Invention*, Cambridge Univ. Press

Professional Memberships:

1993-	AIA, Associate
1993-	NIAE
1993-	Institute for Urban Design

Name: Frank G. Matero
Professor of Architecture

Courses Taught (Four semesters prior to current visit):
Frank is currently teaching courses in the historic preservation department.

Educational Credentials:
BA-Anthropology/Art History-SUNY Stony Brook
MSc-Architecture/Historic Preservation-Columbia University
MA-Conservation-Institute of Fine Arts/New York University

Teaching Experience:
2004-present Professor of Architecture, University of Pennsylvania
1990-2004 Associate Prof of Architecture, University of Pennsylvania
1981-1990 Assistant Prof of Architecture, Columbia University

Professional Experience:
1990-present Director, The Architectural Conservation Laboratory, University of Pennsylvania
1985-90 Director, The Center for Preservation Research, Columbia University

Licenses/Registration: NA

Publications and Recent Research: Conservation and Building Technology
2011 *"Housing the Bell: 150 Years of Exhibiting an American Icon."* Change Over Time 2 (Fall 2013): 188-201.
2011 *On Time and the Modalities of Conservation*. In *Ethics and Critical Thinking in Conservation*, P. Hatchfield, ed. American Institute for Conservation, 2011.
2011 *"Terrestrial Laser Scanning: Imaging, Quantifying, and Monitoring Microscale Surface Deterioration of Stone at Heritage Sites"* (with J. Kottke, J. Hinchman.) Change Over Time 2 (Fall 2011): 266-287.

Professional Memberships:
PA-American Institute for Conservation; Association for Preservation Technology

Name: Ali Rahim
Professor of Architecture

Courses Taught (Four semesters prior to current visit):

Fall 2015	ARCH 703 – Masters of Science in Design Studio
	ARCH 741 – Architectural Design Innovation
Spring 2015	ARCH 704 – Design Studio VI
Fall 2014	ARCH 703 – Post Professional Design Studio
	ARCH 741 – Architectural Design Innovation
Spring 2014	ARCH 704 – Design Studio VI

Educational Credentials:

1996	M Arch, Columbia University with Design Honors
1987	B Science, University of Michigan

Teaching Experience:

2014-present	Director Post Professional, now Masters of Science in Design Program
2011-present	Professor of Architecture, University of Pennsylvania School of Design
2006-2011	Associate Professor, University of Pennsylvania School of Design
1998-1999	Lecturer, University of Applied Arts [Die Angewandte], Vienna
2008-2009	Zaha Hadid Studio Guest Professor, Yale University
2007	Louis I. Kahn Visiting Professor, University of Michigan

Professional Experience:

2014-Present	Director, Contemporary Architecture Practice, Shanghai
1999-Present	Director, Contemporary Architecture Practice, New York

Licenses/Registration:

Selected Publications and Recent Research:

2015	*Interiorities*. Author. Routledge, London. Forthcoming 2015.
2012	*Catalytic Formations:* Architecture and Digital Design. Author. Design Press, Beijing, China.
2006	*Turbulence.* Co-Author. Yale University Press. New Haven, CT.
2006	*Catalytic Formations: Architecture and Digital Design.* Author. Routledge, London.
2007	*Elegance.* Co-Author. Architectural Design, Profile No. 185, Vol. 77 No. 1, Academy Editions/John Wiley and Sons Inc., London. March 2007.

Professional Memberships:

Name: Andrew Allen Saunders
Associate Professor

Courses Taught (Four semesters prior to current visit):

Fall 2015	ARCH 501 – Design Studio I
Spring 2015	ARCH 502 – Design Studio II
	ARCH 712 – Baroque Parameters
Fall 2014	ARCH 501 – Design Studio I

Educational Credentials:

2004	M Arch, Harvard Graduate School of Design
1998	Bachelor of Architecture, University of Arkansas

Teaching Experience:

2014-present	Associate Professor, University of Pennsylvania
2013-2014	Head of Graduate Studies, Assistant Professor, Rensselaer Polytechnic Institute
2009-2013	Director of Publications, Assistant Professor, Rensselaer Polytechnic Institute
2007-2009	Assistant Professor, Rensselaer Polytechnic Institute
2007	Coordinator of Italian Studies, Assistant Professor, Rensselaer Polytechnic Institute
2004-2007	Clinical Professor, Rensselaer Polytechnic Institute
2006-2007	Visiting Lecture, Cranbrook Academy of Art
2001-2002	Adjunct Professor, The Cooper Union

Professional Experience:

2004-current	Founder and Principal, Andrew Saunders Architecture + Design, Philadelphia, PA
2002-04	Lead Project Designer, Preston Scott Cohen Architects, Cambridge, MA
1998-2002	Lead Project Designer, Eisenman Architects, New York, NY

Licenses/Registration:

Completed NCARB IDP

Selected Publications and Recent Research:

2015	*"Baroque Parameters"* to be published by Publisher Palombi and Partners (in process)
2013	Saunders, A., *"Baroque Parameters "* invited contribution to *chapter "Architecture In Formation: On the Nature of Information in Digital Architecture"* edited by Pablo Lorenzo-Eiroa, Aaron Sprecher to be published by Routledge 2013.
2011	A. Saunders: *"Reinterpreting the Baroque",* City Visions Magazine 02, Rome, Italy, Jan/Feb 2011
2010	Saunders, A., (2010) ACADIA 2010 EVOLUTIVE MEANS peer reviewed projects, *Baroque Parameters* project catalogue of the 30th annual conference of the association for computer aided design in architecture (ACADIA) pg. 36-41.
2009	Saunders, A. (2009*) "Baroque Parameters",* Architectural Design (AD): Theoretical Meltdown, (John Wiley & Sons, Ltd.), Chichester, England

Professional Memberships:

AIA Associate Membership
ACADIA Association for Computer Aided Design in Architecture

Name: Franca Trubiano
Assistant Professor and Associate Chair

Courses Taught (Four semesters prior to current visit):

Fall 2015	ARCH 531 – Construction Technology I
Spring 2015	ARCH 602 – Design Studio IV
	ARCH 632 – Matter and Energy
Fall 2014	ARCH 531 – Construction Technology I
Spring 2014	ARCH 602 – Design Studio IV
	ARCH 632 – Matter and Energy

Educational Credentials:

2005	Ph.D., University of Pennsylvania
1995	M.Arch, McGill University
1988	B.Arch, McGill University

Teaching Experience:

2009-present	Assistant Professor, University of Pennsylvania, PENN DESIGN, Department of Architecture
2005 - 2009	Assistant Professor, Georgia Institute of Technology, College of Architecture, Atlanta GA
2004 - 2005	Visiting Assistant Professor Georgia Institute of Technology, College of Architecture, Atlanta GA
2003 - 2004	McMahan Visiting Associate Professor, Clemson University, School of Architecture, Clemson SC
1997 - 2003	Studio Instructor - University of Pennsylvania, Graduate School of Fine Arts, Philadelphia and Adjunct Professor - Drexel University, Philadelphia

Professional Experience:

1993	Arcop and Associates, Montreal Canada
1989 - 1992	Bobrow/Feldman Architects, Montreal Canada
1988	Fiset Miller Architects, Montreal, Ca + Brian Elsden Burrows Architect, Montreal, Canada

Licenses/Registration:

Int. Assoc. AIA
Ordre des Architectes du Quebec

Selected Publications and Recent Research:

2015-2016	Trubiano, Franca. *Building Theories; Integrating Matter, Energy, Data, and Labor for a new Ethics of Architecture* (Routledge, 2016).
2012	Trubiano, Franca. Ed. *Design and Construction of High Performance Homes; Building Envelopes, Renewable Energy and Integrated Practice, (Routledge Press, 2012)*
2014	Trubiano, Franca "Translating Designs for Construction + Operations: the future of BIM in a world of material and energy scarcity" in *Building Information Modeling: BIM in Current and Future Practice,* Eds. Doug Noble and Karen Kensek – WILEY Books

Professional Memberships:

2015	President, BTES–Building Technology Educators Society, Treasurer + Secretary http://www.btesonline.org
2015	Board Member, BEEnow, The Built Environment Education *Now*
2013 - 2016	Editorial Board Member, *JAE – Journal Of Architectural Education*

Name: Marion Weiss
Graham Chair Professor of Architecture

Courses Taught (Four semesters prior to current visit):

Spring 2015	ARCH 704 – Design Studio VI
Spring 2014	ARCH 704 – Design Studio Vi

Educational Credentials:

1984	Yale University, Master of Architecture
1979	Bachelor of Science in Architecture, University of Virginia

Teaching Experience:

1991-present	Graham Chair Professor of Architecture (2006-present); Associate professor (1997); Assistant Professor (1991-1997), University of Pennsylvania
1995	Gensler Distinguished Visiting Studio Critic
1995	Visiting Critic for Advanced Studio, Yale University

Professional Experience:

1989-present	Principal, Weiss/Manfredi Architects

Licenses/Registration:

1986-present	RA: NY

Selected Publications and Recent Research:

2015	*PUBLIC NATURES: Evolutionary Infrastructures*, Monograph by Marion Weiss and Michael Manfredi of Recent Work by Weiss/Manfredi With essays by Weiss and Manfredi, conversations with Kenneth Frampton and others, and a forward by Barry Bergdoll. Published by Princeton Architectural Press
2013	*Evolutionary Infrastructures,* Research publication containing essays by Marion Weiss and Michael Manfredi. Forward by Mohsen Mostafavi. Published by Harvard Graduate School of Design.
2012	*Pro Architect: Weiss/Manfredi,* Monograph in Korean and English on work of Weiss/ Manfredi. Contains essays by Marion Weiss and Michael Manfredi: an introduction by Peter Reed, and foreword by Dr. Yoon Kyung Choi. Published by Archiworld.

Professional Memberships:

The Architectural League, New York, NY
Urban Design Forum, NY
The Van Alen Institute, New York, NY

I.2.1B A matrix for each of the two academic years prior to the presentation 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.

Fall 2013

	Faculty	Course

Summer Programs 2013 (session 2)

500	920	Larry Mitnick	Prep Studio
500	920	Martin Hershenzon	Prep Studio
500	920	Julie Beckman	DigiBlast I
500	920	Julie Beckman	DigiBlast II
500	920	Ezio Blasetti	DigiBlast II
500	920	Danielle Willems	DigiBlast II
500	920	Mike Stifel	Digi Nav + Blast
500	920	Stephen Smetltzer	Digi Nav + Blast
500	920	Joshua Freese	Digi Nav + Blast
500	920	Chris McAdams	Digi Nav + Blast
---	---	Richard Farley	Physics for Architects
---	---	Gideon Shapiro	History of Arch
674	920	Charles Capaldi	CPT

Required

511	001	Joan Ockman	History & Theory I
511	202		History & Theory Recitation
531	401	Franca Trubiano	Construction I
531	401	Patrick Morgan	Construction I
533	001	Robert Diemer	Environmental Systems I
535	401	Richard Farley	Structures I
535	402	Richard Farley	Technology Lab
611	001	Daniel Barber	History & Theory III
631	001	Lindsay Falck	TechCase Studies
---	---	Mohammad Al-Khayer	Structures Simulation
632	001	Jessica Zofchak	Daylighting
671	001	Philip Ryan	Pro Practice I

Elective Courses

711	001	David Salomon	The Architecture of Patterns
711	002	Franca Trubiano	
711	003	Srdjan Jovanovic Weiss	Topics In Arch Theory I
711	404	David Leatherbarrow	Topics In Arch Theory I
717	001	Manuel DeLanda	Philosophy of Urban History
719	001	Annette Fierro	Archigram and Its Legacy

	Faculty	Course

FALL 2013
Studio

501	201	Simon Kim (Coordinator)	Design Studio I
501	202	Ezio Blasetti	Design Studio I
501	203	Sofia Krimizi	Design Studio I
501	204	Lasha Brown	Design Studio I
501	205	Michael Loverich	Design Studio I
501	206	Sandra Manninger	Design Studio I
501	207	staff	Design Studio I
521	101	Danielle Willems	Visual Studies I
521	101	Mo Zheng	Visual Studies I
521	102	Staff	Visual Studies I
521	103	Joshua Dannenburg	Visual Studies I
521	104	Jackie Wong	Visual Studies I
521	105	Amanda M. Morgan	Visual Studies I
521	106	Justin Chen	Visual Studies I
521	107	Sara Wolf	Visual Studies I

601	201	Hina Jamelle (Coordinator)	Design Studio III
601	202	Scott Erdy	Design Studio III
601	203	Brian Phillips	Design Studio III
601	204	Matias del Campo	Design Studio III
601	205	Jonas Coersmeier	Design Studio III
601	206	Kutan Ayata	Design Studio III
601	207	Ben Krone	Design Studio III
621	101	Nate Hume	Visual Studies III

701	201	Ali Rahim (Coordinator)	Design Studio V
701	201	Lois Suh	Design Studio V
701	201	Andreas Koustapolou	Design Studio V
701	202	Enrique Norten	Design Studio V
701	202	Humberto Arreola	Design Studio V
701	203	Peter Trummer	Design Studio V
701	203	Chris McAdams	Design Studio V
701	204	Elena Manferdini	Design Studio V

727	401	Peter Bressler	Industrial Design
731	001	Mohammad Al-Khayer	Experiments in Structures
733	001	Jordan Goldstein	Building Product Design
735	001	Mark Nicol	Material and Structural Intelligence
735	001	Sameer Kumar	Material and Structural Intelligence
737	001	Keith Kaseman	Design for Impact
737	001	Julie Beckman	Design for Impact
741	001	David Ruy	Architectural Design Innovation
743	001	Cecil Balmond	Form and Algorithm
743	001	Ezio Blasetti	Form and Algorithm
747	001		
765	001	Chip Arena	Project Management
999	001	Stephanie Feldman	Independent Study
999	002	Joan Ockman	Independent Study
999	003	Joshua Freese	Independent Study (.5 for VS)

701	204	Joshua Freese	Design Studio V
701	211	Homa Farjadi	London AA
701	211	Eleni Pavlidou	London AA
701	211	Pierandrea Anguis	London AA
703	201	Winka Dubbeldam	Post-Professional Design Studio
703	201	Joshua Freese	Post-Professional Design Studio
703	202	Ferda Kolatan	Post-Professional Design Studio
703	202	Hart Marlow	Post-Professional Design Studio
703	203	Francois Roche	Post-Professional Design Studio
703	203	Stephan Henrich	Post-Professional Design Studio
703	203	Devin Jernigan	Post-Professional Design Studio
706	201	Thesis Critics	

Spring 2014

	Faculty	Course	

Summer Programs 2014 (session 1)

782	910		Mexico City Summer Program
782	912	Annette Fierro	Paris Summer Program
782	914		Scandinavia Summer Program

Required

512	001	Daniel Barber	History & Theory II
532	401	Lindsay Falck	Construction II
532	401	Patrick Morgan	Construction II
534	401	Bill Braham	Environ Systems II
536	401	Richard Farley	Structures II
536	402	Richard Farley	Technology Lab II
672	001	Charles Capaldi	Pro Practice II
772	001	Philip Ryan	Pro Practice III

Designated

632	001	Mohamad Al-Khayer	Deployable Structures
632	002	Yun Kyu Yi	Performance and Design
632	003	Lindsay Falck	Detailed Design Studies
632	005	Jessica Zofchak	Daylighting
632	006	Mikael Avery	Principles of Digi/Fab

	Faculty	Course	

Spring 2014 Studio

502	201	Annette Fierro (Coordinator)	Design Studio II
502	202	Danielle Willems	Design Studio II
502	203	Srdjan Weiss	Design Studio II
502	204	Josh Freese	Design Studio II
502	205	Nate Hume	Design Studio II
502	206	Eduardo Rega	Design Studio II
522	101	Danielle Willems	Visual Studies II
522	102	Luis Felipe Paris	Visual Studies II

602	201	Ferda Kolatan (Coordinator)	Design Studio IV
602	202	Franca Trubiano	Design Studio IV
602	203	Hina Jamelle	Design Studio IV
602	204	Shawn Rickenbacker	Design Studio IV
602	205	Ben Krone	Design Studio IV
602	206	Kutan Ayata	Design Studio IV
602	207	Justin Korhammer	Design Studio IV
---	---	Mohamad Al-Khayer	Simulation Workshops

632	007	Franca Trubiano	Matter & Energy
638	001	Joe Solway	Building Acoustics
638	002	Billie Faircloth	Six Facts, Six Scales
638	003	Jonathan D. (JD) Albert	Mechanisms for Design
638	004	Samina Iqbal	Building Envelopes
638	005	Jonathan Weiss	Water Shaping Architecture

Elective Courses

712	001	Manuel DeLanda	Philosophy of Materials and Structure
712	002	Joan Ockman	Topics in HT
712	003	Philip Crosby	Topics in HT
712	004	Joan Ockman	Topics in HT
712	005	Jovanovic Weiss	Topics in HT
712	401	David Leatherbarrow	Topics in HT
712	404	Brownlee/Barber	Cultural Ecology
724	001	Simon Kim	Making and Meaning
724	002	Shawn Rickenbacker	Emerging Tech & Urban Space
724	003	Josh Freese	The Mathematics of Tiling
724	003	Josh Dannenberg	The Mathematics of Tiling
724	004	Mark Nicol	Data & Adaptation
726	401	Katrin Mueller-Russo	Contemporary Furniture Design
726	401	Adam Hostetler	Contemporary Furniture Design
728	401	Carla S	IDII / Design of Contemporary Products
734	001	Todd Woodward	Architecture & Ecology
738	001	Annette Fierro	Modern House: Tech Then and New
740	**001**	Eric Carcamo	Formal Efficiencies
744	401	Ferda Kolatan	Digital Fabrication
752	001	Muscoe Martin	Integrated Design for High Performance
752	001	Robert Diemer	Integrated Design for High Performance
762	401	Sehnert	Design & Development
765	001	Charles Capaldi	Project Management
764	001	Chris Marcinkoski	Vertical Cities Asia
764	001	Josh Freese	Vertical Cities Asia
999		Faculty	Independent Study

704	201	Marion Weiss	Design Studio VI
704	201	Chris McAdams	Design Studio VI
704	202	Homa Farjadi	Design Studio VI
704	202	Charles Curran	Design Studio VI
704	202	assistant	Design Studio VI
704	203	Tom Wiscombe	Design Studio VI
704	203	Ryan Macyauski	Design Studio VI
704	204	Cecil Balmond	Design Studio VI
704	204	Ezio Blasetti	Design Studio VI
704	205	Tony Atkin	Design Studio VI
704	205	Gavin Rigall	Design Studio VI
704	205	Shawn Evans	Design Studio VI
704	205	Jamie Blosser	Design Studio VI
704	206	Sulan Kolatan	Design Studio VI
704	206	Robert Cevellione	Design Studio VI
704	207	Simon Kim	Design Studio VI
704	207	Jeremy Jih	Design Studio VI
704	208	Stephen Kieran	Design Studio VI
704	208	James Timberlake	Design Studio VI
704	208	Jacob Mans	Design Studio VI
706	201	Annette Fierro	Thesis
706	203	Franca Trubiano	Thesis
706	204	Franca Trubiano	Thesis

Fall 2014

	Faculty	Course

Summer Programs 2015 (session 2)

	Faculty	Course

FALL 2014
Studio

500	920	Larry Mitnick	Prep Studio
500	920	Staff	Prep Studio
500	920	Ezio Blasetti	DigiBlast I
500	920	Danielle Willems	DigiBlast II
500	920	Ezio Blasetti	DigiBlast II
500	920	Danielle Willems	DigiBlast II
500	920	Assistant DigII	Digi Nav + Blast
---	---	Richard Farley	History of Arch
---	---	Staff	Digi Nav + Blast
674	920	Charles Capaldi	Physics for Architects
PPD	DW S	Ezio Blasetti	PPD Intensive Digital Workshop
PPD	DW S	Danielle Willems	PPD Intensive Digital Workshop
PPD	DW S	Assistant PPD	PPD Intensive Digital Workshop

