Princeton University
School of Architecture

Architecture Program Report for 2015 NAAB Visit for Continuing Accreditation

Master of Architecture [non-pre-professional degree + 108 graduate credit hours]
Master of Architecture [pre-professional degree + 72 graduate credit hours]

Year of the Previous Visit: 2009
Current Term of Accreditation:

As a result of the 2009 Team Visit, the professional architecture program **Master of Architecture** was formally granted a six-year term of accreditation. The accreditation term is effective January 1, 2009.

Submitted to: The National Architectural Accrediting Board
Date: October 31, 2014

Name and contact information for the following:

Program Administrator:
Stanley T. Allen, Acting Dean and George Dutton '27 Professor of Architecture
School of Architecture
S110 Architecture Building
Princeton University
Princeton, NJ 08544

Email: stallen@princeton.edu
Telephone: 609-258-3737

Chief administrator for the academic unit in which the program is located:
Stanley T. Allen, Acting Dean and George Dutton '27 Professor of Architecture
School of Architecture
S110 Architecture Building
Princeton University
Princeton, NJ 08544

Email: stallen@princeton.edu
Telephone: 609-258-3737

Chief Academic Officer of the Institution:
David S. Lee, Provost and Professor of Economics and Public Affairs
3 Nassau Hall
Princeton University
Princeton, NJ 08544

Email: davidlee@princeton.edu
Telephone: 609-258-3026

President of the Institution:
Christopher L. Eisgruber, President and Laurence S. Rockefeller Professor of Public Affairs
1 Nassau Hall
Princeton University
Princeton, NJ 08544

Email: eisgruber@princeton.edu
Telephone: 609-258-6100

Individual submitting the Architecture Program Report:
Frances Z. Yuan, School Administrator
School of Architecture
S-116 Architecture Building
Princeton University
Princeton, NJ 08544

Email: fyuan@princeton.edu
Telephone: 609-258-5018

Name of individual to whom questions should be directed:
Stanley T. Allen, Acting Dean and George Dutton '27 Professor of Architecture

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Part One (I). Institutional Support and Commitment to Continuous Improvement

I.1. Identity & Self Assessment

I.1.1. History and Mission

Princeton University—History and Overview: Princeton University, chartered in 1746 as the College of New Jersey, was British North America's fourth college. Originally located in Elizabeth and later in Newark, the College moved to the town of Princeton in 1756 to occupy the newly completed Nassau Hall, one of the largest buildings in the colonies. This historic building housed the entire College for nearly half a century, and it is still home to the office of the University's President and other administrative offices.

Princeton's campus now covers more than 1,500 acres, 500 of which comprise the main campus. Coeducational since 1969, the University in 2012-2013 enrolled 7,912 students, of which 5,264 are undergraduates and 2,648 are graduate students in 34 departments and 75 institutes, programs, and centers, many of which rank in the top ten of their disciplines. Through its 1,177 faculty members, Princeton offers instruction in the liberal arts and sciences, and in professional programs at the School of Architecture, the School of Engineering and Applied Science, and the Woodrow Wilson School of Public and International Affairs.

Graduate study began at Princeton University in 1771 when future United States President James Madison received his undergraduate degree and elected to remain for a year of "graduate work" to study Hebrew with Princeton President John Witherspoon. In 1869, graduate education at Princeton was formalized through the creation of three fellowships, an experiment intended to encourage outstanding members of the senior class to continue their studies. Awards were given after competitive examinations, and each fellow was free to choose where and how he would spend his year. Princeton conferred its first earned doctorates in 1879, and officially established the Graduate School in 1900.

These modest beginnings illustrate the hallmarks of graduate education at Princeton: a small size to maintain direct contact between students and faculty; careful selection of candidates; latitude for students in their programs of study; accessibility of faculty; and willingness to experiment. One of the goals of the University's graduate education is to enable students to claim professional standing in their chosen field; the larger goal is for students to establish a permanent relationship to learning.

Institutional Mission: Princeton distinguishes itself as one of the world's leading research universities with an emphasis on undergraduate liberal arts and doctoral education, and by a small number of high-quality master's degree programs. All Princeton undergraduate students are obligated to complete a major independent research project, and its faculty members are required to teach and engage in research. As the current Princeton President Christopher L. Eisgruber recently stated, "The University's mission is about education, research, and the common good."

In a special Ad Hoc Trustee Committee report that assessed the University's programs and resources (http://www.princeton.edu/pr/reports/wythes/index.htm), Princeton's mission statement was articulated more comprehensively in the following:

Princeton University strives to be both one of the leading research universities and the most outstanding undergraduate college in the world. As a research university, it seeks to achieve the highest levels of distinction in the discovery and transmission of knowledge and understanding, and in the education of graduate students. At the same time, Princeton aims to be distinctive among research universities in its commitment to undergraduate teaching. It seeks to provide its students with academic, extracurricular, and other resources—in a residential community committed to diversity in its student body, faculty, and staff—that will permit them to attain the highest possible level of achievement in undergraduate education and prepare them for positions of leadership and lives of service in many fields of human endeavor. Through the scholarship, research, and teaching of its faculty, and the many contributions to society of its

alumni, Princeton seeks to fulfill its informal motto: “Princeton in the Nation’s Service and in the Service of All Nations.”

In addition to a distinctive emphasis on excellence in undergraduate education, Princeton is currently distinguished by the following characteristics:

- An undergraduate student body composed of individuals who have exceptional academic promise, strong personal qualities, and a variety of backgrounds, talents, and interests;
- An affordable educational experience for all admitted students, including need-based, no-loan financial aid for undergraduate students;
- A single faculty, all of whom are expected to teach both undergraduate and graduate students, and all of whom are engaged in research;
- A focus on the arts and sciences and engineering, with a selective commitment to professional education;
- An endowment-driven budget;
- A reliance on government revenue for sponsored research;
- An unusually loyal and supportive alumni body that is composed of individuals who have had a disproportionate impact on the local, national, and global communities in which they live;
- A “human” scale that is sustained by controlling growth and encouraging opportunities for personal interaction;
- A warm, inclusive and engaged community;
- A physical setting of aesthetic and historic significance; and
- A determination to continue to occupy a position of independence and leadership in education, scholarship and research, and service to society.

At present, Princeton is in the midst of a University-wide strategic planning process. It is centered on identifying evolving institutional needs and challenges, and creating a framework for allocating resources and assessing new initiatives. The process will help guide the campus community to focus the University's energy and mission for the future (http://www.princeton.edu/strategicplan/index.xml).

School of Architecture—Program History: The study of architecture at Princeton University began in 1832 with a course taught by Professor Joseph Henry, an amateur architect and scientist who later became the first secretary of the Smithsonian Institution in Washington, D.C. The course, which covered the history of architecture including the classification of architecture, styles, and marbles, was the first humanities course taught at the College. Henry lectured on the subject until 1837, after which faculty members from various disciplines offered the course on a sporadic basis. The study of architecture continued informally throughout the latter part of the 1870s and into the 1880s.

The formal study of architecture returned in 1882 when the Department of Art and Archaeology was founded, and Professor Allan Marquand offered a course in the history of Christian architecture. A course on the elements of architecture and historical drawing was offered beginning in 1902, and professional design courses were added to the curriculum in 1915. In the same year a committee was formed to investigate the formation of a School of Architecture. Arrangements had been made to open a School of Architecture (SoA) in the fall of 1917, but World War I delayed the official opening of the School until 1919. Although the SoA was separate from the Department of Art and Archaeology, the two were closely allied, and shared space and teaching staff. In fact, the School was the only architecture program in the country to be so closely integrated with an art history and archaeology program, and it was the only architecture program headed by a historian rather than a professional architect. Thus, the SoA was founded on the belief that architects should have a well-rounded education in liberal studies; approach their profession primarily as an art; understand and appreciate the other arts in relation to architecture; and be taught the science of building construction as a part of their training in design rather than as an end in itself.

In its formative years, the SoA was guided by some of the best architectural educators of the times: Howard Crosby Butler, E. Raymond Bossange, Frederick D'Amato, Sherley Warner Morgan, and Jean Labatut. During these early years the graduate curriculum was reworked in response to the rapid advances in the technology of the time. Student life was enriched by repeated visits and teaching by many of the leading architects of the day, including Frank Lloyd Wright, Le Corbusier, Richard Neutra, and Buckminster Fuller.

As the School expanded, more space was required, and a new School of Architecture building (hereafter called the Architecture Building), designed by Fisher Nes Campbell & Associates, was constructed on land adjacent to the Department of Art and Archaeology and the Art Museum. The building, dedicated in October 1963, housed drafting rooms, a freehand drawing room, a classroom, a seminar room, an exhibition gallery, faculty offices with preceptorial areas, a faculty conference room, the Dean's office, and the Winton Reading Room. In addition, there was space for the offices of the Bureau of Urban Research, and a large sculpture studio and outdoor exhibition court for the Visual Arts Program.

In 1965, Robert Geddes, a prominent architect and educator, was appointed the first Dean of the SoA, succeeding Robert McLaughlin, who had been its Director since 1952. The title of Dean was chosen to better reflect the SoA's expanding role within the University. Under Geddes' direction, the SoA continued its growth from a small program closely affiliated with the Department of Art and Archaeology to a full-fledged school that related to many more departments within the University in a broader context. This expansion helped the School attract a number of notable architects to teach at Princeton: Louis I. Kahn; Mario Salvadori; Michael Graves, FAIA; Kenneth Frampton; Anthony Vidler; and Peter Eisenman, FAIA. Geddes also brought prominent visiting architects to the SoA, among them Henry Cobb, Naum Gabo, Rem Koolhaas, Robert A. M. Stern, and Robert Venturi. Geddes had a strong interdisciplinary orientation. He strengthened ties with the humanities, and brought sociologists Robert Gutman and Suzanne Keller, and design theorists Tomas Maldonado and Alan Colquhoun, to teach.

Upon his retirement in 1982, Geddes was succeeded by Robert Maxwell, a scholar internationally known for critical writings, which examined modern architecture in relationship to contemporary art, literature, and music. Maxwell served as Dean until 1989, when he was succeeded by Ralph Lerner, FAIA, an architect whose practice included projects in Europe, Asia, and North America. Lerner enhanced the excellence of the faculty and the curriculum and maintained Princeton's distinguished position. He reorganized the curriculum for the A.B. degree into a single path with more diverse options for individual students; added courses in computing and imaging; restructured the courses in the area of Building Science to reflect advances in that area; and completed long overdue renovations of selected areas in the Architecture Building.

Mario Gandelsonas served as Acting Dean during the academic year 2001-02 while Dean Lerner was on leave. The year was marked by faculty changes and an international search for a new Dean. In 2002, Lerner was succeeded by Stan Allen, FAIA, *88, a respected educator and practicing architect, who had previously been Director of the Advanced Architectural Design Program at Columbia University. Allen built on the School's strengths while moving forward in the areas of urbanism, technology, computation and design. He recruited new faculty, put in place new programs, established the Certificate Program in Urban Studies, and created a research Center for Architecture, Urbanism and Infrastructure (CAUI). In 2007, work was completed on the first major renovation/addition to the School of Architecture Building since its construction in 1963.

Allen was succeeded in 2012 by Alejandro Zaera-Polo, RIBA, an internationally known practicing architect and theorist who was previously the Dean of the Berlage Institute in Rotterdam (2001-06). Zaera-Polo focused his tenure on developing a balanced curriculum among the areas of History and Theory, Design, and Building Technology, and positioning the SoA to be a hinge between the sciences and humanities at the University. Additionally, Zaera-Polo increased research programming and activity at the School. Zaera-Polo stepped down in October 2014, and Allen was appointed acting Dean. The University is currently conducting a search for Zaera-Polo's replacement, and a new dean is expected to be in place by fall 2015. Professor Allen's return to the position of dean provides stability during this

transition. In addition, Professor Lewis, who previously served as Director of Graduate Studies for seven years, has been appointed to the position of Acting Associate Dean.

The current faculty reflects Princeton's commitment to excellence in both design and research. They represent a broad range of practice methodologies and research interests, and they bring diverse academic and creative experience to bear in their teaching. Since the last site visit in 2009, the number of full-time faculty has grown from 11 to 14. In 2011, design professor Jesse Reiser was promoted to full professor, and in 2012, Paul Lewis, a design professor, and Spyros Papapetros, a history and theory professor, were granted tenure and promoted to associate professors. Several new tenure-track faculty members have joined the School since 2009; they include assistant professors Axel Kilian in 2009, Lucia Allais and Michael Meredith in 2011, and Forrest Meggers in 2013.

The recent hires have enlarged the focus of the SoA. Since his arrival, Axel Kilian has developed expertise in computational design and fabrication at Princeton. Forrest Meggers is the School's first jointly appointed faculty member with the Andlinger Center for Energy and the Environment. He covers areas such as building systems design and integration, sustainable systems, and renewable energy. Kilian and Meggers are integral forces in the planning for a Center for Embodied Computation, a new research and teaching facility. They also co-direct a new Ph.D. Program in Computation, Energy, and Technology in Architecture, which has its first cohort of students in 2014. This "technology" Ph.D. track complements the Ph.D. program in the History and Theory, which has long been a curricular cornerstone of the School.

Among with the full-time faculty, Stan Allen, MacArthur Fellow Elizabeth Diller, Mario Gandelsonas, Paul Lewis, Michael Meredith, Jesse Reiser, and Alejandro Zaera-Polo constitute the design professors. M. Christine Boyer is a professor in the area of urbanism. Guy Nordenson (with the support of Meggers and Kilian) specializes in building technology. Christine Boyer, Beatriz Colomina, Spyros Papapetros, and Lucia Allais represent the SoA faculty focused in the history and theory of architecture. The visiting faculty (some of whom have multi-year appointments) and a distinguished cohort of international design faculty complement the School's full-time faculty.