Required

511	001	Joan Ockman	History & Theory I
511	202		History & Theory Recitation
531	401	Franca Trubiano	Construction I
531	401	Patrick Morgan	Construction I
533	001	Robert Diemer	Environmental Systems I
535	401	Richard Farley	Structures I
535	402	Richard Farley	Technology Lab
611	001	Daniel Barber	History & Theory III
631	001	Lindsay Falck	TechCase Studies
---	---	Mohammad Al-Khayer	Structures Simulation
632	001	Jessica Zofchak	Daylighting
671	001	Philip Ryan	Pro Practice I

Elective Courses

711	001	David Salomon	The Architecture of Patterns
711	002	Laura Baird	Topics In Arch Theory I
711	002	Reinier DeGraaf	Topics In Arch Theory I
711	003	Srdjan Jovanovic Weiss	Topics In Arch Theory I
711	404	David Leatherbarrow	Philosophy of Urban History
717	001	Manuel DeLanda	Archigram and Its Legacy
717	002	Peter Trummer	Industrial Design
719	001	Annette Fierro	Archigram & its Legacy
727	401	Peter Bressler	Building Product Design
731	001	Mohammad Al-Khayer	Experiments in Structures
733	001	Jordan Goldstein	Building Product Design

501	201	Simon Kim (Coordinator)	Design Studio I
501	202	Ezio Blasetti	Design Studio I
501	203	Sofia Krimizi	Design Studio I
501	204	Lasha Brown	Design Studio I
501	205	Michael Loverich	Design Studio I
501	206	Staff	Design Studio I
501	207	staff	Design Studio I
521	101	Danielle Willems	Visual Studies I
521	102	Luis Felipe Paris	Visual Studies I

601	201	Hina Jamelle (Coordinator)	Design Studio III
601	202	Scott Erdy	Design Studio III
601	203	Brian Phillips	Design Studio III
601	204	Matias del Campo	Design Studio III
601	205	Jonas Coersmeier	Design Studio III
601	206	Kutan Ayata	Design Studio III
601	207	Ben Krone	Design Studio III
621	101	Nate Hume	Visual Studies III
621	102	assistant	Visual Studies III
621	103	assistant	Visual Studies III

701	201	Marion Weiss	Design Studio V
701	201	Staff	Design Studio V
701	201	Staff	Design Studio V
701	202	Laura Baird	Design Studio V
701	202	Reiner de Graaf	Design Studio V
701	202	Assistant	Design Studio V
701	203	Peter Trummer	Design Studio V
701	203	Chris McAdams	Design Studio V
701	204	Michel Rojkind	Design Studio V
701	204	Assistant	Design Studio V
701	205	Homa Farjadi	London AA
701	205	Eleni Pavlidou	London AA
701	205	Pierandrea Anguis	London AA
701	206	Ben van Berkel	Post-Professional Design Studio
701	206	assistant	Post-Professional Design Studio
701	207	Neil Denari	Post-Professional Design Studio

735	001	Mark Nicol	Material and Structural Intelligence
735	001	Sameer Kumar	Material and Structural Intelligence
741	001	David Ruy	Architectural Design Innovation
743	001	Cecil Balmond	Form and Algorithm
743	001	Ezio Blasetti	Form and Algorithm
765	001	Charles Capaldi	Project Management
999		Faculty	Independent Study 5 @ 1200
999	001	Stephanie Feldman	Independent Study
999	002	Joan Ockman	Independent Study
999	003	Joshua Freese	Independent Study (.5 for VS)
999	001	Stephanie Feldman	Independent Study
999	002	Joan Ockman	Independent Study
999	003	Joshua Freese	Independent Study (.5 for VS)

701	207	assistant	Post-Professional Design Studio
703	201	Ali Rahim	Post-Professional Design Studio
703	201	Assistant	Post-Professional Design Studio
703	202	Ferda Kolatan	Post-Professional Design Studio
703	202	Hart Marlow	Post-Professional Design Studio
703	203	Francois Roche	Post-Professional Design Studio
703	203	Assistant	Post-Professional Design Studio
706	201	Thesis Critics	

Spring 2015

		Faculty	Course
Summer Programs 2015 (session 1)			
782	910	Eduardo Rega	Colombia Summer
782	912	Annette Fierro	Paris Summer Program
782	914	Ezio Blasetti	Greece Summer Program
Required			
512	001	Daniel Barber	History & Theory II
532	401	Lindsay Falck	Construction II
534	401	Bill Braham	Environ Systems II
536	401	Richard Farley	Structures II
536	402	Richard Farley	Technology Lab II
672	001	Charles Capaldi	Pro Practice II
772	001	Philip Ryan	Pro Practice III
Designated			
632	001	Mohamad Al-Khayer	Deployable Structures
632	002	Yun Kyu Yi	Performance and Design
632	003	Lindsay Falck	Detailed Design Studies
632	005	Jessica Zofchak	Daylighting
632	006	Mikael Avery	Principles of Digi/Fab
632	007	Franca Trubiano	Matter & Energy
638	001	Joe Solway	Building Acoustics
638	002	Billie Faircloth	Six Facts, Six Scales
638	003	Jonathan D. (JD) Albert	Mechanisms for Design

		Faculty	Course
Spring 2015 Studio			
502	201	Annette Fierro (Coordinator)	Design Studio II
502	202	Joshua Freese	Design Studio II
502	203	Abigail Coover-Hume	Design Studio II
502	204	Eduardo Rega	Design Studio II
502	205	Andrew Saunders	Design Studio II
502	206	Danielle Willems	Design Studio II
522	101	Danielle Willems	Visual Studies II
522	102	Luis Felipe Paris	Visual Studies II
602	201	Ferda Kolatan (Coordinator)	Design Studio IV
602	202	Franca Trubiano	Design Studio IV
602	203	Hina Jamelle	Design Studio IV
602	204	Ben Krone	Design Studio IV
602	205	Sean Rickenbacker	Design Studio IV
602	206	Kutan Ayata	Design Studio IV
---	---	Mohamad Al-Khayer	Simulation Workshops
704	201	Marion Weiss	Design Studio VI
704	201	Staff	Design Studio VI
704	202	Homa Farjadi	Design Studio VI
704	202	Staff	Design Studio VI

638	004	Samina Iqbal	Building Envelopes
638	005	Jonathan Weiss	Water Shaping Architecture

Elective Courses

712	001	Manuel DeLanda	Philosophy of Materials and Structure
712	002	Joan Ockman	Topics in HT
712	003	Philip Crosby	Topics in HT
712	004	Joan Ockman	Topics in HT
712	005	Jovanovic Weiss	Topics in HT
712	401	David Leatherbarrow	Topics in HT
712	404	Brownlee/Barber	Cultural Ecology

724	001	Simon Kim	Making and Meaning
724	002	Shawn Rickenbacker	Emerging Tech & Urban Space
724	003	Josh Freese	The Mathematics of Tiling
724	003	Josh Dannenberg	The Mathematics of Tiling
724	004	Mark Nicol	Data & Adaptation
726	401	Katrin Mueller-Russo	Contemporary Furniture Design
726	401	assistant	Contemporary Furniture Design
728	401	Carla Diana	IDII / Design of Contemporary Products
734	001	Todd Woodward	Architecture & Ecology
738	001	Annette Fierro	Modern House: Tech Then and New
740	**001**	Eric Carcamo	Formal Efficiencies
744	401	Ferda Kolatan	Digital Fabrication
752	001	Muscoe Martin	Integrated Design for High Performance
752	001	Robert Diemer	Integrated Design for High Performance
762	401	Sehnert	Design & Development
765	001	Chip Arena	Project Management
764	001	Chris Marcinkoski	Vertical Cities Asia
764	001	Josh Freese	Vertical Cities Asia
999		Faculty	Independent Study

704	202	assistant	Design Studio VI
704	203	Tom Wiscombe	Design Studio VI
704	203	assistant	Design Studio VI
704	204	Cecil Balmond	Design Studio VI
704	204	assistant	Design Studio VI
704	205	Tony Atkin	Design Studio VI
704	205	assistant	Design Studio VI
704	206	Sulan Kolatan	Design Studio VI
704	206	asistant	Design Studio VI
704	207	Simon Kim	Design Studio VI
704	207	assistant	Design Studio VI
704	208	Stephen Kieran	Design Studio VI
704	208	James Timberlake	Design Studio VI
704	208	assistant	Design Studio VI
704	209	Ali Rahim	Design Studio VI
704	209	assistant	Design Studio VI
706	201	Annette Fierro	Thesis
706	203	Franca Trubiano	Thesis
706	205	Franca Trubiano	Thesis
706	204	Thesis Critics	Thesis

Faculty Assignment

Elective and seminar instructors are chosen and assigned because of their particular expertise or developing focus in topical areas that contribute to a broader architectural education. Elective studios for third year students are similarly assigned to those whose current professional or academic research is seen as relevant to both academic and professional aspects of the architectural discipline, and offer a wide variety of candidates for students to select from.

For core curriculum courses in the first and second year of the degree program, faculty and coordinators are chosen for their particular knowledge and ability, but also their understanding of the necessity for a strong well-rounded core education in Architecture.

Standing faculty coordinate foundation studios, and additional foundation studio instructors are chosen for their knowledge of both design and technology. It is critically important to have faculty that can be familiar with the technical methods and techniques available to students, as design modeling, computational modeling, and fabrication, through traditional and contemporary techniques are a critical and integral aspect of contemporary design education and practice.

ARCH 501 is coordinated by Andrew Saunders, and his expertise on computational modeling and fabrication contribute immensely to the curriculum and the matriculation of its agenda. ARCH 502 is coordinated by Annette Fierro, and is focused on understanding relationships at the city and building scale, which has been a focus of her research and writing throughout her career.

ARCH 601 is coordinated by Hina Jamelle, and is focused on urban dwelling. Additional instructors for this seminar are usually well versed in the topic in their own professional practice as well, which is of critical importance given the technical and practical demands of the topic. ARCH 602 is coordinated by Simon Kim, and takes on the Integrative Design aspects of the SPC, as well as integrating technical consultation from engineering and other disciplines, and exploring even more technological and design innovation through fabrication, robotics and other contemporary means of fabrication and building construction assembly. These projects are usually urban medium scale facilities, and instructors are selected for both their knowledge in the architectural typology, but also for their knowledge in innovative technologies for fabrication and construction.

Faculty who demonstrate expertise and advanced knowledge of the particular topic teach required courses in Construction, Structures, Environmental Systems, Case Studies, and Professional Practice.

Philip Ryan and Charles Cappaldi have worked extensively to refine the Professional Practice curriculum to reflect a more current model integrating criteria of IDP and career development into the course material that also covers office practice, client and office development, and professional relationships, contracts and documents.

William Braham teaches the Environmental Systems courses and uses his extensive and active knowledge of developing technology and systems to integrate and update the course to reflect more current practices and concerns, as well as integrating more diverse methods of analysis and representation into the course.

Richard Farley teaches the Structures courses and uses his well-established and developed practical knowledge in architecture and engineering to reinforce critical aspects and values within the course curriculum. Methods of analysis and representation reflect a fundamental understanding of structural principles, but also explore new and innovative developments in structural and material technology.

Building Case Studies is taught by Lindsay Falck, his incredibly diverse array and knowledge of building precedents both familiar and obscure add to the diverse set of precedents that the students explore. Through intensive documentation of precedent drawings, models and buildings, students produce a volume of knowledge through drawing, imagery and physical modeling. Lindsay frequently introduces new projects into the course annually, particularly focusing on those who offer more prominent innovations in building technology, construction methods, and unique material applications.

Franca Trubiano and Philip Ryan teach Construction Technologies courses, and they bring their practical and academic knowledge of construction methods, materials and technologies to the course. The course has developed to reflect more contemporary issues of construction and documentation, and students are working both through research and lectures, but also through workshops and lab assignments to use Building Information Technology to practice design documentation using technology that is steadily emerging as an integral and necessary tool to successfully matriculate into architectural practice.

Required elective courses in the 2nd year of the program offer an array of topics for students to chose from that are focused on technology and innovation these courses are taught by designers, practitioners or specialists in the topics offered. These courses include Acoustics, Daylighting, Deployable Structures, Performance and Design, and Building Envelopes.

I.2.1.C A description of the manner in which faculty members remain current in their knowledge of the changing demands of the discipline, practice and licensure.

Many of the faculty are licensed members of the AIA and remain current in their knowledge of practice and licensure through practice and participation in professional organizations and events. The program recognizes the importance of attending professional as well as academic conferences for professional development. To facilitate this, the School gives funding to members of the Standing Faculty for travel costs and conference fees and encourages participation in continuing education events for licensed faculty.

I.2.1.D 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.

An initial scholarly leave of one semester with salary is typically granted to assistant professors in the period between their reappointment review and their tenure review. A sabbatical leave is granted to University faculty members holding the rank of assistant professor, associate professor, or professor after a period of six or more consecutive years of full-time service in the Standing Faculty. Additional paid scholarly leave may be granted periodically. Sabbatical leaves may be for one semester at full salary or two semesters at half salary. The University and/or the Department regularly grants scholarly leaves, maternity leaves, and leaves-without-pay as needed by the standing faculty. The Department also considers special requests for extenuating circumstances.

Scholarship and research are facilitated in every way possible through research seminars, attendance at professional meetings, economic incentives, and administrative and logistical support. The Department regularly approves travel reimbursement for attendance at conferences, symposium and professional meetings of interest to our faculty.

I.2.1.E A list of past and projected faculty research (funded or otherwise), scholarship, creative activities by full-time instructional faculty since the previous visit.

Annette Fierro is a Professor of Architecture in the Architecture Department. Her current research traces the network of legacies instigated by the radical technological speculation of the 1960s in London. This work encompasses environmental and technological utopias, and she is currently on Sabbatical during the Fall 2015 to further conclude this research for a forthcoming publication. She has presented her material on 1960s London and on Technology and Spectacle in Paris at various conferences, lectures and symposia at several universities.

Ali Rahim is a Professor of Architecture and the Director of the Master of Science in Design (formerly the Post-Professional Degree) in the Architecture Department. He is currently publishing *Interiorities* (Routledge, 2015) and published *Catalytic Formations: Arhcitectreu and Digital Design* (Design Press, 2012). His academic research and professional practice, Contemporary Architectural Practice (New York and Shanghai), frequently overlap in the pursuit and exploration of advancements of design technology, material innovations, and explorations of advanced fabrication and construction methods and techniques.

Andrew Saunders is an Assistant Professor in the Architecture Department, joining the school in 2014. He has continued to develop his work on research and design of Baroque architectural parameters, and has a future publication forthcoming entitled Baroque Parameters, and has published a articles on *Baroque Parameters* in *Architecture in Formation: On the Nature of Information in Digital Architecture* (Routledge 2013), as well as *Reinterpreting the Baroque* in *City Visions Magazine* in 2011. He has recently received a Grant to further his research on *Baroque Topologies: Digital Analysis of the Latent Topological Structure of Baroque Architecture* from the University Research Foundation (URF) given for investigative research and scholarly projects.

Daniel Barber is an Assistant Professor of Architecture and the Associate Chair of the Department of Architecture, joining the department in 2012. Daniel has forthcoming publications on *Architecture and the Environmental Imagery* in *The Routledge Companion ton the Environmental Humanities* (Routledge, 2016) and *Measuring Machines: Architecture, Media and Climate in the 1950s* in *Architecter/Machine:*

Programs, Processes, and Performances (Verlag, 2016). He has recently published *Tomorrow's House: Solar Housing in 1940's America* in *Technology and Culture* (Feb, 2014), and has collaborated and contributed on writings with William Braham in *Energy Accounts: Architectural Representations of Energy, Climate and the Future* (Routledge, 2016) and *Visualizing Renewable Resources* in *Architecture and Energy: Performance and Style* (Routledge 2013). Daniel is on sabbatical participating in the Alexander von Humboldt Foundation Fellowship for Advanced Researchers in the Fall 2015.

William Braham is a Professor of Architecture in the Architecture Department, and Director of the T.C. Chan Center for Building Simulation and Energy Studies. He is also the Director of the Master of Environmental Building Design program at the School of Design. He has been furthering his research on energy design and building simulation, and has a forthcoming publication titled *Energy Accounts: Architectural Representations of Energy and Climate* (Routledge, 2016) and has published *Architecture and Systems Ecology: Thermodynamic Principles for Environmental Design* (Routledge, 2015) and *Architecture and Energy: Performance and Design* (Routledge, 2013).

David Leatherbarrow is a Professor of Architecture and the Chairman of the Graduate Group in Architecture (Ph.D. program) at the School of Design in the Architecture Department. David has continued to participate in lectures, panels and symposium and has continued to write and research on architecture, recently publishing *The Eclipse of Modernism: Architecture as Cultural Ecology* (Ashgate, 2014), and *The Project of Modern Architecture* (Wiley-Blackwell, 2014).

Marion Weiss is the Graham Chair Professor of Architecture in the Architecture Department. She has continued to develop her professional and academic work and is currently publishing a monograph *PUBLIC NATURES: Evolutionary Infrastructures* (Princeton Architectural Press, 2015). Marion published research essays in *Evolutionary Infrastructures* (Harvard GSD, 2013) and in *Pro Architect: Weiss/Manfredi* (Archiworld, 2012) that also exhibited the extensive work of her practice, Weiss Manfredi. She has participated in various lectures and panel discussions at many universities, and presents her design research and professional work in lectures at the School of Design.

Simon Kim is an Assistant Professor in the Architecture Department. His teachings and design practice have focused on the exploration of kinematic and computational technologies using parametric tools and digital fabrication as a means for exploring kinematic technology. He has published research papers *The Robot Etudes* in 2010 and *Immersive Kinematics: Locomotion with Modular Architecture* in 2012, and has recently constructed the Torqueing Spheres pavilion in Socrates Sculpture Park, as part of a partnership from the Architectural League of New York. He presented a lecture on *Paradigms in Computing* at the ACSA conference in 2014, and has lectured at various universities on the topics of computation design, modeling, and kinematic technology.

Franca Trubiano is Assistant Professor and Associate Chair (Architecture) in the Architecture Department. She is President of the Building Technology Educators Society (BTES) and founding member of the Editorial Board of the Journal – TAD (Technology, Architecture and Design). Since 2014, she has been a Member of the Editorial Board of the Journal of Architectural Education (JAE). Her edited book *Design and Construction of High Performance Homes: Building Envelopes, Renewable Energies and Integrated Practice* (Routledge Press 2012), features 18 essays, authored by herself and 10 collaborators. In 2014, it was translated into Korean, by the Korean Research Institute of Environmental Architecture and launched as part of their 10th year anniversary. She is presently completing a manuscript for Routledge on building technology and architectural theory. *Building Theories, Integrating Matter, Energy, Data, and Labor for a new Ethics of Architecture* (Routledge), proposes an alternative definition of architectural theory; one that valorizes the as yet untapped potential of 'thinking through building'. Franca has also published essays on the subject of high performance design in edited books *Architecture and Energy* (eds. Braham and Willis, Routledge Press, 2013) and *Architecture and Uncertainty* (ed. Benjamin Flowers, Ashgate Press, 2014). Her funded research projects include her work as Principal Investigator and inaugural member of the Consortium for Energy Building Energy Innovation (CBEI), a US Department of Energy sponsored project, on the development of Integrated Design Roadmaps of use by all members of the AEC industry in pursuit of Advanced Energy Retrofits.