School of Architecture—Program Mission: It is the goal of the School of Architecture to offer a professional education that balances the areas of knowledge necessary for the contemporary practice of architecture with a broad understanding of the role that architecture plays in its cultural context. To this end, the School has structured its programs to instill within each student a sense of responsibility based on an understanding of architecture's capacity to shape significant social and environmental issues. The SoA's programs develop students' intellectual, artistic, and technical skills so that their future work will benefit not only themselves but also, and more importantly, society and culture at large. The School gives students the tools with which to begin a lifelong process of learning about architecture and its value to society.

Architecture is a discipline at once technical, aesthetic, and social. As such, its exercise involves a broad range of intellectual and practical abilities. The SoA offers professional programs that emphasize the development of design skills and, at the same time, provide students with a solid foundation in areas of technology and the history of architecture. Central to the philosophy of the School is the belief that architecture is by its nature a synthetic practice, involving many different areas of expertise and critical thought. Therefore, the SoA's programs, with their emphasis on design instruction in close relation to technical and professional concerns, provide a structure within which architecture is understood as a mode of knowledge in itself, capable of evolving in response to changing conditions of practice.

Architectural practice today unfolds in an increasingly complex economic and political climate. Students enrolled today will experience unprecedented intellectual challenges as urbanization continues unabated, as building and design technologies change, and as environmental issues gain increasing urgency. More and more, the mandate of architecture is to act strategically: to find new ways of working, new models of practice, and innovative strategies of implementation. Yet it is important to remember that architecture's traditional activities, the design and construction of buildings, landscapes, infrastructures, and cities, continue to have a powerful appeal. Architects need to be prepared to take on the responsibility of the

production of the spaces where public and private life will take place: the civic and institutional framework for a democratic society.

Architecture at Princeton has always been taught in this broad cultural context. The School's small size, the excellence of its faculty, and its well-developed interdisciplinary affiliations prepare students to think critically and to practice effectively. The School builds on this strong base while moving forward in the areas of urbanism, technology, computation, and design. The School works to incorporate research into the curriculum, taking advantage of architecture's special capacity to envision and organize information. The School is committed to a culture of collaboration, understanding that architecture is a collective art form involving the expertise of many different fields. We embrace change, recognizing that the ideas and skills we teach today may be obsolete tomorrow. The teaching and the programs of the School promote imagination, inquiry, and experimentation. Finally, we work actively to engage the world outside the academy. Architecture is intimately connected to the real world, and it is constantly enriched by the traffic between theory and practice. At Princeton, we are confident that our long history of a productive dialogue between academic research and practical design work will produce a new generation of architects prepared to engage the complexity of the real world in previously unimagined ways.

The School's programs meet or exceed the NAAB requirements for accreditation in their comprehensive approach to the education of an architect and in their insistence that all areas of knowledge necessary for the contemporary practice of architecture need to be addressed in the context of a challenging, individualized curriculum. The programs stress ideas and modes of thought that affect the various activities necessary to address the NAAB perspectives and its five constituencies. The SoA maintains the highest possible academic standards. It provides support and encouragement for students to assume leadership roles, assures that all students are prepared for licensure, and equips students to practice in a rapidly changing world. Finally, the SoA promotes a broad understanding of the social and environmental context of architectural practice. It is our belief that each course should mirror the overall mission of the School and develop the broad intellectual content of its subject.

The SoA meets its dual obligations to its own mission statement and to the NAAB conditions for accreditation by stressing that the many components of an architect's education must work together while allowing individual exploration. The School's faculty and administration believe that an architectural education should take place in a broad intellectual context responsive to the idea that architecture is the most social of the arts.

I.1.2. Learning Culture and Social Equity

Learning Culture
The defining qualities of the School of Architecture are its small size (typically around 40 students in the accredited program), and the close relationship between the faculty, students, administration, and staff. There is a high level of contact and dialogue between every member of the school, which fosters a supportive and engaged community. Through both formal and informal mechanisms, the School nurtures a culture of respect, engagement, and innovation precisely because of the quality and quantity of the interactions and dialogues between members of its community, as enabled by the small size.

The School of Architecture revised and adopted a studio culture policy effective for the fall of 2008 (http://soa.princeton.edu/node/751). The studio culture policy is published on the School's web site, accessible by anyone within and outside of the School. It is also included in the *School of Architecture Student Handbook: Rights, Procedures and Responsibilities,* which is updated annually, and made available each fall to all students. The policy is presented and discussed in the first all-school meeting at the beginning of the fall semester each year. Previously, the Handbook was printed and copies were distributed to each student, faculty, and staff member during the first week of class. Currently, its presence on the School website eliminates the problem of lost copies, and allows for policy changes to be more quickly enacted and disseminated when needed. Students are made aware of the Handbook and encouraged to read it at the beginning of each year; its policies are frequently referred to throughout the year in meetings, emails, and memoranda. Questions or concerns about the Handbook and the School's

policies can be addressed to any faculty or staff member, or brought to the administration's attention through the SoA student representatives.

The studio culture policy is reviewed and updated on an annual basis with input from the entire faculty. It incorporates comments collected over the course of the year by the School's Student Representatives. The Executive Committee, advised by the Student Representatives Committee, drafts the final text.

In large part due to the small size of the School, there are long standing studio culture protocols serving to maintain the principles formalized by the official policy. The close relationships between the students, faculty, and staff ensure that a productive and healthy atmosphere defines the studio environment. In the event that unhealthy situations or activities arise, they are responded to promptly and directly. The Executive Committee and the Student Representatives Committee each meet three times a semester to monitor and to improve studio culture. In these meetings, any concerns related to the School are discussed. This can take the form of addressing concerns about studio culture, or identifying proactive ways to improve the quality of life in the School. These meetings are supplemented by student feedback in course and studio surveys, which are compiled and analyzed each semester. If a serious problem with the School's learning culture occurs, an Ad Hoc Committee is convened to study the issue and present the School with possible solutions. Non-academic aspects of the School are also discussed and developed in these faculty and student meetings. These may include SoA social events such as Pizza Fridays, the student film series, and the SoA prom.

Studio and Course Structure
All studios are comprised of no more than 12 students, and are more often eight to 10 students. All undergraduate and graduate design studios are located on the second floor and mezzanine above the second floor. These open work spaces allow a free flow of people and ideas between studios. The entering three-year Master of Architecture (M.Arch.) students form a single design studio for both semesters of their first year. These core studios specifically train students to develop design, critical thinking, representation, and time management skills, before they enroll in the Vertical Studios in their second and third years. Some of the Vertical Studios are organized into teams of students that work collaboratively, and in some cases, are directly engaged in cultural exploration and exchanges. The Integrated Building Studios, which are part of the Vertical Studios, are taught jointly by both design and building technology faculty to foster an interdisciplinary approach to problem solving and design innovation. Each student is required to take at least one Integrated Building Studio.

For their final semester studio, students are required to produce an independent thesis project. Thesis is an essential and unique part of the studio culture at the SoA. Here, students are able to pursue a diverse range of projects, exploring their own approaches to the fundamental values of innovation, engagement, and service within architecture. Thesis is framed as a transition from a student's formal education to their life outside of academia, and it is the core component of the curriculum, which is oriented towards independent research and an original contribution to the field. Thesis work also synthesizes each student's previous work in design, history/theory, and technology. Two consecutive courses constitute this individual design research project. First there is a Thesis Seminar, guided by a member of the faculty and aimed at identifying the core of each research project in the context of the current debates in the School and the discipline at large. An intensive semester of design work follows the thesis seminar. Guided by a faculty advisor (each faculty member has no more than three thesis advisees per semester), the term is supervised and guided by a thesis coordinator drawn from the core faculty, currently the Director of Graduate Studies (DGS). Thesis work as a whole infuses the School with energy and experimentation. As is the case with all reviews in the School, thesis reviews are public and open, and take place in the main gallery spaces of the building. Consistent with all reviews, all students are encouraged to observe and participate in these discussions. Unlike other design studio reviews, the thesis reviews occur at the end of exams, allowing students additional time to bring their projects to full completion. This also allows recent graduates and students not yet doing a thesis to assist thesis students in the collective production of the final work. This team approach to the production of architecture not only serves to introduce students to the collaborative nature of team-work in the

profession, but it also creates a strong sense of camaraderie in the studios at the end of the students' time at Princeton.

Time management, particularly in the period of time around final reviews, has been and will be a concern of the SoA. At the beginning of each semester, each student meets individually with the DGS to define a curriculum that balances curriculum requirements, time concerns, and the student's own interests. A recommended sequence of courses outlined in the Student Handbook offers a plan toward achieving a balanced course load each semester. To further assist in balancing a student's workload, final reviews for studio are scheduled to occur before Reading Week. Reading Week is a University-wide, week-long period between the end of courses and the final week of exams. It allows students sufficient time to write final papers and prepare for final exams. To address the production crunch that occurs before reviews, the administrative staff arranges time slot sign-up sheets for printing, laser cutter, and other equipment in heavy demand. This ensures that everyone has fair access to these facilities, and, more importantly, assists in setting deadlines for the completion of work. This helps mitigate all-nighters and the unhealthy stress associated with every student in a studio attempting to print or make models at the same time at the last minute.

A parallel sequence of required courses and distribution requirements complement and reinforce the studio sequence. These include a two-semester sequence of Structures and a two-semester sequence of Environmental Technology courses. Required Formal Analysis, Building Systems, Technology and Professional Practice courses round out the core requirements. After extensive discussion among the faculty, and taking advantage of our small size and close-tracking of students, the School has opted to address history/theory and urbanism requirements through a series of distribution requirements. These are rigorously tracked through individual advisory meetings with each student and the Director of Graduate Studies for the Master of Architecture Program that take place at the beginning of each semester. The School is committed to allowing each student the flexibility to pursue his or her individual interests within the constraints of an accredited professional degree. We are convinced that in a School of Princeton's size, this mix of strong core requirements and individualized course selection overseen by close advising is the best strategy to accomplish our goals.

Although the design studio is a central component of a student's education, the SoA places an extremely high priority on a broad education—one that can capitalize on the fact that the School is fully integrated within the University. Princeton is structured not as a collection of autonomous departments or schools, but as a single university, where students can take courses across schools and departments; students are strongly encouraged to take courses outside of the SoA. Studio courses are seen as one part of an expansive and interdisciplinary education that also includes history and theory seminars, building technology laboratories, and general studies courses in a myriad of fields available throughout the University.

Grievances Related to Harassment and Discrimination: In efforts to preserve the spirit of the University community and promote the full inclusion of all members and groups in all aspects of University life, Princeton values the principle of respect for the rights, privileges, and sensibilities of others. Actions that make the atmosphere intimidating, threatening, or hostile to individuals are therefore regarded as serious offenses. Abusive or harassing behavior, verbal or physical, which demeans, intimidates, threatens, or injures another because of his or her personal characteristics or beliefs, is subject to University disciplinary sanctions. Tolerance of such behavior or submission to it is a serious offense.

While all departments and members of the University are responsible for the prevention of discrimination and harassment, the Office of the Provost and the Office of Human Resources have the chief responsibility for the establishment, dissemination, and execution of policies and procedures related to harassment and discrimination. The University has a strong commitment to creating and maintaining an educational, working, and living environment free of all forms of harassment and discrimination. Thus, Princeton defines conduct that constitutes harassment and discrimination. The resources and processes for addressing and resolving harassment and discrimination complaints are found in the following non-discrimination/anti-harassment policy and grievance procedures (http://www.princeton.edu/main/

administration/policies/Nondiscrimination_Anti-Harassment-Policy-and-Complaint-Procedures.pdf). Moreover, in consideration of Princeton's compliance with Title IX of the Education Amendments of 1972, students, faculty, staff members, or other participants in the University's programs and activities who feel that they have been subjected to discrimination on the basis of sex may use Princeton's Title IX grievance procedures (http://www.princeton.edu/diversity/documents/Title-IX-Grievance-Procedures.pdf) and Title IX grievance form (http://www.princeton.edu/diversity/documents/Title-IX-Grievance-Form.pdf) to bring concerns to the attention of the University Title IX Coordinator for prompt and equitable resolution.

Academic Integrity: Academic integrity is a core principle of conduct at Princeton University. "Rights, Rules and Responsibilities," a handbook of University policy published each year for students, faculty, and staff, outlines the University's policies around academic integrity, defining its value as the following: "The ability of the University to achieve its purposes depends upon the quality and integrity of the academic work that its faculty, staff, and students perform. Academic freedom can flourish only in a community of scholars which recognizes that intellectual integrity, with its accompanying rights and responsibilities, lies at the heart of its mission. Observing basic honesty in one's work, words, ideas, and actions is a principle to which all members of the community are required to subscribe."

To facilitate and foster an environment of intellectual integrity, Princeton has academic regulations governing student work. The Graduate School is responsibility for all academic matters involving graduate students, including issues of academic integrity. Similarly, the Dean of the College provides oversight of academic regulations at the undergraduate level, including topics such as intellectual honesty and plagiarism. For faculty and professional research staff members, the Dean of Faculty issues rules and policies that address academic integrity issues under the topic of "misconduct in research" (http://www.princeton.edu/dof/policies/publ/fac/rules_toc/chapter5/). Detailed information regarding these academic regulations, violations, procedure for adjudication of violations, and penalties for violations can be found in the University's "Rights, Rules and Responsibilities" handbook (http://www.princeton.edu/pub/rrr/).

Diversity and Social Equity Efforts: While the SoA does not experience significant problems with regard to social equity, we remain keenly aware that women and people of color are still under-represented in both the faculty and the student body. In this sense, the School is not alone; women and people of color are under-represented in the profession as a whole. For this reason, the SoA needs to set a positive example in the area of faculty and student diversity, and there is more work to be done. The faculty size is small, and percentages can shift radically with the addition of one or two faculty. While the School has worked actively to recruit women and under-represented individuals, the number of women and people of color on the faculty remains a concern. Women make up three of the 10 tenured faculty, but only one of the four assistant professors. Among the visiting faculty, women are also under-represented. Minorities are likewise under-represented in both faculty and the student body; this needs to be a priority moving forward.