Franca also conducts funded research on Building Information Modeling (BIM), developing both Facility Management processes for maximum applicability of BIM authoring models, as well as helping the National Masonry Institute develop BIM based protocols of value to the industry. Since 2014, Franca has also been an expert reviewer for the MIT-KUWAIT Signature Project on Sustainability where she will continue in this role until 2016.

Winka Dubbeldam is the Chair and Professor of Architecture at the Architecture Department, becoming Chair in 2013, after having been a Professor of Practice and the Director of the Post-Graduate Program in Architecture (PPD) at PennDesign for 10 years. She has revised and expanded the lecture and symposia in the Architecture Department, and will be hosting a symposium in November 2015 on *City Futures*, and hosted *The New Normal* in 2013 which explored the discussion of the current state of architectural design, teaching and practice, both featuring distinguished guest presentations, lectures and panel discussions in a multiple day format open to students and with some events open to the general public. Winka has published articles and writings on both academic and design topics, including *Thirty Years of Emerging Voices: Ideas, Form and Resonance* (Architecture League of New York, 2015), *Women in Architecture* in *World Architects* (by John Hill, 2014) and *Futures: Downtown Bogota, My Ideal City* in *Arquine* (2013) as well as produced three Monographs, and writing and presenting her research in multiple international lectures and conferences such as New *Directions in Architecture Education* at the 2013 (Berlin) and 2015 (Singapore) International Architectural Education Conference.

Dr. Yun Kyu Yi teaches environmental and sustainable technology and computational building simulation. He is associated with the TC Chan Center for Building Simulation and Energy Studies at Penn and has lectured in Penn and Korean universities. His research includes performance-driven design processes, integration of simulation domains, and decision-making. He recently published *"Site-Specific Optimal Energy Form Generation Based on Hierarchical Geometry Relation"* in the Journal of Automation in Construction and *"Dynamic Integration Between Building Energy Simulation (BES) and Computational Fluid Dynamics (CFD) Simulation for Outdoor Conditions,"* in the International Journal of Building Simulation. He is a founder and investigator of Envitect LLC, for indoor environmental design application.

I.2.1.F A description of student support services, including academic and personal advising, career guidance, and internship placement where available.

Advising and Career Guidance
A member of the Standing or full-time Faculty is assigned as an advisor to each student in the program, with each faculty member having 10 to 20 advisees each year. The advisor discusses course and studio selection and provides support on personal or career matters, referring students to the PennDesign Associate Director for Student and Affairs and to University services as needed. The office of Counseling And Psychological Services (CAPS) has at least two counselors who track our students and pay attention to the issues particular to students in professional programs. Students can visit CAPS on a walk-in basis, or by appointment. The University's Careers Services Office is also available for personal career advice and job placement before or after graduation. Career Services organizes an annual Career Day, and a number of other special events for students, from portfolio reviews to sessions on alternate career paths. On career day, numerous employers make a visit to campus to provide information to students as prospective employees. A master "Resume Book" is also published by the Office of Career services. It is kept on file and given to prospective employers who contact that office in search of employees. In addition, many graduates make their initial entry into the professional world based upon the informal advising and networking that takes place during their years at Penn, often working for Penn faculty in their practices.

Scholarships
The program has a number of endowments for scholarships, which are awarded on the basis of merit during the admission process. The endowment resources are supplemented by expenses from the operating budget. Another group of scholarships and travelling fellowships are awarded through design competitions held during the first week of the Spring Semester. The Department considers competitions

to be an important part of an architectural education and runs three competitions each January. Participation is mandatory and the competitions are designed specific to each level of the program. In addition to the monetary awards at stake, the competitions are of value to students in other ways. The work produced is documented and included in their professional design portfolios and often used when seeking summer internships. Competition winners receive a notation on the official University transcript and are included in annual University commencement materials and publications. First, second, and third prizes, as well as honorable mentions are awarded for the Schenck-Woodman Scholarship (500-level). The 600-level students enter the Dales Portfolio Competition. Monetary prizes are awarded to the top 25% to 30% of those entering (approx. twenty-five students). While the amount varies from year to year, it is generally enough to fund a trip abroad. In addition to the obvious benefits of a traveling scholarship, this competition is also useful in the development of the portfolio. 700 level students participate in the state-wide Stewardson competition, with a modest scholarship provided in-house to recognize the best entries.

Internships
Students can also apply for summer internship at the TC Chan Center as researchers working on campus. The positions are highly popular and offer students a chance to work with environmental design, simulation and analysis technology in an architectural research environment. Career Day and the Career Services offered by the University are also ways the Department tries to help place students in internships and professional employment.

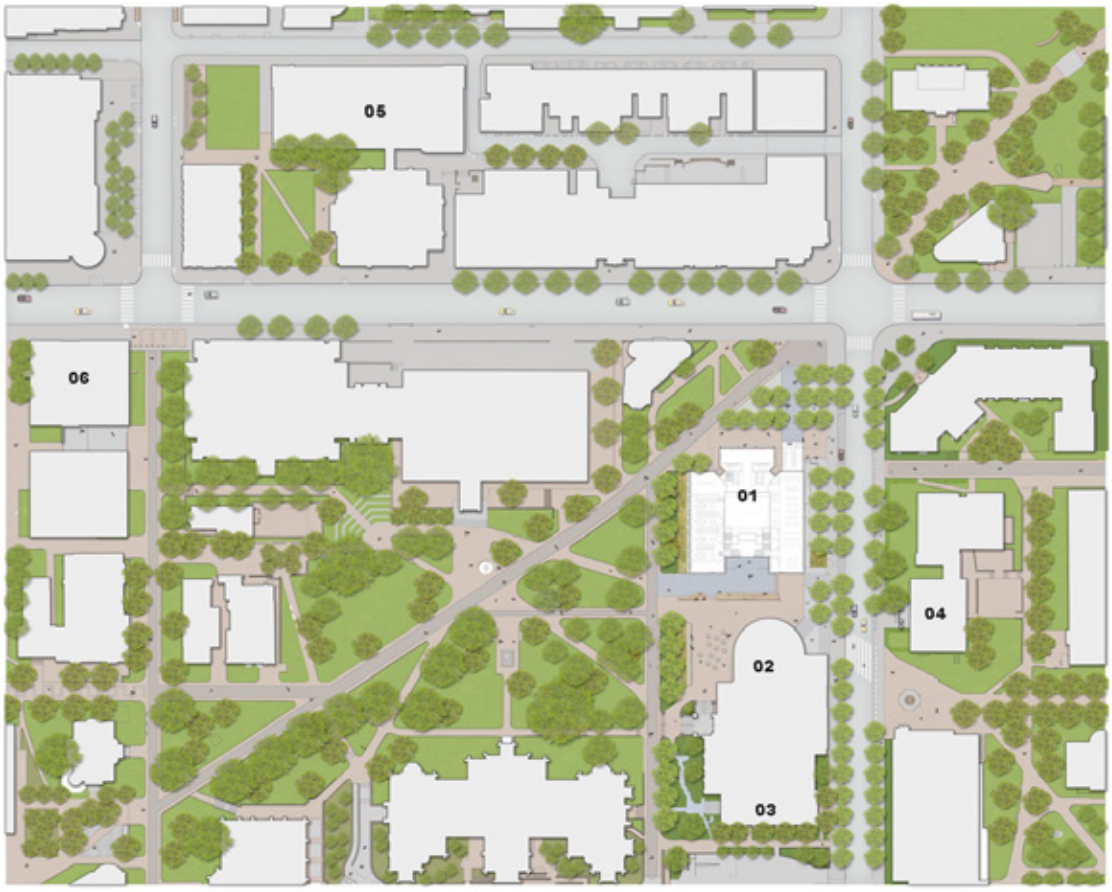
I.2.1G The name of the Architect Licensing Advisor (formerly the IDP Coordinator) and a summary of his/her recent activities, including professional development, in support of his/her responsibilities.

Charles Capaldi is the Architect Licensing Advisor for the Department of Architecture. He is a partner at B Five Studio Architects in Philadelphia, a firm with over 20 years of professional experience, and has collaborated with Philip Ryan on the revision to the Professional Practice curriculum. They have also established open (non-credit) lecture modules each semester accessible to all students in the program that focus on both the IDP, licensure and registration process, as well as on how students should approach employment, portfolio development and expectations for the working environment.

I.2.2 Physical Resources

I.2.2.A 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.

Upon her appointment in academic year 2008 – 2009, Dean Marilyn Jordan Taylor initiated a thorough review of the facilities of the School of Design, which were (and are) spread across six buildings, all in the center of the University of Pennsylvania campus. The analysis of needs, documentation of then-existing conditions, and a facilities master plan for the school including priorities, project cost estimates, and schematic documentation of proposed projects, and project cost estimates were prepared over the next two years by Erdy McHenry Architecture, with partners Scott Erdy, FAIA, and David McHenry, FAIA, in the lead. A faculty/staff/student committee worked closely with the Dean and the architects to develop the strategic facilities plan, which is included in the supplemental material to this report.



This plan shows the School of Design facilities in relation to the University of Pennsylvania Campus. It provides location information for the other five buildings of PennDesign, which are shown in plans on the following pages.

Meyerson Hall, the primary building of the School of Design, sits at the southwest corner of Walnut and 34th Streets, along the diagonal Woodland Walk, which leads directly to College Green, the center of the Penn campus. Meyerson Hall contains major meeting places for all the programs of the School of Design as well as the primary studio locations; seminar rooms; fabrication, conservation, and computer labs; the administrative areas for the School, the Departments of Architecture, City Planning, and Landscape Architecture, and the Historic Preservation Program, and the School's café. Across Meyerson Plaza to the south stands the Frank Furness Fine Arts Library, now named Fisher Fine Arts. The Furness building

also houses the Louis Kahn Apse (now the home of the Kleinman Center for Energy Policy) the school's Architectural Archives, classrooms, meeting spaces, and additional faculty offices.

Architect Scott Erdy, a lecturer and studio instructor in the Department of Architecture and partner of Erdy McHenry Architecture, offers the following description of Meyerson Hall and the design intentions of the transformation proposed in the PennDesign Facilities Master Plan:

> Designed by Stewart, Noble, Class, and Partners in 1965-1968, PennDesign's main building Meyerson Hall is located within the University of Pennsylvania Campus National Register Historic District. Meyerson Hall is enlivened by a corrugated roofline that brings to mind the industrial skylights of early twentieth-century factories and by massive brise-soleils on the east and west facades, a modern motif said here to reflect the ideas of Romaldo Giurgola. By 2008, the systems of Meyerson Hall were badly outdated, and its spaces no longer served the PennDesign community well.
>
> Meyerson occupies a valuable location at the 34th and Walnut Street entry to the Penn campus and enjoys a close physical and social relationship to the remarkable Furness Library and the majestic College Green. Our design proposal seeks to refocus Meyerson Hall outward, expose PennDesign to the rest of the campus, and improve the functional utility of the building, consistent with the Penn Connects Vision Plan encouraging stronger connections, not only within the School of Design and the campus, but to the surrounding urban context and community as well. Meyerson Hall is envisioned as the "Center of Design" collocating the teaching and learning spaces across all areas of study to facilitate interdisciplinary learning and opportunities for social interaction, cultural integration, and institutional advancement within the School. The proposed renovation and reconfigurations of space along with the supporting infrastructure is aimed at improving the functionality, exposure, and pedagogy of the school including studio, gallery, and office renovations, relocation of the FabLab, introduction of a social center or Commons, consolidation of the research programs and expansion of the support space.

The transformation of Meyerson Hall from an inward-focused, mid-20th century academic building for the teaching of architecture and fine arts to a 21st-century highly collaborative and interdisciplinary school of design is being realized in two major phases. Phase 1, which is nearing completion this year, is enlivening and reconfiguring the interior of Meyerson to place primary emphasis on studios that are flexible, team-oriented, and technology-served; improve the quality and flexibility of the Lower and Upper Galleries for lectures, symposia, pin-ups, exhibits, juries, student initiatives, and community events; replace outdated mechanical and electrical building systems, and make the experience of the building welcoming and inclusive. We have turned a former back-door service entrance complete with garbage storage into a city-oriented building entry. Throughout Meyerson, entrances and lobbies now offer electronic information about the school and its activities and invite friends, guests, and community members to participate with us in advancing the role and impact of the fields of design.

The second phase will focus on expanding the capacity and identity of the School of Design through an addition to the north of the existing Meyerson envelope, which will be our Advanced Technology Center. The new north-facing spaces will provide for new and expanded fabrication technologies as well as research and prototyping capacity for all the programs of PennDesign. The façade will make the activities of the school highly visible along the Walnut Street corridor, complementing the new Singh Technology Building for the School of Engineering and Applied Sciences, which is located two blocks east and is designed by faculty member Marion Weiss and her firm Weiss-Manfredi. This phase is expected to begin in 2017.

The Department of Architecture is located in Meyerson Hall. Some offices and support facilities are housed in the Duhring Wing of the Fischer Fine Arts building, and additional computing labs, classrooms, review and exhibition space are available in Addams Hall and the Morgan Building. On the first floor of

Meyerson the School of Design's administrative offices, the Dean and her staff, the Registrar and Finance Office, and the Admissions and Financial Aid administrative offices, are located adjacent to the school's central gallery and exhibition spaces. The Architecture Department office is located on the second floor in close proximity to the 500 level and 600 level studio spaces. The basement and ground floor levels contain seminar rooms, lecture halls, and faculty and building staff offices. Studios spaces for the Architecture Department are located throughout the 2nd and 3rd levels. The School of Design's computing lab and support staff offices are located on the 3rd level. The School of Design's fabrication shop is located on the fourth floor, east wing. Access to the Lower (main) exhibition area is through the front doors on the south side of Meyerson Hall. Access to elevators, and subsequently, to all parts of the building is via the loading dock doors on the northeast corner of the building.

Studios and Review Spaces

Required first and second year architecture studios fill the east and west wings of the 2nd floor level. Each wing accommodates about 80 students. Elective studios and thesis students occupy half of the 3rd level balconies (48 students approximately).

All studios in Meyerson provide individual workstations. On the second and third floor each station has a desk and storage cabinet (each workstation is approximately 3'x5') and an adjustable office chair. Workstations are each provided with one computer networking outlet and access to electric power. Each studio section has its own projector, and lighting and computer connections for projection are also distributed in each studio bay.

Formal mid- and final-project reviews are mounted in the three primary gallery spaces shared by the School of Design's four departments for exhibitions and reviews on the first floor: the Upper and Lower Galleries and "Dean's Alley." Informal, small-scale reviews or work pin-ups, are held in various spaces throughout Meyerson Hall—the large galleries (if available), the fourth floor critique space, and the second- and third-floor corridors, which are furnished with removable panels. When available, additional review space can be reserved at Morgan Hall across 33rd street or at Addams Hall at 36th and Walnut.

Classrooms, Shops, Labs, etc.

There are five lecture halls (B-1, B-2, B-3, B-4, and B-13) in the basement of Meyerson Hall with capacities varying from 45-430 seats. There are three seminar rooms (B-5, B-6, B-7) in the basement. In 2013, all of the B-classrooms were upgraded to tech classrooms equipped with hi-res audio/visual equipment. B-4 & B-13 are additionally equipped with workstation tables for personal laptop hook-up. Three additional seminar rooms are available in the Fisher Fine Arts Library. All of these lecture halls and seminar spaces are open to the university pool and are used for other university classes, though the departments of the School of Design have priority in room assignment. Also located in the basement are shared storage rooms for models. The Department also provides lights and different types of backgrounds for model photography on a loaning basis.

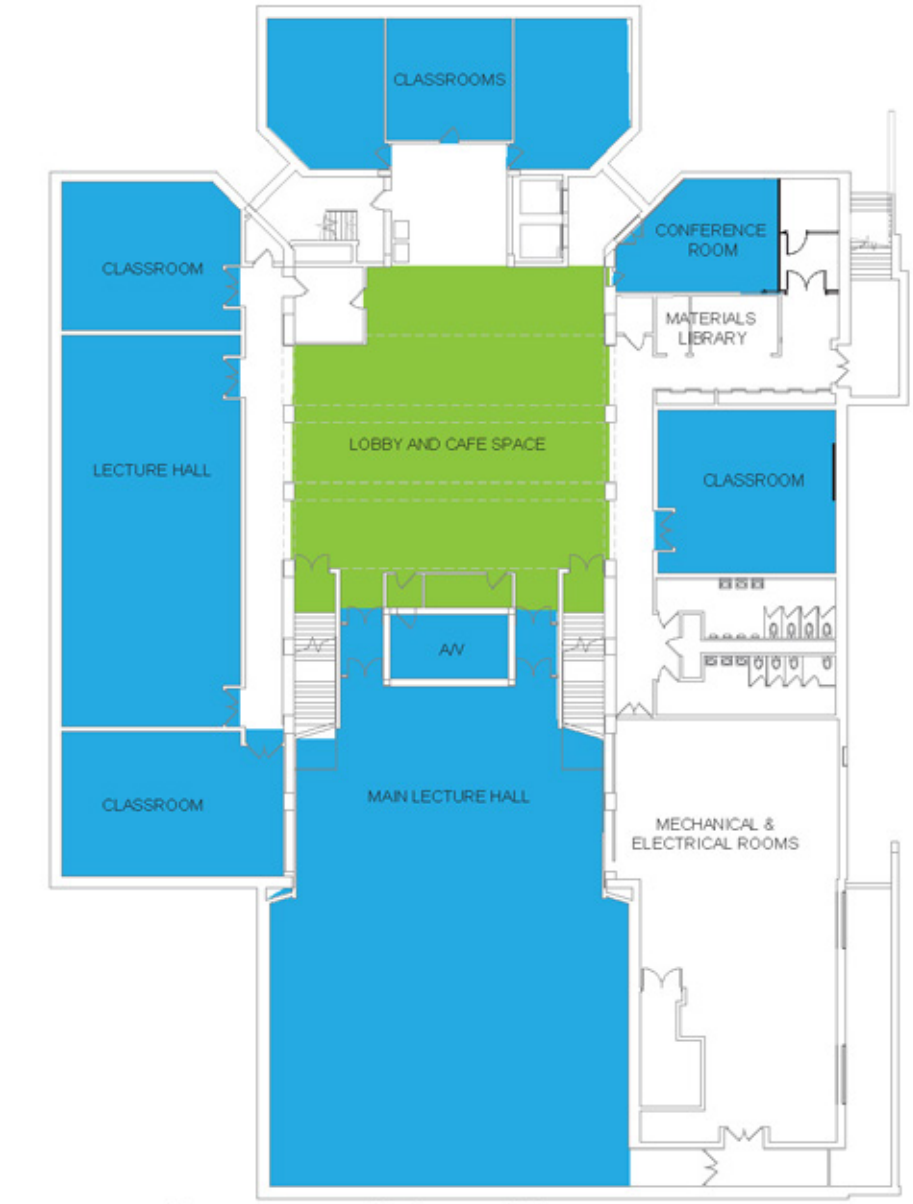
The School of Design's computing facilities (see www.design.upenn.edu/comp) include two dedicated instructional labs with 24 high-end workstations (PC and Mac) running various 3D modeling and simulation software (Maya, 3DStudio Max, Fluent, FloLab, etc.) as well as several Autodesk, Adobe, Macromedia, and other CAD/Design-oriented titles. The majority of this software is available free-of-charge for installation to student-owned computers attached to the school-network, saving them thousands of dollars on software purchases. The University also furnishes discounted software packages for the student's individual purchase. In addition, the TC Chan Center has workstations used for simulation and flow control research projects and the Digital Video Lab has 8 workstations used occasionally by architecture students to create video production of their projects. Four large-format plotters and color laser printers provide reasonably priced output, crucial to the demanding load during review periods. The computing facility is staffed by four full-time specialists and one work-study student. During peak review times, the computing staff provides access to a render-farm facility, where students can send complex rendering tasks, so they can continue working on their design projects.

Specific advances prompted primarily by faculty have also increased the types of use of digital media within the department. 3D printers are located in each studio wing and 3D printers in the modeling shop work at a higher resolution than those placed in the studios, and the four laser-cutters are used throughout the department, particularly for model-building; the CNC milling equipment is used in specific courses.

The School of Design's Fabrication Laboratory (www.design.upenn.edu/fabrication), which includes facilities for wood, metal and digital fabrication is currently housed on 4th level of Meyerson Hall. One large workshop space (Rm. 409) and an ancillary room for the laser cutter (50-watt) provide 3000 square feet of laboratory space. There is an additional room (Rm. 408) which houses laser cutters, 3D Printers and vacuum forming machinery. The main laboratory space houses the following pieces of equipment: (1) 10" table saw, (1) 8" jointer, (3) 14" wood band saws, (1) 12" disk and 6" x 48" belt sander, (1) 12" compound sliding miter saw, (1) 12" miter saw, (1) 12" ferrous chop saw, (1) 24" Dia-acro brake fold, (1) 14" non-ferrous cutting band saw, (1) 26" ferrous band saw, (1) drill press, (1) Hegner scroll saw, (1) sandblaster, (2) bridgeboard vertical milling machines, (1) Southbend engine lather, and (1) Sheldon engine lather, and (1) large format Techno-Iseo CNC (Computer Numeric Control) router. There is also a large assortment of hand and hand-powered tools for use by students in the shop. The lab is open to all students pursuant to completion of a risk management department-mandated safety course. There are two full-time staff members to assist students during normal hours (Mon-Thurs 8am-7pm/ Fridays 8am-4pm/ Saturdays and Sundays from 11am-6pm). During peak times, there are three staff members on duty. Students who have demonstrated competency are allowed after-hours access to certain tools.

Offices
The Department's administrative offices are located on the 2nd floor of Meyerson Hall. Additional offices for standing faculty, visiting critics and lecturers are located in Meyerson Hall, and the upper floors and Duhring Wing of the Fisher Fine Arts Library.

Meyerson Hall
The Department of Architecture primarily resides in Meyerson Hall, mostly on the 1st, 2nd and 3rd floor as previously described. The information on these plans provided by Erdy McHenry Architects as part of their role in preparing and implementing the Facilities Master Plan, which is included in the supplemental material to this report. These plans reflect the current state of the facility after renovation in Summer 2015.

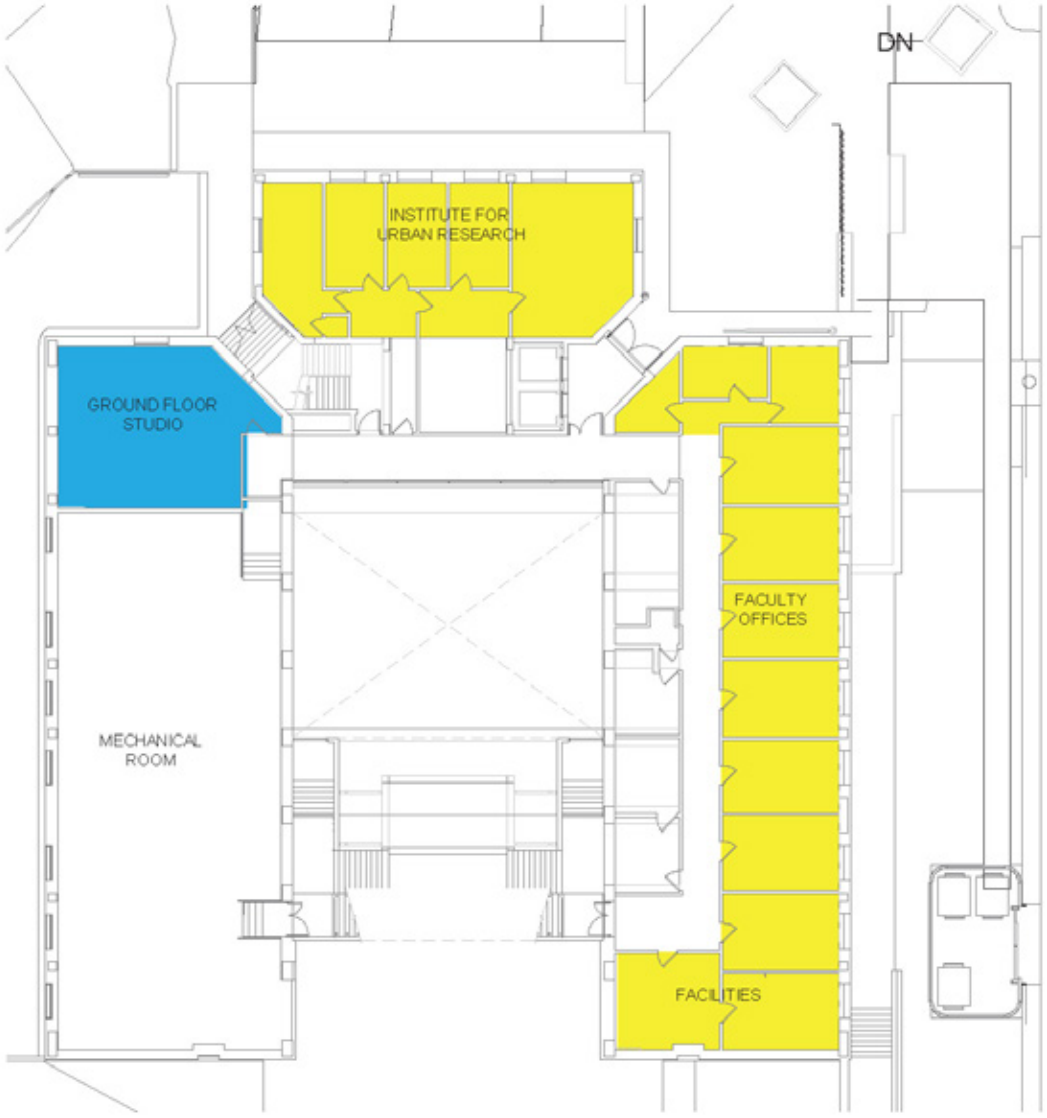


1 Basement Floor Plan

N

Teaching/Learning
Scholarship
Public Interaction

Architect: SCOTT A. ERDY, AIA, DAVID S. MCHENRY, AIA
emArchitecture
Erdy McHenry Architecture, LLC
915 North Orianna Street
Philadelphia, Pennsylvania 19123
ph: 215.925.7000 fax: 215.925.1990
web: http://www.em-erc.com



2 Ground Floor Plan

N

Teaching/Learning
Scholarship
Public Interaction

Architect: SCOTT A. ERDY, AIA
DAVID S. MCHENRY, AIA
emArchitecture
Erdy McHenry Architecture, LLC
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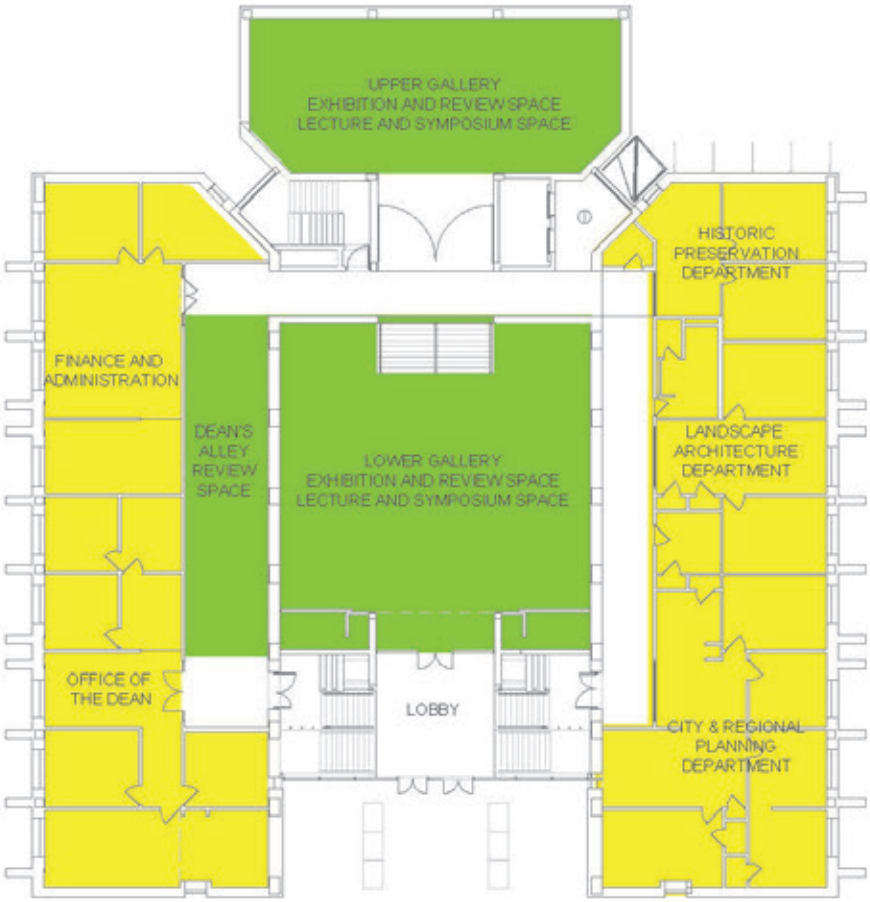
web: http://www.em-arc.com



3 First Floor Plan

N

Teaching/Learning
Scholarship
Public Interaction

Architect: SCOTT A. ERDY, AIA DAVID S. MCHENRY, AIA
emArchitecture
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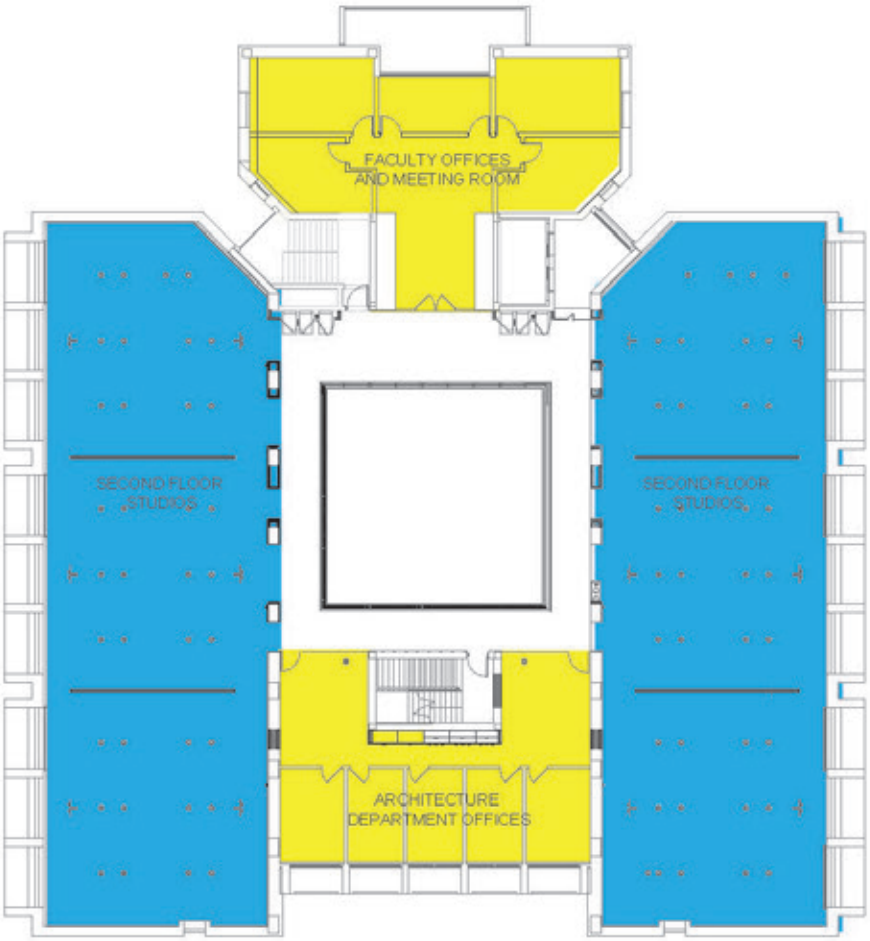

4 Second Floor Plan

N

Teaching/Learning
Scholarship
Public Interaction

Architect: SCOTT A. ERDY, AIA
DAVID S. MCHENRY, AIA
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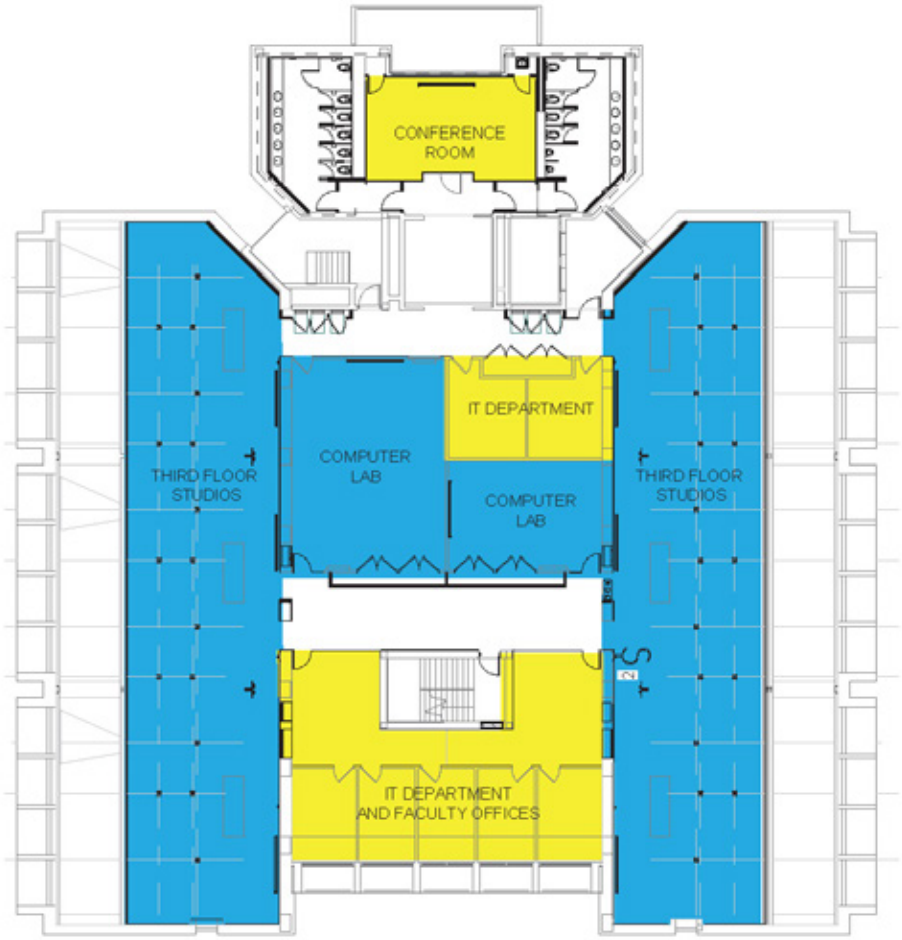

5 Third Floor Plan

Architect: SCOTT A. ERDY, AIA
DAVID S. MCHENRY, AIA
emArchitecture
Erdy McHenry Architecture, LLC
915 North Orianna Street
Philadelphia, Pennsylvania 19123
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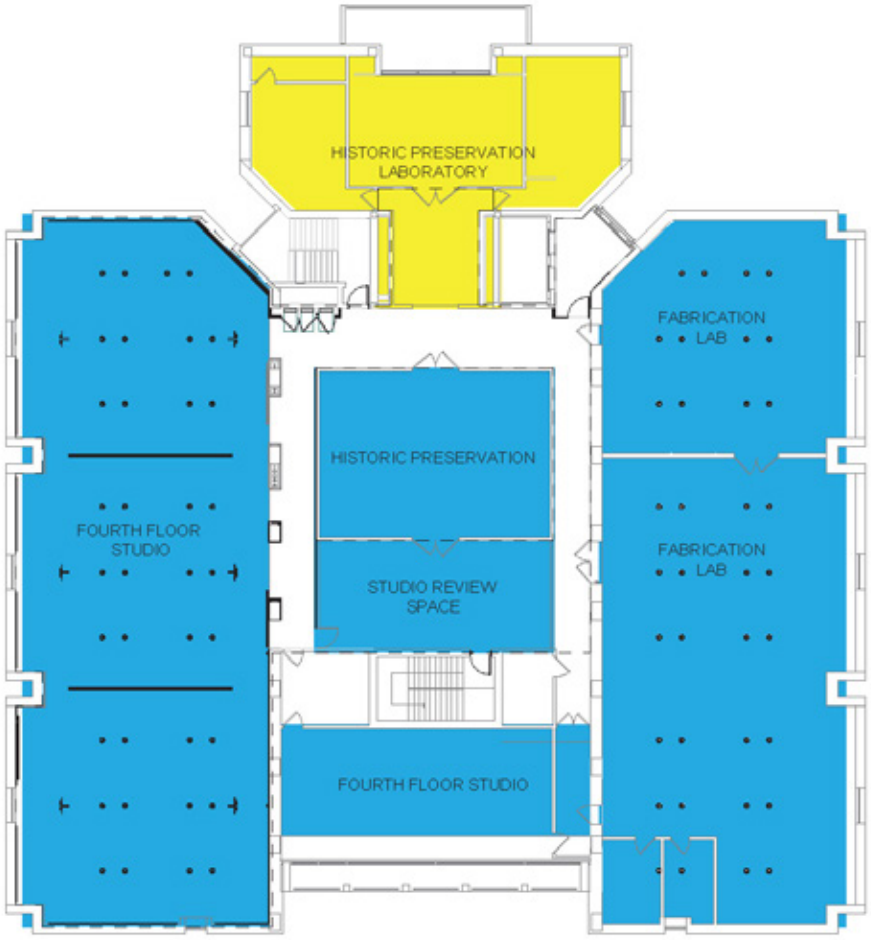

6 Fourth Floor Plan

Teaching/Learning
Scholarship
Public Interaction

Architect: SCOTT A. ERDY, AIA
DAVID S. MCHENRY, AIA
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web: http://www.em-arc.com

Fisher Fine Arts Library + Duhring Wing

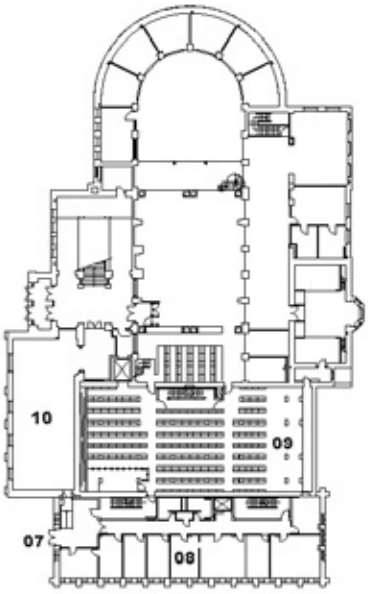
01 Architectural Conservation Lab
02 PennDesign Studio
03 Architectural Archives Krioz Gallery
04 Architectural Archives Storage
05 Architectural Archives Entry
06 Basement Level Entry
07 Duhring Wing Main Entry
08 University Offices
09 Library Book Stacks
10 Arthur Ross Gallery
11 PennDesign Faculty Offices
12 Kleinman Center Research
13 PHD Architecture Studio
14 Kleinman Administrative Offices
15 City & Regional Planning Workspace
16 Fine Arts Studio Space & Faculty Offices