Although the University has long been addressing the need on all levels for the Princeton community to embrace inclusiveness and diversity, President Christopher Eisgruber made diversity a priority topic for the University community. In 2013 Princeton's Ad Hoc Committee on Diversity submitted a report identifying measures to create and ensure a more diverse and inclusive community. The report (http://www.princeton.edu/reports/2013/diversity/) focuses on graduate students, postdoctoral fellows, faculty, and senior administrators, and offers recommendations for diversifying specific campus populations where progress has remained limited:

- **Departmental Responsibility:** Academic and administrative departments know best how to diversify and sustain high standards of excellence in their own areas. They should receive the freedom and the responsibility to determine how to focus their efforts to achieve maximum impact.
- **Central Support:** Effective action will require resources. The University must be ready to provide these resources so that departments can pursue diversity in ways that sustain or improve the quality of their research and teaching programs.

- **University-Wide Accountability:** University leadership should monitor departmental efforts and provide regular progress reports. Through the new Diversity Initiative, each department on campus is required to establish a committee or devise a plan on diversity and social equity.

Most immediately relevant to the SoA is the recommendation that heads of academic and administrative departments convene a committee to address diversity and social equity issues within the School and the field at large. It is the intention of this committee, which is composed of representatives of SoA faculty, administrative staff, and student body, to meet two-to-three times a semester throughout the academic year. The School has established a diversity committee that will start meeting in fall 2014. Members include senior faculty members Elizabeth Diller, Mario Gandelsonas, and Spyros Papapetros; Camn Castens, SoA business manager; and student representatives, to be elected. The committee is charged with addressing diversity and social equity issues as they relate to faculty recruitment and retention, student admissions and recruitment, and strategies for the SoA to be a more inclusive and diverse environment.

I.1.3. Responses to the Five Perspectives

A. Architectural Education and the Academic Community
All schools of architecture within university settings are crucially affected by the structure and profile of the larger institution. The SoA is no exception; in fact compared to some of our peer schools it is much more integrated into the structure of the university: less of a freestanding school. Princeton University has always provided the larger context for the multidisciplinary educational philosophy of the SoA. The University supports the School's professional concerns and expects that its scholarly and professional activities will contribute an understanding of the importance of architecture to other disciplines and thereby enrich the University as a whole.

The SoA's function at Princeton is to offer a forum for intellectual, technical, and artistic inquiry into architecture, urbanism, and landscape that is open to all members of the academic and surrounding professional communities. The School is one of only three professional schools at Princeton: the School of Architecture, the Woodrow Wilson School of Public and International Affairs, and the School of Engineering and Applied Science. All University policies and forms of representation apply to these three schools, as well as to other departments in the four divisions: the Humanities, including architecture; the Social Sciences, including history and the Woodrow Wilson School; the Natural Sciences, including mathematics and psychology; and Engineering. The SoA, as part of the Humanities division, is represented by the Dean on the Humanities Council. The Council, established as a means of fostering significant teaching and research in the Humanities, consists of the chair of each department in Division I (Humanities), the directors of programs and chairs of committees in this division, the Dean of the SoA, the Dean of the School of Engineering and Applied Science, one representative from Division II (Social Sciences), and another from Division III (Natural Sciences). The School is therefore uniquely positioned to act as a hinge point between the Humanities, Natural Sciences and the Social Sciences; it is our belief that this is a particular strength of the School. Architecture is a synthetic discipline, and the School's small size and position within the University reinforces this synthetic, inter-disciplinary approach.

Because the University consists of a single faculty, hiring and advancement procedures are uniform throughout, with no distinction made between the graduate and undergraduate faculty. The SoA is fully integrated into its larger university context. Students of the School may take courses throughout the University at the undergraduate and graduate levels, and the SoA serves the University reciprocally by allowing students from other departments and schools to enroll in courses that range from introductory design studios at the undergraduate level to seminars and lecture courses in architectural history and theory at the graduate level. Many courses offered by the SoA are cross-listed by the Departments of Art and Archaeology, the Woodrow Wilson School, and Civil and Environmental Engineering. The School reciprocally cross-lists many courses in those departments and others, including Germanic Languages and Literatures, the Program in Latin American Studies and American Studies. This academic integration facilitates necessary collaborations with the other departments essential for the development of the

professional program. The capacity for cross registration across departments is enormously valuable in a small-scale school, as it provides opportunities that are not available in more free-standing institutions.

The School maintains particularly close connections with the Department of Art and Archaeology, the Woodrow Wilson School, and the School of Engineering and Applied Science. Art and Archaeology faculty teach architectural history classes, advise Ph.D. students, and organize joint conferences and events with the School of Architecture. The Graduate Program in Media and Modernity, within the SoA, offers students from a wide range of fields—from architecture to computer science, visual arts to anthropology, literature to political theory—the opportunity to enrich and broaden their study through participation in the interdisciplinary activities of the program. The School is part of an undergraduate Certificate Program in Urban Studies, jointly with Woodrow Wilson School and the School of Engineering and Applied Science, and offers a joint undergraduate certificate program with the Department of Civil and Environmental Engineering. The Center for Architecture, Urbanism and Infrastructure (CAUI) at the SoA was established as a research center to provide a collective site for an increasingly important area of interdisciplinary research across the University. The University recently received a major grant from the Andrew W. Mellon Foundation to lead an interdisciplinary project on urbanism. The Princeton-Mellon Initiative in Architecture, Urbanism and the Humanities is housed in the SoA and co-directed by the Dean and Alison Isenberg, from the Department of History. These connections, which encourage a humanistic as well as a technological understanding of the role of architecture and engineering in society, are also a resource for the doctoral program. Furthermore, Forrest Meggers, a new jointly appointed Assistant Professor in Energy and the Environment with the Andlinger Center, is an important resource to connect the School of Architecture with new developments in terms of sustainable building technologies.

While the SoA maintains its own self-contained computing facilities, the facility is designed to work in concert with the extensive array of computing environments and installations throughout the University. These include, among others: complete networking, e-mail, Internet, file storage, and back-up services for all students and faculty; 24-hour technical support (software and hardware) for all of the platforms currently running at the SoA; an advanced graphics laboratory in the Department of Civil and Environmental Engineering that complements the School's facility (open to architecture students and faculty); a media services support group that lends and maintains projection and recording equipment; a central facility for the discount purchase of hardware and software; and the Media Center, the University's focal point for multimedia and web activity, which offers hardware and software support, training, printing, and digitizing services.

Other common University services are shared equally by all academic units: the Firestone Library System; the Office of Information Technology; Human Resources; Career Services; and the Office of Development. School of Architecture students participate fully in the intellectual and social life of the University. Faculty members at Princeton become part of an intellectual community where the free exchange of ideas is encouraged.