Teaching/Learning

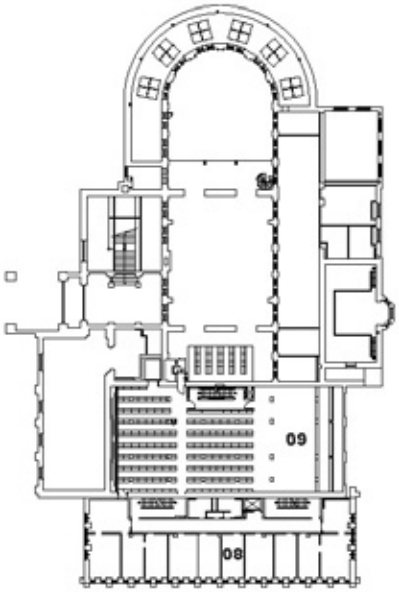
Scholarship

Public Interaction

B Existing Basement Floor Plan

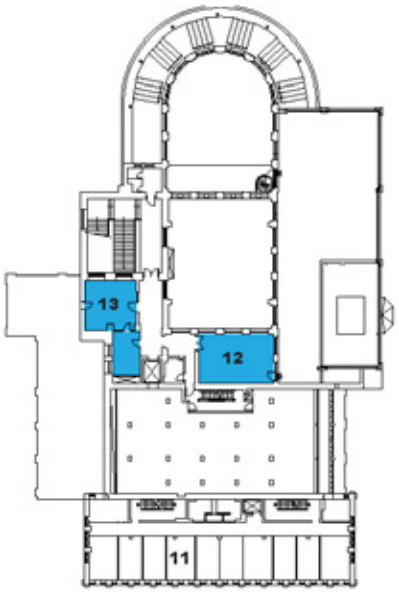


1 Existing First Floor Plan

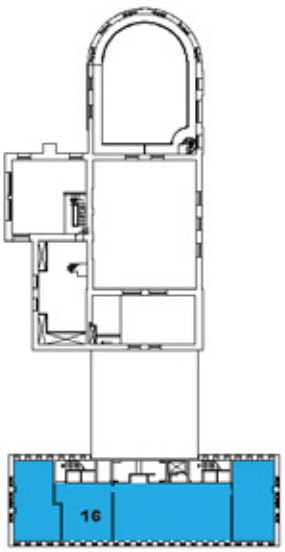


2 Existing Second Floor Plan

4 Existing Fourth Floor Plan



3 Existing Third Floor Plan



5 Existing Fifth Floor Plan

emArchitecture

B Existing Basement Floor Plan

Franklin Building Annex

01 Fine Arts Studio Space
02 Computer Server Room
03 University Offices & Swing Space

1 Existing First Floor Plan

Teaching/Learning
Scholarship
Public Interaction

2 Existing Second Floor Plan

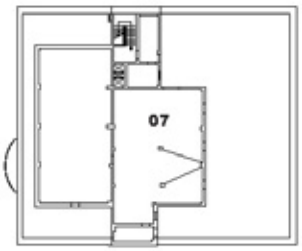
B Existing Basement Floor Plan

3 Existing Third Floor Plan

Addams Hall

01 Support Space
02 Classroom
03 Exhibit/Gallery Space
04 Undergraduate Architecture Studio
05 Office Space
06 Fine Arts Studio Space
07 Mechanical Space
08 Entry

1 Existing First Floor Plan



4 Existing Fourth Floor Plan

Teaching/Learning
Scholarship
Public Interaction

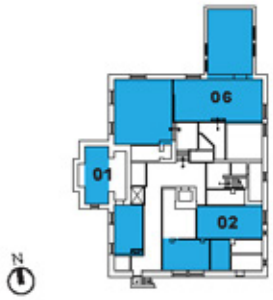
2 Existing Second Floor Plan

emArchitecture

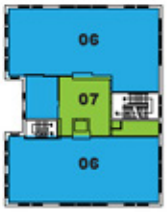
Morgan Building

01 Support Space
02 Classroom
03 Exhibit/Gallery Space
04 Entry
05 Office Space
06 Fine Arts Studio Space
07 Common/Lounge Space

Teaching/Learning
Scholarship
Public Interaction



B Existing Basement Floor Plan



2 Existing Second Floor Plan

1 Existing First Floor Plan

3 Existing Third Floor Plan

I.2.2.B A description of any changes to the physical resources either under construction or proposed.

The description of the next phase of facilities for the School of Design was provided in the previous section. Additional description and images can be found at this link https://dl.dropboxusercontent.com/u/107120732/University%20of%20Pennsylvania%20APR%20Supplemental%20Material/I.2.2%20Physical%20Resources%20Meyerson%20Hall%20Renovation%20Progress%20and%20Proposal.pdf

A summary of the Facilities Master Plan is included in the supplemental material to this report.

I.2.2C Identification of any significant problems that impacts the operation or services, with a brief explanation of plans by the program or institution to address it.

Even with the extensive investment in the renovation of Meyerson Hall has provided more effective and efficient studio space; additional and improved spaces for reviews and juries, lectures, symposia and public interaction; more conference rooms; and a new information system for all users of the building. Space limitations in Meyerson have required the addition of fabrication areas at the Penn Center for Innovation as well as the rental of space for the current PPD program, which will become the new Master of Science in Design degree in the coming academic year. Additional space is required for the advancement of our programs. In summer 2016 the former mechanical facilities on the ground floor will be converted to additional studio and fabrication space. Our longer-term plan is to add the PennDesign Advanced Technology Center as a northerly extension of Meyerson Hall.

I.2.2.D A description of how the program provides space for faculty to fulfill all four of their roles: teaching, scholarship, service, and advising.

Standing faculty have offices either in Meyerson Hall or in the Duhring Building, and have accommodations for their individual work as well as conversations and advising appointments with students. Faculty of any standing has access to both open and closed spaces for presentation, work and communicating with students and preparing materials in Meyerson, the Fisher Fine Arts Library or any of the University facilities that are open for course reservation. The recent renovations have produced two new meeting rooms that can be reserved for personal or group use by faculty of any standing.

1.2.3 Financial Resources

I.2.3.A A description of the institutional process for allocating financial resources to the professional degree program.

All schools at the University of Pennsylvania operate within the framework of responsibility-centered management (RCM), in which all revenues and expenditures flow through one of the twelve schools or non-academic centers (such as the Institute for Contemporary Art, museum, Annenberg Center). The ground rules of the system are:

- Each school contributes 20% of its tuition revenues and other designated funds to a “subvention pool” administered by the provost, part of which is returned to the schools. Some schools are net recipients from the subvention pool (including PennDesign); others are net contributors.
- Net Tuition revenues, research funds, grants and gifts received by the school are available for the use of the school. Tuition moves with students; when they enroll in a course in another school, 75% of their net tuition flows to the school teaching the course.
- Each school has an independent endowment, and the university sets a spending rule that determines the maximum that may be drawn down each year (currently approximately 4.7%). Over 90% of Penn’s endowment is vested in the schools and centers.
- Each school must pay the full costs of its operations, including salaries, benefits, student financial aid, educational expenses, operations and maintenance of its buildings, and any improvements to its space and facilities.

- The schools are taxed for the full range of central costs of the university, ranging from the costs of the president's office to libraries to campus security to grounds maintenance. A variety of formulas are used to distribute these costs as equitably as possible across the schools and centers.
- Within this framework, schools must operate with balanced budgets. Any expenditure that exceeds revenues (such as for capital investments) must be repaid over time with interest. Any surpluses remain in the school, and can be spent in subsequent years.

I.2.3.B A description of the expense categories over which the program has either control or influence.

In AY14-15, the M. Arch program's operating expenses totaled $5.1M. $4.1M, or 80% was dedicated to academic compensation (standing, practice professors, lecturers, teaching and research assistants) while $1.0M supported the direct administrative functions of the M. Arch program. The M. Arch program spent $664,000 in current expense to support the activities of the program. In addition, M. Arch used designated endowment funds to support faculty on professorships [$518K], students traveling abroad and competitions [$330K], and for awards and prizes [$36K]. The M. Arch program also received central administrative support from the school in the way of computing, admissions, registrar, development, budget and finance, and facilities services, the cost of which are not included in the numbers above.

I.2.3C A description of the revenue categories over which the program has control or influence.

The School of Design is largely tuition-driven, with 80% of its revenues coming from tuition earned by educating its undergraduate and graduate students. To attract the best students, the school must discount its tuition by about 24% to provide a pool of financial aid. In AY14-15, the M. Arch program generated approx. $8.7 million in tuition revenue for the school. The program awarded $2.0M in need-based, merit-based, minority, and diversity aid fellowships, $945,000 of which was funded by endowments designated for M. Arch students.

I.2.3.D A description of the scholarship, fellowship and grant funds available for student and faculty use.

Grants and Scholarships

The Chair of each department awards departmental scholarships on an individual merit basis. In addition, the PennDesign considers students for need-based grants, determined by assessing information from either the FAFSA or the International Student Financial Aid application. PennDesign also offers special Dean's Diversity Scholarships to students whose backgrounds and experiences demonstrate the ability to contribute to increasing socioeconomic and multicultural diversity awareness at the School of Design. Dean's Diversity Scholarships range from $12,000 to full tuition and vary depending on achievement and financial need.

Faculty Development Funds

The purpose of the Faculty Development Fund (FDF) is to provide standing faculty, professors of practice, and full-time lecturers with a dedicated uniform source of funding to pursue professional development and research activities. Each fiscal year (July 1 - June 30), the Dean makes available $1,300 in each eligible faculty's FDF account. Fund balances rollover from one fiscal year to another. Faculty can accumulate up to $3,900 from the Dean in their FDFs at any given time. FDF funds can be combined with external funding.

I.2.3E 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*
  - The program has experienced fast growing enrollment over the last 3 years, after a slowly diminishing rate over the years prior to that as shown in the list below. Fall 2006: 209 – Fall 2010: 201 – Fall 2011: 188 – Fall 2012: 196 – Fall 2013: 222 – Fall 2014: 226
  - The enrollment over the last 10 years had a stable 30% acceptance and matriculation rate, already last year there was a 38% acceptance rate, and to our surprise this year we have close to a 50% acceptance rate and matriculation, resulting in 92 students in first year. The goal was set at 72 students and we are looking to stabilize the student numbers we currently have.

- *Pending reductions or increases in funding and plans for addressing these changes.*
  - The overall budget is aimed to keep in line with the established amount of dollars per student, and it increases proportionately with the increased enrollment of students. This includes faculty expenditure and compensations. Financial aid has increased at least as much as the growth in tuition. Our resources for financial aid are not as great as those of some of our key peer schools.

- *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).*
  - There have not been significant changes in funding models or faculty compensation. The salaries and expenditures have maintained their proportionate growth with the rest of the University, as have the operating budgets and facilities budgets, which are balanced through proportionate distribution by the University central offices.

- *Planned or in-progress institutional development campaigns that include designations for the program.*
  - The department is included in the Development Plan created each year by the Dean and Associate Dean for External Affairs, in coordination with the University Office of Development and Alumni Relations.
  - The Development Plan sets yearly targets for gifts and donations to professorships, fellowships, capital improvements, and support of existing and new programs.
  - The school also attracts annual funding, which is used primarily in support of student fellowship ness the donor indicates otherwise.
  - We are seeking funds specifically for the new robotic laboratory and for the PennDesign Advanced Technology Center.

The following charts reflect the budget and dispensation of funds under particular categorical distinctions. This material includes revenues, expenditures, and compensations.

School of Design **NAAB Metrics** FY16 GENERAL Purpose Budget			
Academic Compensation #	Architecture	Landscape	City Planning
Total Academic Compensation	$5,067,196	$2,092,217	$1,562,197
Non-Academic Compensation	$434,362	$139,525	$152,745
Total Compensation	$5,501,558	$2,231,742	$1,714,942
Total Current Expense	$874,180	$248,190	$140,550
Total Budget	$6,375,738	$2,479,932	$1,855,492
Metrics			
Faculty Heads ^	64	24	22
Graduate Heads	329.5	103	122.5
Graduate Students per Faculty	5.1	4.3	5.6
Graduate Course Units Taught	3,195	989	1,188
Prop of Total Graduate Course Units Taught	*51.9%*	*15.9%*	*18.4%*
Undergraduate Course Units Taught	260	30	25
Prop of Total Undergraduate Course Units Taught	*16.4%*	*1.9%*	*1.6%*
Current Expense per Total Course Units Taught	$253	$244	$116
Total Budget per Course Unit Taught	$1,845	$2,434	$1,530
Total Budget per Grad Head/Student FTE[!]	$17,613	$24,077	$15,147
Total Comp per Grad Head/Student FTE[!]	$15,198	$20,906	$13,651
# Academic Compensation excludes professorships, sabbatical leaves, and other sources (i.e. IUR).			
* Architecture and Fine Arts budgets include graduate and undergraduate program expenses.			
^ Faculty includes standing, associate, and academic support			
! Student FTE = Total u/g course units divided by 8			

School of Design
Department of Architecture
General Operating: (Surplus) / Deficit Report
Fiscal 2010 Actual - Fiscal Year 2015 ACTUAL, Fiscal Year 2016 Projection
4-Sep-15

	Actual FY10	Actual FY11	Actual FY12	Actual FY13	Actual FY14	Actual FY15	Projection FY16
Revenues							
Course Units Taught							
Number of Graduate Course Units Taught *	2,360	2,437	2,293	2,292	2,573	2,681	3,195
Number of Undergraduate Course Units Taught	369	339	354	345	232	252	260
Total Course Units Taught	**2,729**	**2,776**	**2,647**	**2,637**	**2,805**	**2,933**	**3,455**
Weighted Average Dollar per Graduate CU Taught	$3,134	$3,154	$3,488	$3,512	$3,632	$3,761	$3,908
Weighted Average Dollar per Undergraduate CU Taught ^	$2,017	$1,975	$2,198	$2,280	$2,289	$2,382	$2,479
Gross Tuition							
Graduate	$7,396,240	$7,686,298	$7,997,984	$8,049,504	$9,345,136	$10,083,241	$12,485,034
Undergraduate	$744,273	$669,525	$778,092	$786,600	$531,048	$600,264	$643,473
Total Gross Tuition	**($8,140,513)**	**($8,355,823)**	**($8,776,076)**	**($8,836,104)**	**($9,876,184)**	**($10,683,505)**	**($13,128,508)**
Financial Aid							
Need Based Aid	$726,275	$663,987	$620,750	$651,650	$676,925	$644,938	$540,375
Merit Aid	$466,500	$583,625	$657,950	$584,000	$668,375	$852,675	$1,302,875
Diversity Aid	$192,126	$200,280	$197,829	$324,945	$288,650	$280,404	$291,396
Undergraduate Aid	$249,331	$230,986	$268,442	$275,310	$191,177	$222,098	$244,520
Total Financial Aid	**$1,634,232**	**$1,678,878**	**$1,744,971**	**$1,835,905**	**$1,825,127**	**$2,000,115**	**$2,379,106**
Total Net Tuition	**($6,506,281)**	**($6,676,945)**	**($7,031,105)**	**($7,000,199)**	**($8,051,057)**	**($8,683,390)**	**($10,749,402)**
Allocated Costs %	**$1,301,256**	**$1,335,389**	**$1,406,221**	**$1,400,040**	**$1,932,254**	**$2,084,014**	**$2,579,856**
Total Revenues	**($5,205,024)**	**($5,341,556)**	**($5,624,884)**	**($5,600,159)**	**($6,118,803)**	**($6,599,377)**	**($8,169,545)**
Expenditures							
Academic Compensation							
Standing Faculty !	$1,097,353	$948,279	$1,017,835	$1,091,110	$970,813	$913,180	$928,119
Practice, Lecture A, or A1 Academician	$642,726	$705,340	$905,832	$974,722	$827,841	$964,218	$1,046,904
Adjuncts, Lecturers, and Instructors	$1,074,125	$1,370,325	$1,275,717	$1,121,549	$1,452,190	$1,301,480	$2,070,000
Teaching Assistants (PhD/Stipend)	$42,000	$46,000	$32,475	$81,133	$75,512	$132,542	$120,000
Research Assistants (PhD/Stipend)	$16,000	$22,755	$42,746	$53,891	$24,144	$16,550	$20,000
Employee Benefits	$657,535	$680,269	$777,791	$813,239	$754,203	$770,191	$882,173
Total Academic Compensation	**$3,529,739**	**$3,772,968**	**$4,052,396**	**$4,135,644**	**$4,104,703**	**$4,098,161**	**$5,067,196**
Non-Academic Compensation							
Professional Staff	$45,307	$38,965	$46,900	$46,963	$51,250	$58,511	$54,500
Support Staff	$105,582	$103,949	$99,351	$107,588	$134,888	$148,670	$194,230
Graduate Assistants (Master/Hourly)	$25,000	$18,310	$26,817	$31,266	$34,657	$49,991	$60,000
Work-Study - Hourly	$20,000	$34,277	$22,555	$25,936	$29,221	$23,027	$34,000
Employee Benefits	$50,408	$49,081	$52,327	$55,735	$66,835	$75,912	$91,632
Total Non-Academic Compensation	**$246,298**	**$244,582**	**$247,950**	**$267,488**	**$316,851**	**$356,111**	**$434,362**
Total Compensation	**$3,776,037**	**$4,017,550**	**$4,300,346**	**$4,403,132**	**$4,421,554**	**$4,454,272**	**$5,501,558**
Current Expense							
Graduate	$379,650	$668,675	$762,403	$565,978	$577,936	$611,107	$816,950
Undergraduate	$30,200	$28,690	$30,985	$36,540	$40,046	$32,007	$40,400
University Services (telephone, mail, and UI	$23,847	$20,218	$18,936	$16,749	$20,201	$21,132	$16,830
Total Current Expense	**$433,697**	**$717,583**	**$812,323**	**$619,267**	**$638,183**	**$664,246**	**$874,180**
Total Expenditures	**$4,209,734**	**$4,735,133**	**$5,112,669**	**$5,022,399**	**$5,059,737**	**$5,118,518**	**$6,375,738**
(Surplus) / Deficit	($996,290)	($606,423)	($512,215)	($577,761)	($1,059,066)	($1,480,858)	($1,793,808)

* Graduate course units include PhD

^ The undergraduate guarantee (under or over guaranteed) effects the weighted average of the undergraduate cu value

% Tax on tuition net of aid represents dollars needed to pay for operations & maintenance, library, School and University services (payroll, legal, research etc.) increased from 20% in FY10-FY13 to 24% in FY14-FY16

! Standing faculty excludes faculty on leaves and professorships.

1.2.4. Information Resources.

I.2.4A A description of the institutional context and administrative structure of the library.

Hannah Bennett
Head, Fisher Fine Arts Library

The University of Pennsylvania Libraries < http://www.library.upenn.edu > (Penn Libraries) supports the teaching, learning, and research activities of Penn faculty and students. The library system is comprised of thirteen library branches - including the Fisher Fine Arts Library (FFAL) – that collectively house over seven million volumes, is staffed by 390 professional and support staff, along with numerous student staff. The management structure includes the Director of the Libraries and Vice Provost, who has ultimate oversight for Penn Libraries but has a series of directors in place who manage specific units and services on his behalf.

While the FFAL is one of the most popular places to study on campus, attracting students and scholars from across Penn and beyond, its primary focus is supporting the curricular needs and research activities of Penn Design faculty and students along with the related certificate programs and dual degree programs with other departments. Specifically, FFAL supports degree programs in Architecture, City and Regional Planning, Fine Arts (painting, sculpture, combined media, digital media, printmaking), Historic Preservation, Landscape Architecture, and Urban Spatial Analytics; and, the Ph.D. programs in Architecture and City and Regional Planning. In addition to these programs, the FFAL supports the T.C. Chan Center for Building Simulation and Energy Studies, the Non-Linear Systems Organization (design of material structures), Penn Institute for Urban Research, and PennPraxis, a vehicle for carrying out applied projects for external clients under the direction of Penn Design faculty. Equally as important to the FFAL is the Department of the History of Art that houses over ten areas of specialization including architectural history and theory. Both Penn Design and the Department of the History of then drive the collections a services within the FFAL.

In addition, with Van Pelt Library and the University Museum Library, FFAL supports the interdisciplinary Graduate Group in the Art and Archaeology of the Mediterranean World. Other centers and programs across the university -- including Classical Studies, Annenberg School for Communication, English, History, Middle East Center, School of Engineering and Applied Science, and Urban Studies use and rely on the resources of the Fisher Fine Arts Library.

Core functions of the FFAL include:

- Reference and consultation services provided on site and via office consultations, phone, email, online chat and instant messaging.
- Collection development and management in various media including books and e-books, periodicals and e-journals, electronic resources such as databases and other Web-based products, and a growing collection of rare books and ephemera, expending approximately $400,000 per year in allocated funds and endowment income.
- Instruction and teaching activities including library orientations, research instruction, and teaching with collections.
- Outreach to faculty and students through promotion of library resources and services, creation of Web-based content, participation in school culture and project reviews, and so forth.
- Maintaining departmental websites and research guides.
- Image research support and Fine Arts Image Collection development.

I.2.4B 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.*

Services

FFAL maintains extensive service hours during the academic year, averaging 100 hours per week. Reference and information services in architecture and related fields are provided by professional librarians onsite, by phone, or email. The librarians are also available for reference consultation by request or as assigned by faculty. The Fine Arts Image Collection offers digitization services to faculty and students as well as permissions ready-reference for reproduction requests from the FFAL Fine Arts Image Collection. The library also loans out Mac books and Windows laptops for students to use.

Penn Libraries belongs to a number of consortia and inter-lending networks which open up hundreds of research collections to the Penn community. For example, Borrow Direct is a rapid delivery inter-lending network, in which Penn participates, comprised of Harvard, MIT, Dartmouth, Yale, Cornell, Princeton, Brown, Columbia, the University of Chicago, and Johns Hopkins. E-Z Borrow, a network of academic libraries in Pennsylvania and neighboring states, is also available to Penn and aims to deliver books within four working days of placement of the request by patrons. SHARES is another network, making available materials from some of the world's foremost research collections including the Getty, Museum of Modern Art, and the Art Institute of Chicago. Faculty Express delivers to Penn departmental offices requests for books and articles made by standing faculty. It is the policy of the Penn Libraries to subsidize the entire cost of acquiring materials through Interlibrary Loan, Borrow Direct, and E-Z Borrow for Penn faculty, graduate and undergraduate students, and staff. In the coming months, all Penn Design graduate students will be eligible for the Library's "rapid" article scanning service, another delivery service aimed to electronically deliver content, owned by Penn and available elsewhere within a 24 to 48-hour timeframe.

Staff

The Head of the FFAL is responsible for managing the staff, services and collections of the FFAL. She is a recent appointment, having started in March of 2015, and reports to the Penn Libraries' Director of Teaching, Research, and Learning. The Head holds an M.L.S. with an advanced degree and subject specialization in architecture and related fields. She currently manages all seven paraprofessional staff and has involvement in the management of the student staff. Paraprofessionals have appropriate qualifications, training, and experience, and have written position descriptions. There is an annual process of individual goal setting and evaluation for the librarian as well as the paraprofessional staff. Opportunities for professional development are available to all library staff. By the end of the Fall 2015 semester, an associate head of the library will have been appointed and will report to the Head of the FFAL. This person will also hold an M.L.S. and will be overseeing many of the FFAL's public services. This position was developed following the retirement of the Image Collection's Visual Resources Curator. Currently, the Head oversees all Image Collection staff and services. Centralized units of Penn Libraries perform most acquisitions, cataloging, and information technology functions.

Facilities

The FFAL < http://www.library.upenn.edu/finearts/> has approximately 20,000 square feet of usable floor space across four levels, and about 350 individual study seats. The Fine Arts Library was listed in the National Register of Historic Places in 1985. Major restoration work, planned and directed by the firm of Venturi, Rauch and Scott Brown, was carried out from 1987 through 1990, with rededication taking place on the centennial of the original ceremony. In 1992 both the building and the library were formally renamed the Anne and Jerome Fisher Fine Arts Library to honor the principal donors to the restoration project.

The Holmes Perkins Reading Room, located within the FFAL's interior envelope, houses the library's rare book collection, which consists of approximately 2,000 volumes. The space is in need of a complete renovation as temperature and structural concerns (the mezzanine level) prevent this room from fulfilling its charge as a rare book collection. It is hoped that with a complete needs assessment and renovation plan, funding will be raised to bring this important collection into a secure, environmentally appropriate space. Despite its current condition, classes are still conducted in the space as many faculty teach with the collections.

The FFAL's Davis Seminar Room, seating approximately ten people, is available for student and faculty use and may be booked through an online system.

The Image Collection, located in the FFAL's lower level, is primarily a teaching resource for Penn faculty and students. Analog image resources (i.e., slides) for art history, architecture, city planning, landscape architecture and fine arts are housed in one facility accessible to the entire campus. Currently, the space is under consideration for renovation as faculty in both Penn Design and the History of Art are interested in seeing a materials library occupy much of the underutilized space. In addition, some of this space will likely be earmarked for an offset letterpress "center" to be managed by the Kelly Writer's House. All of these ideas are speculative at the moment but the materials library, in particular, is gaining real traction with Design and Library administrations.

Equipment

The number of computer workstations, photocopiers, microform reader/printers, scanners, and slide viewers/sorters (now not much used) is sufficient but could be improved upon with better scanning and image editing equipment. Graduate students are provided, upon request, with an individual study carrel and beginning in Fall 2015, students will also be provided with student shelves where they may charge materials for long-term use. As the curricula and student projects in Penn Design incorporate newer technologies, e.g. 3D printers, drones, GIS applications, etc., the library will need to consider what sort of equipment is most relevant.

Collections

FFAL holds its collections onsite as well as in the Penn Libraries offsite storage facility, LIBRA, located in New Jersey. FFAL's approximate volume count is 250,000 onsite with approximately 85,000 more located in LIBRA. FFAL collects a wide range of materials to support research in art and architecture, the decorative arts, photography, and archaeology. The entire history of art is represented, from antiquity to the present, in volumes published in dozens of languages. Monographs, exhibition catalogs, journals, facsimiles, reference materials, and microforms are all of interest. Electronic resources, including image databases, electronic journals, indexes, and other reference works, are also of great importance, as are videos and other media. While most academic disciplines have shifted publications and research projects into the online environment, the printed art monograph and art journal remain paramount at the Fisher and will continue to comprise a key element of its holdings. The Fisher Fine Arts Holmes Perkins Library (rare book collection) constitutes approximately 2,600 books, with associated maps and prints, representing over 400 years of architectural history and theory.

Collection development activities are governed by written collection development policies for the FFAL collection. Organization and cataloging of library collections is executed in a timely fashion according to national standards. Books are classified using the Library of Congress Classification system, and are primarily accessed by way of Penn's "Franklin" Catalog or Franklin Discovery, a new Summon-based discovery platform. Since the start of the new Head Librarian, the FFAL has recalibrated how it acquires materials by enlisting specialized art and architecture book dealers to provide materials as well as enlisting more international vendors so that areas such as Latin America and South Asia and South East Asia are aptly represented in the collection.

The Fine Arts Image Collection holds approximately 550,000 cataloged slides and 200,000 cataloged digital images. About 1,000,000 purchased or licensed fine arts digital images are available overall through the Penn Libraries website. Slides are organized according to the Fogg Classification Scheme. Overall, architecture and urban planning make up roughly one half of the entire collection. Digital images are held in Tiff, Mr. Sid and JPEG format. Currently, 250,000 slides are cataloged in MARC format and are searchable online at http://dla.library.upenn.edu/dla/fisher/index.html. There are 125,000 online descriptive records for images of architectural subjects; of these, 80,000 records include the images themselves. These images are available to faculty and students in the M.Arch program for incorporation in their teaching activities.

The Image Collection is primarily a teaching resource for Penn faculty and students. Analog image resources (i.e., slides) for art history, architecture, city planning, landscape architecture and fine arts are housed in one facility accessible to the entire campus. Photography, image acquisition and image processing are part of the general materials allocation for the Fine Arts Library. Expenditures for licensed resources such as ARTstor, Archivision, and Scholars Resource are part of the Electronic Resources Fund of the Fine Arts Library. Additional visual formats are available to the user.

The Architectural Archives, administered by the School of Design but located on the lower level of the Fine Arts Library building, collects and preserves the works of over 400 designers from the 18th century to the present. The Architectural Archives gained its international reputation initially through the Louis I. Kahn Collection whose resources include all drawings, models, photographs, correspondence, and project files from Kahn's office. Purchased by the Commonwealth of Pennsylvania from the Kahn estate, the Collection was placed on permanent loan to the University by the Pennsylvania Historical and Museum Commission in 1978. The Kahn Collection attracts a steady stream of international visitors and has served as the basis for innumerable publications and exhibitions.

Support for the mission, planning, curriculum, and research specialties of the program

The FFAL's mission is to serve the curricular and research needs of the History of Art and Penn Design faculty and students. The FFAL Head is designated as liaison to these core constituencies and routinely solicits participation in library planning from faculty and students. Faculty and student requests and input are always given full consideration and normally meet with a positive response. In particular, the Librarian works closely with graduate students and faculty to develop collections that support and align with exhibitions or lecture series. The Head Librarian compiles key information resources for architecture and urban studies in a suite of webpages, which are continually updated and act as reference and instruction tools. Of particular note is the FFAL's webpage, a site within the larger Penn Libraries website, which features new resources, trials, and general collection highlights. In addition, the Head Librarian makes use of Penn Design and History of Art's various departmental, faculty, and student listservs to promote new resources and trials as well as general, operational announcements. The Librarian also maintains a number of job and competition blogs collocating information for students about recent competition calls, internships, and job postings.

Acknowledging changes in the information resources landscape, the Standards for Accreditation of the Middle States Association of Colleges and Schools now emphasize information literacy as a framework for learning, and deemphasize library collection size as a meaningful measure. In the FFAL, the Librarian offers orientations and instruction in library skills and research methods throughout the year. Orientation sessions in the library commonly introduce students to a suite of important web-based information resources including the Penn Libraries home page, core research tools, and frequently a web-based course guide designed to support their specific course or class assignment; plus a tour of the library as needed. Special sessions are developed for incoming Ph.D. students.

Funding

The Head Librarian participates in the allocation process for materials funding, and has full responsibility for expending funds that are allocated to the architecture accounts. Funding explicitly allocated for architectural resources surpasses $200,000 annually, much of which comes from specific endowments (~14 funds) restricted to the development of architecture-related collections (rare and general).

FY16 Budget:

Fine Arts Electronic Resources - $130,000.00
Fine Arts Monographs - $155,000
Fine Arts Serials - $57,000
Endowment Totals - ~$30,000

- *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 FFAL is housed in an historic but old building and has ongoing maintenance issues. Penn Design manages the building itself but the Design School is not responsible for day-to-day upkeep of the library; that falls to Penn Libraries. That said, there remain a number of outstanding structural and safety issues to be addressed by Penn Design such as roof damage, broken windows, leaky windows, unpredictable HVAC system, and others. For the comfort and safety of library patrons and collections, a full needs assessment of the library will be undertaken in the months to come by the Head Librarian and Penn Libraries administration.

The Rare Book Room, as noted, is in great need of a full renovation. The mezzanine level is unstable and the room itself less than ideal for housing rare materials. There is great potential, however, for this space, and with the assistance of Library Administration, a program proposal will be developed for its renovation and expansion. At the moment, it is not housing these collections appropriately and, overall, the space is an eyesore.

Lastly, Penn Design and Penn Libraries need to improve upon how the building is secured. Many of the building's emergency exits are not armed or the alarms are out of service. FFAL has recently been working with Campus Safety to review and revise its security perimeter and currently various security programs are being budgeted out for the FFAL areas within the Furness building.

I.2.5 Administrative Structure & Governance

I.2.5.A A description of the administrative structure for the program, the academic unit within which it is located, and the institution.

The Dean leads the School of Design and serves as its executive and administrative head. The Chairs of the four Departments -- Architecture, Landscape Architecture, City Planning, and Fine Arts -- report to the Dean, as does the Chair of the Program in Historic Preservation. The Development Office consists of two staff positions in addition to the Associate Dean for Development, who reports to the Dean. The Director of Facilities and Operations and the Communications Director also report to the Dean. The Associate Dean for Administration, who serves as the chief of staff, reports to the Dean and supervises the offices of the Registrar, Admissions, and Finance. Each of these offices employs at least one person in addition to the Director of the office.

The Department of Architecture is administered by the Chair in conjunction with the Coordinator (who supervises the departmental office which includes three staff), the Associate Chair, and the Directors of the BA, M.Arch, MS, and PhD programs. The current Chair is also the Director of the M.Arch. program.

Department Chair:

The Chair has two primary areas of responsibility: the development of a collegial environment within which individual members of the faculty can contribute to the educational mission of the Department while being encouraged in their teaching and personal development; and the reporting and championing of the needs of the Department to the Dean. The Chair is responsible for securing and maintaining faculty and administrative staff, for ensuring the appropriateness of courses and the adequacy of programs, and for promoting scholarly and research activities. Other administrative responsibilities of the Chair relate to the daily functioning of the Department and its administrative staff.

It is the responsibility of the Chair to execute within the department the policies of the University concerning teaching and research, fiscal affairs, and other administrative business. The Chair is responsible, after conferring with faculty and students, for ensuring the appropriateness of the courses and adequacy of the program offered by the department in accord with educational policies established

by the faculties concerned. The Chair is responsible to have the courses staffed so as best to promote teaching that is effective and stimulating in content and in presentation. The Chair is the department's executive officer. In aid of the development and maintenance within the department of collegial respect for the educational enterprise, the Chair is responsible not only to the dean but also to the department as a collectivity for the conduct of its affairs.

An administrative structure with numerous positions has been developed within the department to assist the Chair with academic administration and coordination. Individuals performing these roles do not receive teaching relief.

Associate Chair, Student Affairs [MArch]
Director of the Graduate Group in Architecture [Ph.D & M.S.]
Director of the Undergraduate Program [B.A. with a Major in Architecture]
Director of the Master of Science in Design (MSD-AAD)
Academic Advisors for each level of the Professional Degree Program
Semester Studio Coordinators who teach and assist in the administration of first four semesters
Thesis Coordinator to oversee Thesis Preparation and Thesis
Coordinators for the summer abroad programs
Standing committees on admissions, curriculum, lecture series, technology

The Department's administrative staff includes a Department Coordinator, a Financial Administrator, two Administrative Assistants, and part-time work-study students.

Department Coordinator:
The Department Coordinator assists the Chair of the Department of Architecture in all administrative matters. His/Her duties include: supervising the Administrative Staff; liaison with the Dean's Office [Associate Dean for Administration, Assistant Dean for Operations and Planning, Director of Development, Director of Admissions and Financial Aid, Finance Manager]; statistics & reports [enrollment, FTE, budget, accreditation, annual reports]; faculty meeting minutes for the; faculty appointments & promotions; liaison with external organizations [ACSA, NAAB, NCARB, AIA]; liaison with English Language Programs; liaison with Career Development; liaison with Office of International Programs [OIP]; assists faculty and students with visa issues; and works on special administrative assignments. The Dept. Coordinator also maintains Departmental calendar, orientation schedule, project and task list, and schedules and runs staff meetings.

Administrative Assistant: Financial
The Financial Administrative Assistant deals with financial issues for Ph.D., M.S., M Arch, and B.A. faculty, students and staff, including the financial accounting for payroll, work-study students, course budgets, current expenses, competitions and awards; executes purchase orders for office supplies and equipment, and makes all travel and hotel arrangements. She prepares Payroll Action Forms, maintains Current Expense spreadsheet; maintains Designated Fund accounts [fellowships & awards] while also assisting the Chair and the Assistant to the Chair in the development of an Operating Fund budget, Travel/accommodation/honoraria/expenses in conjunction with lecture series, searches, competitions, conferences, awards, thesis, course budgets, and summer abroad programs

Administrative Assistant: Student Records, MArch, MS & PhD
The Administrative Assistant maintains student records for the Masters of Architecture, MS, and PhD and deals with most academic issues related to DOA and Ph.D. She is also a liaison with Registrar; maintains Course Roster, Room Roster, Register; advanced registration; Elective Course Presentation; Elective Studio Presentation; room & studio assignments; student appointments with the Chair DOA, Chair Ph.D.; maintains student records; collects Grade forms; assists with Graduation; maintains Academic Calendar;

The Administrative Assistant shares reception, office, and phone answering duties with the other administrative assistant (Communications); greets visitors; answers questions; receives and directs

incoming telephone calls; takes messages for faculty; maintains directories of faculty, students, and staff; maintains photocopy machine; maintains mailboxes for faculty and students; sorts and distributes incoming mail; distributes outgoing mail to faculty, students & staff; maintains fax machine; distributes incoming faxes; maintains appointment calendars for Academic Advisors;

Administrative Assistant: Communications
The Administrative Assistant for Communications maintains student records for Undergraduate programs in Architecture, assists the Chair of the Undergraduate Program, and deals with most academic issues related to the Undergraduate program. He/she is also responsible for all issues of external communication including telephone, mail, e-mail listservs, and web site while maintaining the building's bulletin boards for academic posters and job descriptions. He/she manages the collection of student work for use in publications, and the design and production of annual Pressing Matters publication. While assisting the departmental lecture committee with correspondence, budgeting, organization, and production and distribution of promotional materials, he/she also assists with the department's open house.

This individual shares reception and office duties with the other administrative assistant; greets visitors; answers questions; receives and directs incoming telephone calls; takes messages for faculty; maintains directories of faculty, students, and staff; maintains photocopy machine; maintains mailboxes for faculty and students; sorts and distributes incoming mail; distributes outgoing mail to faculty, students & staff; maintains fax machine; distributes incoming faxes; maintains appointment calendars for Academic Advisors.

Approximately 2-4 work-study students may be employed by the Department each semester to assist the administrative staff. Work-study duties include word-processing, filing, photocopying, and assisting with special projects.

I.2.5.B A description of the opportunities for involvement in governance by faculty, staff and students in the accredited program, including curriculum development.

Students can participate through a variety of roles in student council, and also in of two positions for studio representation. The PennDesign student council is very active and consists of 20 or more leadership roles. Members are asked to apply and then are chosen by the standing council to ensure representation for each studio level and interact with representatives from each of the departments, as well as having their own role within the Architecture Department. Each semester the student council has regular meetings and there are town hall discussions each year with the chair and faculty to encourage a more open environment for communication from students to faculty. The town hall meetings are used to offer a forum for discussion, and each town hall serves as an informative meeting about program development, curriculum refinement, facility renovation and technology investment, and discussions on student interest regarding lectures, publications and exhibitions for forthcoming years as well as giving feedback on current ideas and issues. The student council also participates directly in curriculum development by gathering and expressing student feedback outside of course evaluation for faculty consideration.

The class representative is elected from each studio section to participate in student council, and directly express the interests and concerns of the students in their particular studio section. This allows a direct channel of communication from the studio to the student government and to the faculty. Technical representatives are also chosen in each studio section to communicate directly in the expression of interests and concerns relating to the fabrication equipment available in the studios and in the modeling shop.

Faculty participation in curriculum development includes regular monthly meetings where open discussion regarding curriculum and other topics from faculty of any standing is encouraged. The standing faculty

oversees and governs action on any issues or motions brought up to directly establish or resolve these items. Changes to curriculum are set for approval to the School's Curriculum Committee and Executive Committee before being voted upon by the school faculty. In addition, architecture faculty may consult with standing faculty regarding topical interests or concerns by consulting with David Leatherbarrow or Daniel Barber regarding History and Theory, William Braham for Technology, and Ali Rahim or Marion Weiss for Design. The studio faculty has direct communication with studio coordinators, who are a key piece of the regulation and structuring of the studio sequence. Coordinators regularly participate in faculty meetings to express and develop material and criteria to ensure the studio sequence has strong individual qualities and that they matriculate in a sequence that is well established and developed.