B. Architectural Education and Students

The small size of the student body in relation to faculty and staff ensures that every student receives ample support during their school years. This includes personal academic advising, close tracking of student progress, and career counseling. The demanding intellectual atmosphere at Princeton prepares students to assume leadership roles after graduation. The SoA also actively encourages and supports student initiatives. These programs provide students with valuable experience organizing and conducting public events. In recent years, these initiatives, which are fully funded by the School, have included a film series, a student lecture series, and student-driven technology workshops, such as "Forging Fabrication: Prototyping Ideas" (2013). In some occasions, students have created reading groups with the participation of a faculty member. Print publications *Pidgin* and *Nova Organa*, and the audio journal *Attention*, are all student initiated, designed, and produced with the support of the SoA. These events and publications have contributed to making the School a cultural context open to constituencies beyond its limits, and have allowed the students to make contact with a wider group of professionals and academics.

The SoA students participate to different degrees in establishing their individual learning agendas. Working within the parameters of the required course sequences in design, building technology, history and theory, and professional practice, students in the three-year M.Arch. program may create an individual reading course with a faculty advisor, so long as it receives the approval of the DGS. Thesis work is one of the customary traits of Princeton education, and differentiates the School from others by insisting that a professional degree program should encourage and support the capacity of the students to develop an independent project. The purpose behind this wider scope is precisely to curate these independent initiatives, which often require bringing together different skills which are not usually available in a conventional professional program. It is here that the wider university context becomes more effective at providing access to unique research in different fields. Open elective courses may be chosen from the course offerings of the SoA or any other area of study in the University.

In broad philosophical terms, the SoA offers a context that embraces cultural differences, with a student body that includes international students. The School is vigilant to ensure that the community of people working and studying at the SoA reflects the diversity and composition of the world at large. In this sense, the immediate community of the School (and the University) serves as a means of educating students about the world they will be entering in professional practice. Moreover, international travel in graduate studios (to Mexico, Japan, and other countries) exposes the students to cultural contexts that are radically different from the American context. The students have the option to participate in international studios, and the School at large is exposed to the diversity and cultural exchange promoted by these programs. These studios, which require collaboration with international students and faculty, offer a context where students learn to respect each other, cooperate, and share decision-making. They nurture diversity, distinctiveness, and dignity. The international studios further provide students with critical information that might affect their future practice in the global market, exposing them to the national and international context of contemporary architectural practice.

This open embrace of cultural difference is reinforced by the admissions policy of the University, which is “needs blind.” This greatly aids the SoA in bringing together a diverse group of students. The School aims to educate the leaders of the next generation in a variety of fields, and realizes that its students must be of the highest caliber, regardless of economic background. The generosity of the SoA’s funding for students in the professional programs speaks for itself. Within the context of the SoA’s overall effort to maintain a student body of the very highest caliber, the School attempts, where feasible, to make special efforts through its admissions procedures and University programs to identify promising students who have traditionally been under-represented in the profession of architecture.

C. Architectural Education and the Regulatory Environment

The goal of the School of Architecture is to provide its students with a balanced curriculum that builds upon their past education and anticipates the future of the profession in which they will be practicing. The faculty and administration of the School take advantage of its small size by working with each student individually to see that his or her program of study is balanced to the course requirements, provides adequate coverage of the areas of knowledge necessary for eventual licensure, and ensures that the program builds effectively on the student’s previous education.

The professional degree in architecture at the SoA is conceived as the first stage of professional preparation that will enable students to develop the knowledge, skills, and work methods necessary for professional licensure and the practice of architecture. The School’s curriculum guarantees that graduates will leave the SoA with an understanding of all areas of knowledge necessary for the practice of architecture. However, the School does not pretend to produce “fully formed” professional architects immediately upon graduation. Rather, its programs are designed to produce well-educated individuals capable of analyzing and applying what they have learned to complex issues in practice, and proceeding through the internship process towards licensure. The School prepares graduating students to complete the Intern Development Program, recognizing that internship extends and supplements academic professional training. It encourages graduates to continually add to their skills and knowledge over the length of their careers through continuing education. In this sense, the curriculum covers areas that will inevitably be expanded and deepened in a professional setting, and the programs emphasize those

domains of knowledge best learned in an academic setting, that is to say, the principles of technical and scholarly disciplines related to architecture within its historical, social, and environmental context.

Although the design studio remains the best place to bring together all the issues related to the practice of architecture, each course taught at the SoA contributes to the overall strategy by which the School approaches the education of an architect. Each course taught here must therefore demonstrate intellectual content and identify its relevance to as many issues concerning architectural education and registration as possible before being approved at the School and University level. Specific questions of internship and licensure procedures are covered in the required course in professional practice (ARC 562). This class presents a range of opportunities, through office visits, outside lecturers, and other programs to enlarge students' horizons and increase their understanding of the diverse issues and elements of architectural practice.

By assembling a faculty of practitioners and scholars whose initial training is in architecture or an allied professional discipline (city planning, civil engineering, etc.), the School ensures that its students are in continuous contact with professionals, whose day-to-day practice or research methods are communicated in every course. Associate Professor Paul Lewis serves as the School's IDP Educator Coordinator, and is available to answer specific questions and to mentor students through the process of internship and licensure. Finally, the SoA design faculty constitutes a group of exceptional practitioners (as opposed to professional teachers in this area of knowledge) who teach courses in the building technology so as to expose students to the rich mix of interactions with other professionals that they will encounter in practice. This contact between professionals and students promotes the exposure of students to internships, standards of professional responsibility, and the need of continuing education beyond graduation.

D. Architectural Education and the Profession

As there are an unusual number of practicing architects among the standing full-time faculty, the School is very much aware of the changes taking place in architecture practice today. Elizabeth Diller, Jesse Reiser, Stan Allen, Paul Lewis, Michael Meredith, Guy Nordenson, and Alejandro Zaera-Polo are all practitioners with active building practices. All of these full-time faculty members teach design, have outstanding international reputations, and maintain active professional offices. The variety of these offices allows Princeton students to compare various types and sizes of practices first-hand. The collaborative nature of these practices also helps students understand the complex interdisciplinary nature of the contemporary architectural practice. The pedagogical practice of these faculty members inevitably reflects their practical experience, and these new conditions are specifically addressed in the studio programs they set. Hence, through the vertical studios, individual faculty members propose innovative design exercises that explore the implications of new programmatic demands, shifting design contexts, and new models of practice. The SoA is also fortunate to have the resources to bring visitors from around the world to teach design. These visiting architects introduce students to aspects of international practice, alternative models of architectural practice, and a diverse set of design methodologies that may serve as additional role models for their career paths.

The SoA aims to respond to the contemporary changes in the industry in ways consistent with its obligations to the profession, to new generations of practitioners, and to the position of architecture in a global society. The School strives to make students aware that the profession of architecture now encompasses a very broad knowledge base, and that the practice of architecture in the future will require architects who can undertake research on design and related subjects, and can operate effectively in diverse settings. The SoA faculty is especially aware that architects now work internationally, and that practice is becoming more specialized. Architects are increasingly presented with complex building or urban programs, and are expected to contribute to programming decisions and site selection. The broad cultural emphasis of the curriculum reflects the fact that the social and ethnic composition of the profession is different from what it was a few decades ago.