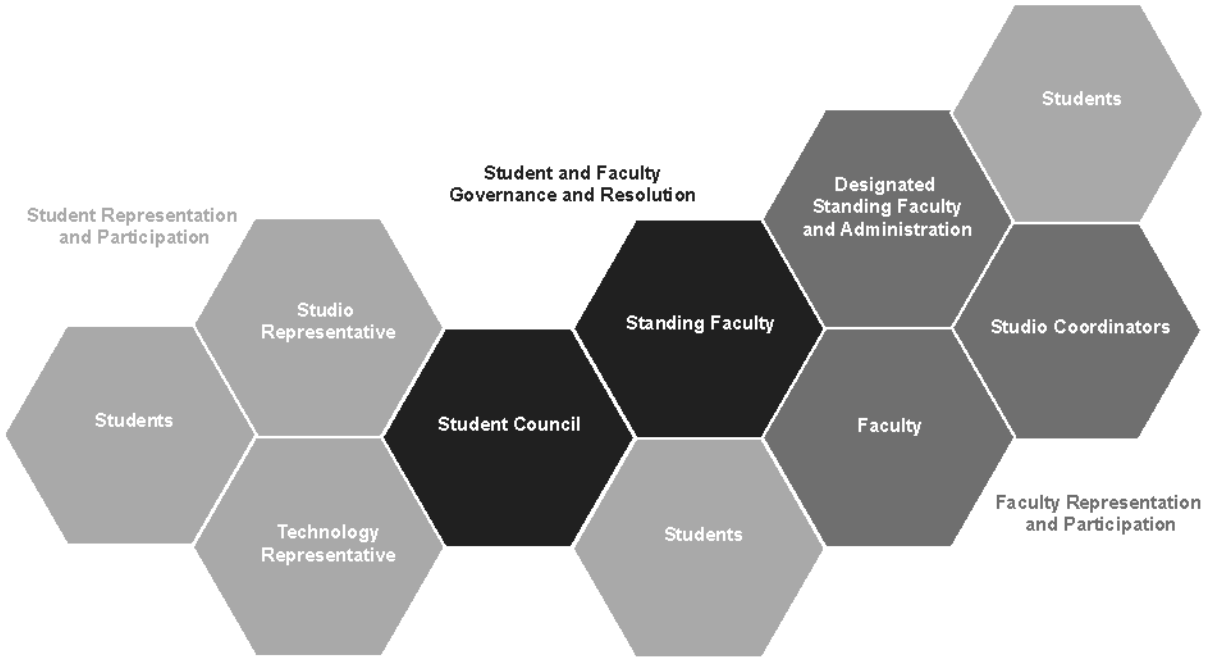


Fig. I.2.5.1 A graphic that illustrates the opportunities for involvement in student governance by faculty, staff and students.

II.1.1 Student Performance Criteria

II.1.1.A A matrix for each accredited degree program offered and each track for meeting the requirements of the professional degree program, which identifies each required course with the SPC it fulfills.

	A.1	A.2	A.3	A.4	A.5	A.6	A.7	A.8	B.1	B.2	B.3	B.4	B.5	B.6	B.7	B.8	B.9	B.10	C.1	C.2	C.3	D.1	D.2	D.3	D.4	D.5
SPC Expected to have been met in preparatory education																										
SPC Met in NAAB-accredited program																										
ARCH 501: Design Studio I	X	X																	X							
ARCH 502: Design Studio II			X						X	X										X						
ARCH 601: Design Studio III		X	X					X			X									X						
ARCH 602: Design Studio IV				X								X	X		X	X					X					
ARCH 521: Visual Studies I	X																									
ARCH 522: Visual Studies II	X				X																					
ARCH 621: Visual Studies III	X																									
ARCH 511: History & Theory I			X		X	X	X	X											X							
ARCH 512: History & Theory II						X	X												X							
ARCH 611: History & Theory III						X	X												X							
ARCH 531: Construction I												X				X		X		X	X	X				
ARCH 532: Construction II												X			X	X										
ARCH 533: Environmental Systems I														X			X									
ARCH 534: Environmental Systems II														X			X									
ARCH 535: Structures I													X													
ARCH 536: Structures II													X													
ARCH 631: Technology Case Studies				X		X																				
ARCH 671: Professional Practice I												X						X				X				X
ARCH 672: Professional Practice II											X							X					X	X	X	X

II.1.1.B A brief description of the pedagogy and methodology used to address Realm C

C.1 Research

Research has always been an integral part of the academic curriculum at PennDesign, and further emphasis has been placed on design research and methodological and technical exploration of the various topics and categories of research that can lead to innovative design solutions and integral practices. Particular emphasis is placed on the Design Studio I (ARCH 501) course to introduce students to innovative research in architectural precedence, as well as researching material and construction technologies that are directly integrated in the realization of a pavilion project. The History and Theory courses (I-III, ARCH 511,512,611) emphasis research of both literary and practice based precedents and material. The students integrate aspects of critical writing and documentation and are asked to correlate the material they are studying in that course to the curriculum and topical concerns of their design studios and other courses, such as Construction and Environmental Studies.

C.2 Integrated Evaluations and Decision-Making Design Process

The focus on having the ability to make integrated systems on multiple systems and variables is best represented through the Design Studio II (ARCH 502) and Design studio III (ARCH 601) studios and the Construction I courses. The 501 studio, first year second semester, asks students to consider a variety of conditions and factors that are involved in design in the urban environment, studied in the city of Philadelphia. Students explore and integrate criteria from contextual and site analysis, program research and other topics such as landscape and urban planning projects currently under development. Students are required to have a multi-faceted approach to the solution, and are often asked to integrate ideas of long-range planning, environmental performance and stewardship and other topics that are critical to working at the city scale and context.

The Design Studio III (ARCH 602) studio focuses on medium-scale urban dwelling and residential projects. Students are asked to consider and integrate technological innovations that focus on environmental systems, building performance and structural and construction innovation. The studio allows students the opportunity to work with the complexity of dwelling, and the relationships of unit and building, working between two scales and actively generating intelligent and innovative concepts for concerns of construction, material and performance technology.

C.3 Integrative Design

The ability to develop and resolve complex projects that involve many aspects is addressed through a combination of studio and required courses. The fourth semester studio, Design Studio IV (ARCH 602) is the most invested in the level of complexity, technical resolution, and integration structural, construction and other material systems. These studio projects are supplemented by specialist consultants who allow students to further refine and define these particular aspects. These ideas are further reinforced through the work done in Construction I (ARCH 531) where students explore projects and investigate the topics of integrated building practices, Building Information Modeling (BIM) and construction documentation, material preparation and assembly and emerging material technologies.

II.1.1.C A brief description of the methodology for assessing student work.

Student work is assessed through the University of Pennsylvania grading system. Each course considers student work, attendance and participation in addition to work and assignments to contribute percentages of the grade that student receives. The assessment includes the entire duration of the semester, in particular during studios, where the critical development of the project and interaction with the professor occur throughout the semester. For other courses, specific requirements are to be met for submission of material, be it written, presented, or constructed, and these also contribute proportionately to the grades students receive. The quality of work, the intensity of the active development of the work, the investment of the student in terms of time, participation and production, along with meeting standard criteria for

course content are stressed as ways for faculty to consider evaluating student work in the Architecture Department. The University of Pennsylvania has established and uses a letter and grade point based system for assessing student work and performance. The Department of Architecture uses the following criteria to define each of the letter and grade point marks in the system.

A+ (4.0) = Excellent; exceptional work quality
A (4.0) = Very Good; above average work quality
A- (3.7) = Good; above average work quality
B+ (3.3) = Satisfactory; average work quality
B (3.0) = Marginal; average work quality
B- (2.7) = Unsatisfactory; below average work quality
C+ (2.3) = Very poor; poor quality
C (2.0) = Unacceptable; poor quality
C- (1.7) = Unacceptable; poor work quality
F (0.0) = Unacceptable; poor work quality

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.

The University of Pennsylvania is accredited by *Middle States Commission on Higher Education.* The University has been accredited since 1921 and has been evaluated for accreditation approximately every 5 years. The University's most recent on-site evaluation was in 2014. The Commission accredits institutions of higher education in Delaware, the District of Columbia, Maryland, New Jersey, New York, Pennsylvania and other locations along the eastern seaboard as well as locations abroad.

MIDDLE STATES COMMISSION ON HIGHER EDUCATION
3624 Market Street, Philadelphia, PA 19104-2680. Tel: 267-284-5000. Fax: 215-662-5501
www.msche.org

STATEMENT OF ACCREDITATION STATUS

UNIVERSITY OF PENNSYLVANIA
1 College Hall, Room 100
Philadelphia, PA 19104-6380
Phone: (215) 898-5000; Fax: (215) 898-9659
www.upenn.edu

Chief Executive Officer: Dr. Amy Gutmann, President

INSTITUTIONAL INFORMATION

Fall Enrollment (Headcount): 11548 Undergraduate; 13258 Graduate

Control: Private (Non-Profit)

Affiliation: None

Carnegie Classification: Research - Very High Research Activity

Approved Degree Levels: Associate's, Bachelor's, Postbaccalaureate Award/Cert/Diploma, Master's, Post-Master's Award/Cert/Diploma, Doctor's - Professional Practice, Doctor's - Research/Scholarship;

Distance Education Programs: Approved (Doctorate in Social Work)

Accreditors Recognized by U.S. Secretary of Education: American Bar Association, Council of the Section of Legal Education and Admissions to the Bar ; American Dental Association, Commission on Dental Accreditation ; American Psychological Association, Commission on Accreditation ; American Veterinary Medical Association, Council on Education ; Association for Clinical Pastoral Education, Inc., Accreditation Commission ; Commission on Collegiate Nursing Education ; Commission on English Language Program Accreditation ; Council on Accreditation of Nurse Anesthesia Educational Programs ; Council on Education for Public Health ; Liaison Committee on Medical Education

Other Accreditors: Accreditation Board for Engineering &Technology (ABET); American College of Nurse-Midwives, Division of Accreditation; American Society of Landscape Architects (ASLA); Association to Advance Collegiate Schools of Business (AACSB International); Commission on Acceditation of Healthcare Management Education; Commission on Accreditation of Medical Physics Educational Programs (CAMPEP); Council on Social Work Education; National Architectural Accrediting Board (NAAB)

Instructional Locations

Branch Campuses: None

Additional Locations: Wharton West, San Francisco, CA

Other Instructional Sites: None

ACCREDITATION INFORMATION

Status: Member since 1921

Last Reaffirmed: June 26, 2014

Most Recent Commission Action:

June 29, 2015: To acknowledge receipt of the substantive change request and to include the online Doctorate in Social Work degree within the scope of the institution's accreditation. The Periodic Review Report is due June 1, 2019.

Brief History Since Last Comprehensive Evaluation:

June 26, 2014: To reaffirm accreditation and to commend the institution for the quality of the self-study process and report. The Periodic Review Report is due June 1, 2019.

Next Self-Study Evaluation: 2023 - 2024

Next Periodic Review Report: 2019

Date Printed: September 1, 2015

DEFINITIONS

Branch Campus - A location of an institution that is geographically apart and independent of the main campus of the institution. The location is independent if the location: offers courses in educational programs leading to a degree, certificate, or other recognized educational credential; has its own faculty and administrative or supervisory organization; and has its own budgetary and hiring authority.

Additional Location - A location, other than a branch campus, that is geographically apart from the main campus and at which the institution offers at least 50 percent of an educational program. **ANYA** ("Approved but Not Yet Active") indicates that the location is included within the scope of accreditation but has not yet begun to offer courses. This designation is removed after the Commission receives notification that courses have begun at this location.

Other Instructional Sites - A location, other than a branch campus or additional location, at which the institution offers one or more courses for credit.

Distance Education Programs - Fully Approved, Approved (one program approved) or Not Approved indicates whether or not the institution has been approved to offer diploma/certificate/degree programs via distance education (programs for which students could meet 50% or more of the requirements of the program by taking distance education courses). Per the Commission's Substantive Change policy, Commission approval of the first two Distance Education programs is required to be "Fully Approved." If only one program is approved by the Commission, the specific name of the program will be listed in parentheses after "Approved."

EXPLANATION OF COMMISSION ACTIONS

An institution's accreditation continues unless it is explicitly withdrawn or the institution voluntarily allows its accreditation to lapse. In addition to reviewing the institution's accreditation status at least every 5 years, the Commission takes actions to approve substantive changes (such as a new degree or certificate level, opening or closing of a geographical site, or a change of ownership) or when other events occur that require review for continued compliance.

Any type of report or visit required by the Commission is reviewed and voted on by the Commission. Reports submitted for candidacy, self-study evaluation, periodic review or follow-up may be accepted, acknowledged, or rejected.

The Commission "Accepts" a report when its quality, thoroughness, and clarity are sufficient to respond to all of the

Commission's concerns, without requiring additional information in order to assess the institution's status.

The Commission "Documents receipt of" a letter or report when it addresses the Commission's concerns only partially because the letter or report had limited institutional responses to requested information, did not present evidence and analysis conducive to Commission review, were of insufficient quality, or necessitated extraordinary effort by the Commission's representatives and staff performing the review. Relevant reasons for not accepting the letter or report are noted in the action. The Commission may or may not require additional information in order to assess the institution's status.

The Commission "Rejects" a letter or report when its quality or substance are insufficient to respond appropriately to the Commission's concerns. The Commission requires the institution to resubmit the report and may request a visit at its discretion. These terms may be used for any action (reaffirm, postpone, warn, etc.).

Types of Follow-Up Reports:

Accreditation Readiness Report (ARR): The institution prepares an initial Accreditation Readiness Report during the application phase and continually updates it throughout the candidacy process. It is for use both by the institution and the Commission to present and summarize documented evidence and analysis of the institution's current or potential compliance with the Commission's accreditation standards.

Progress Report: The Commission needs assurance that the institution is carrying out activities that were planned or were being implemented at the time of a report or on-site visit.

Monitoring Report: There is a potential for the institution to become non-compliant with MSCHE standards; issues are more complex or more numerous; or issues require a substantive, detailed report. A visit may or may not be required. Monitoring reports are required for non-compliance actions.

Supplemental Information Report: This report is intended only to allow the institution to provide further information, not to give the institution time to formulate plans or initiate remedial action. This report is required when a decision is postponed. The Commission may request a supplemental information report at any time during the accreditation cycle.

Commendations:

Periodically, the Commission may include commendations to the institution within the action language. There are three commendations. More than one commendation may be given at the same time:

To commend the institution for the quality of the [Self-Study or PRR] report. The document itself was notably well-written, honest, insightful, and/or useful.

To commend the institution for the quality of its [Self-Study or PRR] process. The Self-Study process was notably inclusive.

To recognize the institution's progress to date. This is recognition for institutions that had serious challenges or problems but have made significant progress.

Affirming Actions

Grant Candidate for Accreditation Status: This is a pre-accreditation status following a specified process for application and institutional self-study. For details about the application process, see the MSCHE publication, Becoming Accredited. The U.S. Department of Education labels Candidacy as "Pre-accreditation" and defines it as the status of public recognition that an accrediting agency grants to an institution or program for a limited period of time that signifies the agency has determined that the institution or program is progressing toward accreditation but is not assured of accreditation) before the expiration of that limited period of time. Upon a grant of candidate for accreditation status, the institution may be asked to submit additional Accreditation Readiness Reports until it is ready to initiate self study.

Grant Accreditation: The Commission has acted to grant accreditation to a Candidate institution and does not require the submission of a written report prior to the next scheduled accreditation review in five years.

Grant Accreditation and request a Progress Report or Monitoring Report: The Commission has acted to grant accreditation to a Candidate institution but requires the submission of a written report prior to the next scheduled accreditation review to ensure that the institution is carrying out activities that were planned or were being implemented at the time of the report or on-site visit.

Reaffirm Accreditation via Self Study or Periodic Review Report: The Commission has acted to reaffirm accreditation and does not require the submission of a written report prior to the next scheduled accreditation review in five years. The action language may include recommendations to be addressed in the next Periodic Review Report or Self Study. Suggestions for improvement are given, but no written follow-up reporting is needed for compliance.

Reaffirm Accreditation via Self Study or Periodic Review Report and request a Progress Report or Monitoring Report: The Commission has acted to reaffirm accreditation but requires the submission of a written report prior to the next scheduled accreditation review to ensure that the institution is carrying out activities that were planned or were being implemented at the time of the report or on-site visit.

Administrative Actions

Continue Accreditation: A delay of up to one year may be granted to ensure a current and accurate representation of the institution or in the event of circumstances beyond the institution's control (natural disaster, U.S. State Department travel warnings, etc.). The institution maintains its status with the Commission during this period.

Procedural Actions

Defer a decision on initial accreditation: The Candidate institution shows promise but the evaluation team has identified issues of concern and recommends that the institution be given a specified time period to address those concerns. Institutions may not stay in candidacy more than 5 years.

Postpone a decision on (reaffirmation of) accreditation: The Commission has determined that there is insufficient information to substantiate institutional compliance with one or more standards. The Commission requests a supplemental information report.

Voluntary Lapse of Accreditation: The institution has allowed its accreditation to lapse by not completing required obligations. The institution is no longer a member of the Commission upon the determined date that accreditation will cease.

Non-Compliance Actions

Warning: A Warning indicates that an institution has been determined by the Commission not to meet one or more standards for accreditation. A follow-up report, called a monitoring report, is required to demonstrate that the institution has made appropriate improvements to bring itself into compliance.

Probation: Probation indicates that an institution has been determined by the Commission not to meet one or more standards for accreditation and is an indication of a serious concern on the part of the Commission regarding the level and/or scope of non-compliance issues related to the standards. The Commission will place an institution on Probation if the Commission is concerned about one or more of the following:

1. the adequacy of the education provided by the institution;
2. the institution's capacity to make appropriate improvements in a timely fashion; or
3. the institution's capacity to sustain itself in the long term.

Probation is often, but need not always be, preceded by an action of Warning or Postponement. If the Commission had previously postponed a decision or placed the institution on Warning, the Commission may place the institution on Probation if it determines that the institution has failed to address satisfactorily the Commission's concerns in the prior action of postponement or warning regarding compliance with Commission standards. This action is accompanied by a request for a monitoring report, and a special visit follows. Probation may, but need not always, precede an action of Show Cause.

By federal regulation, the Commission must take immediate action to withdraw accreditation if an institution is out of compliance with accreditation standards for two years, unless the time is extended for good cause.

Show Cause: An institution is asked to demonstrate why its accreditation should not be withdrawn. A written report from the institution (including a teach out plan) and a follow-up team visit are required. The institution has the opportunity to appear before the Commission when the Commission meets to consider the institution's Show Cause status. Show Cause may occur during or at the end of the two-year Probation period, or at any time the Commission determines that an institution must demonstrate why its accreditation

should not be withdrawn (i.e. Probation is not a necessary precursor to Show Cause).

Adverse Actions

Withdrawal of Accreditation: An institution's candidate or accredited status is withdrawn and with it, membership in the association. If the institution appeals this action, its accreditation remains in effect until the appeal is completed.

Denial of Accreditation: An institution is denied initial accreditation because it does not meet the Commission's requirements of affiliation or accreditation standards during the period allowed for candidacy. If the institution appeals this action, its candidacy remains in effect until the appeal is completed.

Appeal: The withdrawal or denial of candidacy or accreditation may be appealed. Institutions remain accredited (or candidates for accreditation) during the period of the appeal.