The School addresses these changing demands of practice by teaching the most up-to-date knowledge design, theory, technology, and building practice available today. It creates a setting in which students can develop the ability to work with diverse colleagues and to respond effectively to the changing needs

of clients and the building industry. It also create an environment for discussion through lecture series and conferences, which try to address the new environment of scarce resources, ecologic and financial, and the architecture that emerges from this new global environment. Every year, a lecture series is organized to capture and discuss one of the distinctive aspects of contemporary practice. Last year the “Rarefied” series addressed the subject of scarcity of resources, while the “Anonymous” conference in 2013 posed questions about the condition of authorship and the new constituencies in architecture. The “Data Drama” conference in spring 2014 evaluated the potentials and impact of big data in the formation of the contemporary urban environment. In fall 2014, the lecture series called “The New How” addresses the importance of a range of new technologies brought about primarily by digital tools, which have had an enormous impact in the way buildings are conceived. During the academic year 2012-13, the School hosted a lecture series called “What I Did Next” where 16 roundtable panel discussions featured 83 SoA graduates working globally across different fields.

The SoA operates on the premise that its programs of professional study represent the beginning of an extended period of learning required to fully master all the skills necessary in the practice of architecture. The School’s strategy is to provide graduates with the critical abilities and learning skills that will enhance their capacity to master new realms of knowledge throughout their careers. The SoA’s teaching emphasizes to students that professional life is a process of life-long learning and continuing education, rather than the acquisition of a finite set of professional skills. We set an example early for the students to engage the profession. The School encourages Student AIA membership in the New York or New Jersey AIA Chapters, and we work closely with the New York Chapter to make it possible for students to take advantage of the public programs offered at the AIA’s Center for Architecture, and to make contacts within the local profession.

Given the swift pace of change occurring in the field of architecture and the new roles being assigned to architects, the SoA faculty and administration believe that this emphasis is essential if architecture is to maintain its professional standing. The changing demands of practice have created new legal and ethical conflicts for the profession. By continually insisting on a wider social context for design practice, the SoA works to instill in each student a sense of ethical responsibility that goes beyond individual cases to embrace a broad commitment to the integrity of the profession of architecture.

E. Architectural Education and the Public Good

As a means of providing its students with an understanding of the social and environmental context of architecture, the School works to generate informed debate among students and faculty about the relationship between architecture and its social context. This occurs on a day-to-day basis in studio pin-ups, seminars, and public events. Lecture series and conferences are vehicles to discuss these pressing issues that frame the contemporary profession with a very wide range of guests of international caliber. To supplement the basic roster of courses in each field, a number of seminars are offered each year that investigate issues of current concern, from global practices, to the social and political implications of design decisions. Guest studio critics from a variety of backgrounds serve to remind students of architecture’s diverse constituencies. Visiting professionals deepen students’ understanding of the complex process of the realization of architecture, including the needs of multiple stakeholders. Seminars and professional practice classes emphasize the social context of contemporary practice. Increasingly, studio problems and seminar courses address issues of environment, energy, and suitability. Contact with international visitors creates awareness among students of a wide variety of cultural contexts for architectural practice. The obligation of the architect to understand its public nature forms the backdrop to many of these discussions.

At the School of Architecture, we believe that it is through an engagement with contemporary urbanism and the diverse culture of cities that we can best instill in students an awareness of architecture's social mandate. It is in today’s cities that the most urgent issues of society, politics and the public realm play out. The School fosters an informed understanding of social and environmental problems, and develops students’ capacity to address these problems with sound architecture and urban design decisions. This focus is reflected in a wide array of courses such as “ARC 401, Theories of Housing & Urbanism”; “ARC 425, The Ordinary”; “ARC 492, Topics in the Formal Analysis of the Urban Structure-American Urbanism”;

"ARC 536, Architecture, Cities and Nature"; and "ARC 545, The Philosophy of Urban History." They address issues such as public space, transportation, housing and minority representation, sprawl, and workplace and labor issues that have urgent social or environmental consequences.

In addition to coursework, two programs at the School focus on social and environmental issues in the urban context. At the graduate level, the Center for Architecture, Urbanism, and Infrastructure (CAUI) sponsors events and ongoing research projects. These conferences and events have included sociologists, urban planners, and theorists, as well as a variety of policy makers. Exposure to these working professionals gives students a broader awareness of the multiple stakeholders who shape built environments, and helps to cultivate a commitment to civic engagement and public service. At the undergraduate level, there is the Certificate Program in Urban Studies. As a collaboration between the SoA, the Woodrow Wilson School for International and Public Affairs, and the Department of Civil and Environmental Engineering, the program brings together a number of courses across departments and provides the undergraduate community with a deeper engagement with urban and environmental issues by introducing the many facets of the physical, economic, political, and social environment of modern cities. This focus is reinforced by the courses and public programs associated with the new Princeton-Mellon Initiative in Architecture, Urbanism, and the Humanities. A number of SoA faculty are also Associated Faculty at the Princeton Environmental Institute, which engages a full range of environmental questions.

The ability to make sound architectural and urban design decisions, informed by an understanding of architecture's ethical role in society, remains the architect's most powerful vehicle of public service. The School believes that a thorough grounding in the principles of design gives an architect the ability to continually respond to the changing nature of program, social considerations, environmental considerations, and technological variables; that comprehending the historical and cultural conditions of architectural practice and its legal and ethical foundations aids the architect in the formulation of flexible and rational responses to contemporary architectural and urban design problems; and that an awareness of critical positions regarding contemporary practice and the ability to discriminate among them will aid the architect in self-evaluation and responsible self-criticism.

I.1.4. Long Range Planning

In the Program Self-Assessment section of Princeton University's 2008 Architectural Program Report, the School outlined six long-range goals for continuous program improvement. In the six years since that report, the SoA has made progress in each of these areas. A review, report, and update of each of these areas continue to serve as a comprehensive self-assessment. This not only enables an evaluation of the School's progress, but also helps identify areas where additional progress is required. The following includes a general overview of the state of the program, an evaluation of areas needing attention, and the SoA's goals for the future.

The six long-range goals informing the School's strategic plan are:

1. To foster an increasingly productive dialogue between theory and practice.
2. To explore new methodologies of design that can respond effectively to new programs, new technologies, and unfamiliar sites.
3. To advance alternative modes of practice appropriate to a new global practice of architecture.
4. To consolidate our leadership in the history and theory of urbanism and its day-to-day practice under the changing conditions of contemporary urban life.
5. To create an atmosphere of communication, collaboration, and transparency in all areas of the School of Architecture.
6. To integrate new technologies into all areas of the curriculum.

1. Theory and Practice
Since the last site visit, new faculty appointments have reinforced the engagement with practice and complement the School's strength and excellence in theory. The recent appointments demonstrate the

commitment of the SoA and the University to rebalance areas of knowledge. The recruiting and retention of a first-class faculty remains the top priority of the School and Princeton. Faculty members must be recognized as accomplished practitioners or scholars capable of offering instruction at the highest level. The School has added several new faculty members, and tenure-track faculty members have made steady progress toward promotion and tenure.