Other actions are described in the Commission policy, "Range of Commission Actions on Accreditation."

II.2.2 Professional Degrees & Curriculum

II.2.2A Titles of the degree(s) offered including and 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.

At Penn we offer only one professional degree in architecture, the Master of Architecture. The Master of Architecture program is comprehensive and rigorous, preparing graduates for the full range of activities in the profession. It provides a thorough base of knowledge in history, theory, technology, ecology, society, and professional practice, while developing skills in design through an intensive sequence of design studios. Studios are the focus of the program and are supported by courses in visual studies that develop skills first in traditional modes of drawing and conceptualization, then in digital and new media. At the upper levels of the program students establish individual trajectories by selecting from a range of elective studios and courses with leading figures in design, technology and theory. The final year culminates in advanced design studios that include research directed by leading designers as well as the option of an independent thesis. Summer programs abroad and studios based in other countries provide opportunities for international studies. The program aims to develop critical, creative and independent thinking that realizes potentials within an ever-changing world.

A total of 28 course units are required for the Master of Architecture Professional degree. Students are permitted to take an additional 2 course units in optional electives for a maximum total of 30 course units. To attain the degree, a student must complete the following required courses: 10 course units in design studio, 5.5 in technology, 3 in history and theory, 1.5 in visual studies, and 2 in professional practice. In addition to required courses, students must take 4 electives. A research studio or independent thesis (2 course units) is required in the final semester. The program offers several study abroad options each year.

Students entering the Professional Degree Program with an undergraduate degree in a subject other than architecture undertake a three-year course of study consisting of 28 course units. (Typical courses are 1 cu, studios are 2 cu.) Students with a four-year undergraduate degree in architecture may receive Advanced Standing of up to one year.

Although part-time study is allowed, students are required to complete a minimum of two semesters of full-time studies in residence. To be a full-time student requires a minimum of four course units per semester. To complete the degree requirements, those students who elect to take less than four or five course units per semester may enroll in one of the Summer Programs or return in the following academic year on a full-time or part-time basis.

II.2.2.B A table showing the distribution of general studies, required professional studies, and optional studies.

M.Arch Degree Curriculum (Total Course Units: 28)

YEAR 1			
Fall	ARCH 501	Design Studio I	2
	ARCH 511	History and Theory I	1
	ARCH 521	Visual Studies I	0.5
	ARCH 531	Construction I	0.5
	ARCH 533	Environmental Systems I	0.5
	ARCH 535	Structures I	0.5
Spring	ARCH 502	Design Studio II	2
	ARCH 512	History and Theory II	1
	ARCH 522	Visual Studies II	0.5
	ARCH 532	Construction II	0.5
	ARCH 534	Environmental Systems II	0.5
	ARCH 536	Structures II	0.5
YEAR 2			
Fall	ARCH 601	Design Studio III	2
	ARCH 611	History and Theory III	1
	ARCH 621	Visual Studies III	0.5
	ARCH 631	Technology Case Studies	1
	ARCH 671	Professional Practice I	0.5
Spring	ARCH 602	Design Studio IV	2
	ARCH 632	Tech Designated Elective	1
	ARCH 638	Technology Special Topics	0.5
	ARCH 672	Professional Practice II	0.5
		Elective	1
YEAR 3			
Fall	ARCH 701	Design Studio V	2
		Elective II	1
		Elective III	1
		Elective V (Optional)	--
Spring	ARCH 702/704	Advanced Design Studio	2
	ARCH 772	Professional Practice III	1
		Elective IV	1
		Elective VI (Optional)	--
		Total Course Units:	28

Total Graduate Course Units (CU)	28
Total Graduate Semester Hours (SH)	84.0
Typical Undergraduate Semester Hours	124.0
Total Undergraduate and Graduate Semester Hours	208.0

II.2.2.C A list of the minors or concentrations students may elect to pursue for each accredited degree offered or track for completing the NAAB-accredited degree.

The Master of Architecture Program may be combined as a four-year dual degree with a variety of other degrees in the School and University, and may include within the normal course of study a 5 cu certificate programs such as Historic Preservation, Urban Design, or Real Estate Design and Development.

Dual Degrees for Master of Architecture students within the School of Design:
Master_of_Architecture-Master_of_City_Planning
Master_of_Architecture-Master_of_Landscape_Architecture
Master_of_Architecture-Master_of_Science_in_Historic_Preservation

Fig. II.2.2.1 This diagram indicates the variety of programs – or pursuits - available to students in the Department of Architecture. Hexagon size is proportional to the number of students in each program in 2014-15.

II.2.2D A list of the minimum number of semester credit hours or the equivalent number of quarter credit hours required for each semester or quarter, respectively.

Semester 1 – 5 CU
Semester 2 – 5 CU
Semester 3 – 5 CU
Semester 4 – 5 CU
Semester 5 – 4 CU
Semester 6 – 4 CU

II.2.2E A list of off-campus programs, description of facilities and resources, course requirements, and length of stay.

SEMESTER ABROAD PROGRAM

Architectural Association (AA), London
During the fifth term of the Master of Architecture Program, up to fifteen students a year may enroll for the semester abroad program in London, England. This is coordinated by Professor Homa Farjadi and is housed at the Architectural Association (AA), located on Bedford Square in the heart of Bloomsbury. Students enroll in a special design studio, ARCH 702, taught by Prof. Farjadi, and in two elective courses offered by the faculty at the AA.

SUMMER STUDIES ABROAD PROGRAMS

In the summer abroad programs, students study and travel for approximately 4 weeks at the beginning of the summer (mid-May through mid-June) and receive 1 elective course unit of credit. These programs are open to both graduate and undergraduate students.

Summer Program in Paris

This program is a long-established academic program that combines lectures about Parisian architecture and urbanism from important authors, architects and engineers, with accompanied tours to buildings, parks and professional offices. Recent programs have addressed questions central to the city of Paris, including issues of urbanism and technological trajectories through which a particular history of Parisian architecture can be traced.

Summer Program in Colombia

This program provides an introduction to the issues and conditions faced in a developing nation like Colombia and relates them to contemporary architectural and urban practices and theories. This course includes lectures, site visits, case studies and short but intense analytical/design exercises. In addition, the comprehensive program presents some of the dominant architectural, urban, historical and geographical narratives that shape the built environment in the city today.

Summer Program in Greece

The study abroad program will organize a series of visits to both archaeological sites as well as modern and contemporary architectural sites. PennDesign students will exchange and collaborate with a selected group of Greek architecture students during a weeklong design workshop. There will be a series of lectures from professionals and academics, which will frame the proceedings of the workshop. The final presentation will take the form of a symposium with various local and international architects including Cecil Balmond.

II.2.2.F A list of 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.

Department of Architecture

The following architectural degree program are offered by the School of Design:
Doctor of Philosophy [Ph.D.]
Master of Science [M.S.]
Master of Science in Design [MSD]
Master of Architecture I, [M.Arch]
Master of Environmental Building Design [MEBD]

The Department of Architecture also provides instruction for the following degree programs:
Other University of Pennsylvania Programs
Master of Integrated Product Design [M:IPD]
Bachelor of Arts [B.A.] [Major in Architecture]
Bachelor of Arts [B.A.] [Intensive Major in Architecture]
Bachelor of Arts [B.A.] History, Theory, and Criticism Concentration
Dual degree programs
Bachelor of Arts [B.A.]/ Bachelor of Applied Science [B.A.S.]
Bachelor of Arts [B.A.]/Bachelor of Science in Engineering [B.S.E.]

Other Programs in the School of Design

Department of City & Regional Planning
Doctor of Philosophy [Ph.D.]
Master of Arts [M.A.]
Master of City Planning [M.C.P.]
Master of Urban Spatial Analytics [MUSA]
Bachelor of Arts [B.A.] [Major in Urban Studies]

Department of Fine Arts
Master of Fine Arts [M.F.A.]
Bachelor of Arts [Major in Fine Arts]
Bachelor of Applied Science [B.A.S] [Major in Digital Media Design]

Department of Landscape Architecture & Regional Planning
Master of Landscape Architecture [M.L.A.]

Graduate Group in Historic Preservation
Master of Science [M.S.]

Dual Degree Programs
Master of City Planning/Master of Social Work
Master of City Planning/Juris Doctor
Master of City Planning/Master of Urban Spatial Analytics
Master of Architecture, Master of City Planning, Master of Science in Historic Preservation or Master of Landscape Architecture/MBA
Master_of_Architecture-Master_of_City_Planning
Master_of_Architecture-Master_of_Landscape_Architecture
Master_of_Architecture-Master_of_Science_in_Historic_Preservation
Master_of_City_Planning-Master_of_Landscape_Architecture

Master_of_City_Planning-Master_of_Science_in_Historic_Preservation
Master_of_City_Planning-Master_of_Urban Spatial Analytics
Master_of_Fine_Arts-Master_of_Landscape_Architecture
Master_of_Science_in_Historic_Preservation-Master_of_Landscape_Architecture

Certificate Programs
Ecological Architecture Certificate
Urban Redevelopment Certificate
Historic Preservation Certificates
Real Estate Design and Development Certificate
Time-Based and Interactive Media
Land Preservation Certificate
Urban Design Certificate
GIS and Spatial Analysis Certificate
Emerging Design and Research Certificate
Landscape Studies Certificate

II.2.2G Programs that use massive open online courses (MOOCs) or online learning formats to deliver SPC-related content or to meet other program or institutional requirements in tandem with traditional onsite learning must describe what effect, if any, MOOCs or online learning has on the curriculum. If MOOCs are used to meet any SPC, the program must provide a course binder and samples of student work just as if the course were delivered on campus or by the program.

The Department of Architecture does not offer any courses that meet or use online format exclusively to deliver SPC-related content. The School of Design offers two online courses, Design of Cities and Sustainability, which are currently non-credit courses offered through Coursera.

II.2.2.H A description of the progress for changing the title of any non-accredited, post-professional degree that uses the degree title B. Arch, M. Arch or D. Arch.

Summary of the PPD Program
The previous PPD, Post-Professional Program was a one-year (two-semester) program intended for individuals who held a five-year Bachelor of Architecture professional degree, or equivalent, and seek to supplement, extend, or focus their previous education in architecture. It resided within the Master of Architecture Degree Program.

The PPD started with an extremely dense one-week summer digital workshop. The year is then split into 2 distinct semesters: in the first semester all students participate in a joined design studio, which has a specific course of study that includes readings in critical theory. This PPD Studio resulted in a publication at the end of the year [see: http://issuu.com/archworkPennDesign]

The first design studio focused on real engagement with cities, international developers and universities, leading to collaborative work on large-scale design projects around the globe – including Shanghai, Puerto Rico, and Bogota. We also participated in Supra Studio, organized by the Obama Administration. Each year the work of the PPD students is published in a book, which offers a comprehensive overview of the student's ability to synthesize complex problems with architectural techniques, and includes critical writings by invited scholars. The second semester allowed students to pursue an individually directed course of study by choosing from a range of options in advanced design studios, research studios, and elective studios, supplemented by elective seminars in history/theory and technology.

The focus of the program was threefold: first, to develop skills in generative parametric software platforms; second, to critically engage theoretical dimensions of the contemporary architectural

discourse; and third, to integrate advanced digital modeling techniques into a highly defined design methodology, one that has direct bearing on production and construction processes.

PPD students have won numerous awards, beginning with a PPD studio winning the Evolo Architecture Skyscraper Competition in 2006. In 2008, students were invited to join and won two of the five awards in the Tel Aviv Centennial Competition, which addressed the future of Tel Aviv in light of recent developments in green technology. The PPD program was also invited to participate in the exhibition Divergent Convergence in Beijing, organized by the American Academy in China in 2009, and was part of the Acadia exhibit in New York City in 2012.

The program has, as a result, become an important part of an international advanced research network. The quality and reach of this global exposure has allowed the program to attract more and better students, to raise additional funds, and has increased the impact of PPD exhibitions and annual publications.

_The New MSD-AAD (Master of Science in Design/Advanced Architectural Design)
Building on this robust foundation, and numerous requests, the reformation and re-designation of the program sets forth a number of critical improvements. The program has expanded from two to three semesters. This will bring the MSD-AAD in line with similar post professional programs in architecture at peer institutions. While the focus of this expansion is to deepen the pedagogical effectiveness of the program, it will also increase the offerings within Penn Design focused on design excellence, increase the profile of the program in the School of Design, and advance the reputation of the Department of Architecture nationally and internationally. The revision will result in removing the PPD from the MArch degree program and making it a separate Master of Science in Design.

Because of the international scope and diversity of the backgrounds of the incoming students, it is crucial that the program develop a more specific first semester. This proposed first semester will not only entail a specific design studio, but will add specific seminars and lectures squarely focused on the program's threefold purview of generative design, critical theory, and digital modeling. These are existing courses that will now also be offered in a section restricted to MSD-AAD enrollment. As the program brings together more and more students from around the world, with diverse personal and professional backgrounds, this proposed first semester will help instill a shared design methodology and vocabulary.

This robust foundation in the new first fall semester will be carried through individually-directed courses of study of the second two semesters. As a further benefit, incoming students will overlap with outgoing ones, allowing for a significant knowledge transfer. Finally the three-semester program will culminate in a publication and an exhibition at Meyerson Hall over December and January, allowing all younger students to see their work.

The Master of Science in Design program at PennDesign is a strong program, with a solid international reputation. Student and sponsor interest in the PPD and now in the MSD-AAD program has been increasing steadily over the past few years, and the critical improvements outlined above are focused on how to capitalize on existing strengths.

_Summary of Previous Curriculum [MArch] (total of 10 cu)

Summer	Advanced Digital Workshop [1 week]	
Fall		
ARCH 703	designated PPD Studio	2
ARCH 7xx	Elective I	1
ARCH 7xx	Elective II	1
ARCH 7xx	Elective III	1
Spring		
ARCH 702/704	Research Studio	2
ARCH 7xx	Elective IV	1
ARCH 7xx	Elective V	1
ARCH 7xx	Elective VI	1

Summary of Current Curriculum [MSD-AAD] (total of 15 cu)

Summer	Advanced Digital Workshop [1 week]	
Fall		
ARCH 703	MSD-AAD Studio	2
ARCH 711	Philosophy of Urban Form	1
ARCH 711	Contemporary Architectural Theory	1
ARCH 743	Form and Algorithm	1
Spring		
ARCH 702/704	Research Studio	2
ARCH 7xx	Elective I	1
ARCH 7xx	Elective II	1
ARCH 7xx	Elective III	1
Fall		
ARCH 705	Research Studio	2
ARCH 7xx	Elective IV	1
ARCH 7xx	Elective V	1
ARCH 7xx	Elective VI	1

Note: At least 4 of the 6 electives must be within the Department of Architecture, unless approved by the Director of the PPD program.

II.3 Evaluation of Preparatory Education

II.3A A description of policies regarding admissions requirements and admissions decisions

Applicants to the Master of Architecture Professional Degree program must hold a Bachelor of Arts or Bachelor of Science degree. To be admitted without conditions to the three-year program, an applicant is required to possess the following: an understanding of mechanics, heat, light, sound and electricity as demonstrated, for example, through the successful completion of not less than one college-level physics course (applicants from the University of Pennsylvania can fulfill the prerequisite through the successful completion of Physics 08 and 09); an understanding of calculus, as demonstrated, for example, through the successful completion of not less than one college-level calculus course (applicants from the University of Pennsylvania can fulfill the prerequisite through the successful completion of Math 104 and 105); a general knowledge of the history of Western architecture from ancient Egyptian through the modern period, as demonstrated by the successful completion of not less than one college-level course; a basic ability to produce freehand drawings of architectural forms and spaces, as demonstrated by the successful completion of one college-level descriptive drawing course or by portfolio submission of appropriate work from design studios; the successful completion of a minimum of two semesters of college-level design studio courses. Candidates admitted with deficiencies in any of these prerequisites must fulfill them before matriculation.

Preference is given to individuals who have completed a balanced undergraduate education that includes study in the arts, sciences, and humanities and who demonstrate leadership potential in the field. Preparation in the visual arts, such as drawing, sculpture, graphics, photography, film, or new media, is desirable, as well as computing and advanced writing skills. The admissions committee may require incoming students to take specific prerequisite courses to meet conditions of admission. A program of study is offered in the summers specifically for this.

II.3B A description of the process by which the preparatory or pre-professional education of students 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.

Students entering the Professional Degree Program with an undergraduate degree in a subject other than architecture undertake a three-year course of study including 28 course units. (Typical courses are 1 course unit, studios are 2 course units.) Students with a four-year undergraduate degree in architecture may receive Advanced Placement of up to one year. Students accepted with one year of Advanced Placement are required to complete 18 course units. Advanced Placement students program of study begins with the Year 2 requirements for the Master of Architecture Program.

II.4 Public Information

The APR must include a list of the URLs for the web pages on which the documents and resources described throughout Part II: Section 4 are available.

II.4.1 Statement on NAAB Accredited Degrees.

http://www.design.upenn.edu/architecture/graduate/accreditation-information

II.4.2 Access to Conditions and Procedures.

http://www.design.upenn.edu/architecture/graduate/accreditation-information

II.4.3 Access to Career Development Information

http://www.design.upenn.edu/alumni/resources/resource-guide-graduates
http://www.vpul.upenn.edu/careerservices/design/
http://www.vpul.upenn.edu/careerservices/

II.4.4 Public Access to APRs and VTRs

http://www.design.upenn.edu/architecture/graduate/accreditation-information

II.4.5 ARE Pass Rates

http://www.design.upenn.edu/architecture/graduate/professional-program-march

II.4.6 Admissions and advising

http://www.design.upenn.edu/graduate-admissions/apply

II.4.7 Student Financial Information

https://www.design.upenn.edu/graduate-admissions/tuition-and-financial-aid

III.1.1 Annual Statistical Report

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.

PennDesign

School of Design
Department of Architecture

Scott Loeffler
Department Coordinator
216 Meyerson Hall
210 S. 34th Street
Philadelphia, PA 19104
215-898-6212
Scotl@design.upenn.edu

September 1, 2015

To whom it may concern;

I hereby certify that all statistical data that the University of Pennsylvania School of Design Department of Architecture has submitted and will submit since the last accreditation visit in 2010 and prior to the visit in 2016 has been verified by the institution and is consistent with instutional reports to national and regional agencies, including the Integrated Postsecondary Education Data System of the National Center for the Education Statistics.

I also ensure 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.

With best regards,

Scott Loeffler
Department Coordinator

Meyerson Hall, 210 South 34th Street, 207 Philadelphia, PA 19104-6311 Tel 215.898.5728 Fax 215.573.2192

III.1.2 Interim Progress 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.

Section 4. Supplemental Material

The program shall provide a number of documents for review by the visiting team.

Rather than being appended to the APR, they are to be provided by hyperlink or stored on an easily accessible digital portal (e.g., Dropbox). Many of these materials will be reviewed by the team in advance of the visit.

- *Descriptions of all courses offered within the curriculum of the NAAB-accredited degree program. The program must use the template available on the NAAB website.*
- *Studio Culture Policy*
- *Self-Assessment Policies and Objectives*
- *Policies on academic integrity for students (e.g., cheating and plagiarism)*
- *Information resources policies including collection development*
- *The institution's policies and procedures relative to EEO/AA for faculty, staff, and students.*
- *The institution's policy regarding human resource development opportunities, such as sabbatical, research leave, and scholarly achievements.*
- *The policies, procedures, and criteria for faculty appointment, promotion, and when applicable, tenure.*
- *Response to the Offsite Program Questionnaire (See 2015 Procedures, Section 8)*

The supplemental material can be found at the following link on dropbox:
https://www.dropbox.com/sh/g7svq7xay99mcru/AABmQzYzxu6hzJA0iOi8JFD9a?dl=0