- Axel Kilian was hired in 2009 to develop the School's presence in the area of computation.
- Lucia Allais, a promising historian and theorist, was a postdoctoral fellow first before she was appointed as lecturer in 2010 and assistant professor in 2011.
- Michael Meredith, an emerging recognized American practitioner, was hired in 2011 to join the design faculty.
- Design professor Jesse Reiser was promoted to full professor in 2011.
- Paul Lewis, another emerging practitioner based in Manhattan, NY, was promoted to Associate Professor with tenure in 2012.
- Spyros Papapetros, an innovative historian, was promoted to Associate Professor in 2012.
- Alejandro Zaera-Polo's appointment in 2012 as a dean of the School of Architecture with a practitioner's background intertwined with theoretical writing demonstrates the University's support of a program integrating theory and practice.
- The joint appointment of Assistant Professor Forrest Meggers with Princeton's Andlinger Center for Energy and the Environment in 2013 enhances the SoA's direction to balance theory and practice by identifying environmental design as an essential area for the practice in the next decade.

These efforts over the past six years, which include recruiting new faculty, supporting the promotion and advancement of in-house faculty, and assembling a distinguished roster of visiting design critics, have been successful in building a strong and balanced faculty at the School of Architecture. Since the last site visit, events that engage issues of theory and practice, and connect to real-world questions outside the School, have included a symposium on design practices entitled "What is Cosmopolitical Design?" and a continuing lecture series dedicated to urban infrastructure. Research projects include the development of land use, climate adaptation, and storm resilience strategies following 'super-storm' Sandy, supported by a $1 million dollar grant from the Rockefeller Foundation/U.S. Army Corps of Engineers. This initiative, led by Professor Guy Nordenson, will work to develop new models of coastal resiliency and new methods of predicting the risks of sea level rise due to global warming. As the principal investigator, Professor Nordenson is coordinating five design and engineering teams from four different universities, including a SoA team headed by Professor Lewis. Composed of recent SoA M.Arch. graduates, Professor Lewis' team is designing amphibious suburbs for the back bay low-income neighborhoods of Atlantic City. The collective project, entitled "Structures of Coastal Resiliency," is being developed in close coordination with the U.S. Army Corps, and exemplifies how design, engineering and technology can be harnessed to positively modify existing cities and infrastructure.

2. New Design Methodologies

The School's small size, coupled with a tradition of interdisciplinary activity, offers unique opportunities for collaboration with other departments and schools at Princeton. The School continues to support inter-disciplinary work, and encourages the development of new models of practice and new collaborations between academia and the profession. This has been reinforced by a new emphasis on faculty research. There have been two specific developments:

Embodied Computation: The School has received permission to progress with the design and construction of a new building, which will house the Center for Embodied Computation, a teaching and research facility dedicated to the interface between computation and design, and the development of knowledge in the fields of digital fabrication and remote sensing. Bringing together the School of Architecture, the School of Engineering and Applied Science, and the Lewis Center for the Arts, the Center will place the SoA in a competitive position with peer institutions that already have substantial infrastructure in this field. It also underscores University priorities promoting design, innovation, and

entrepreneurship, fields to which the SoA can substantially contribute. The new building for the Center will replace one portion of the Architectural Lab, an outdated facility on campus. The other portion of the Architectural Lab, the Labatut Pavilion, has already been partially renovated, including the installation of a six-axis robot in the middle of the space. The project is anticipated to be completed by middle of 2016.

Media and Modernity: The Program in Media and Modernity, started in 2001, has fostered close ties with departments in the Humanities, including Art and Archaeology, German, and Comparative Literature. It also has developed a successful model for research in the Humanities by actively organizing traveling exhibitions. These include "Clip/Stamp/Fold: The Radical Architecture of Little Magazines 196X-197X," which opened in 2007 and continues to travel internationally with venues in New York, Montreal, Kassel, London, Oslo, Vancouver, British Columbia, Barcelona, Beirut, Mexico City, Santiago de Chile, Montevideo, and Sao Paulo; "Radical Pedagogies" which opened at the Lisbon Triennial in 2013 and at the Venice Biennale in 2014; and "Playboy Architecture 1953-79," which opened at the Deutsches Architekturmuseum (DAM) in Frankfurt in February 2014. These diverse activities serve to put the changing roles of the architect in historical perspective while suggesting alternative methodologies of practice in the present.

3. Developing alternative modes of practice appropriate to a new, global environment
The School has always taken pride in fostering an innovative and inquisitive attitude amongst the students to help them develop a wide range of career options. We do not believe that the architects of the future will be practicing within the limits of what we know today as the discipline. The career paths of the SoA graduates attest to the diversification of the field. The lecture series called "What I Did Next" involving presentations and discussions by 83 prominent SoA graduates, which ran throughout the 2012-13 academic years, was a vehicle to investigate the range of practices, both in terms of subject and geographical location (environmental design, curatorial practice, work in Asia, etc...), which SoA alumni are following, and to expose current students to the career possibilities that exist for graduates.

In terms of the programs themselves, the SoA has a policy to send students to work abroad in studios, with the purpose of exposing students to other cultures and to open international contacts for the School. Examples from 2012-14 are studio trips to Japan (Jesse Reiser); Shanghai, China, and Brazil (Mario Gandelsonas); Mexico City (Andres Jaque), various cities in Mexico (Liam Young); and Medellin, Colombia (Giancarlo Mazzanti). For more details on these international studios, please see Field Trips and Other Off-Campus Activities in Part I, Section 2.1 (I.2.1.).

The Center for Architecture, Infrastructure and Urbanism (CAUI) was established as a research center to provide a collective site for interdisciplinary research work in urban issues across the University. The Center hosts a coordinated series of symposia, conferences, publications, working sessions, and public dialogues, as well as support for ongoing research. Its focus has been global in scope; from 2007 until 2011, it served to coordinate the studios traveling to China, and in 2012 and 2013, sponsored studios that traveled to Brazil. Mario Gandelsonas spearheaded CAUI until fall 2013, when Stan Allen took over as director. The Center has developed a number of conferences and publications on emerging global urban challenges and technologies, including "Not Smart Enough," a workshop held in spring 2013 that brought together architects and urbanists with digital artists, designers, theorists, and media experts to discuss how new developments in information technology can inform the future, and an ongoing examination of the question of water supply and distribution as it affects cities around the world.

4. To develop our leadership in both the history and theory of urbanism
This is a task that we are developing both through teaching and research. On the academic side, the School has developed jointly with Woodrow Wilson School of Public and International Affairs and the School of Engineering and Applied Science, an interdisciplinary Urban Studies curriculum that introduces students to the many facets of the physical, economic, political, and social environment of modern cities. Although the undergraduate curriculum is not an NAAB-accredited program, the presence of this program at the School will allow students the opportunity to gain exposure to other academic fields that contribute to social and civic awareness, and to collaborate with students in other disciplines. Current technological developments on energy and communications are radically modifying contemporary urban technologies.

Smart Cities require that technical knowledge be incorporated in their design, and this is the motivation to incorporate the engineering school in a more integral manner with the Program for Urban Studies. Under the direction of Douglas Massey, an urban sociologist who heads up the Urban and Regional Planning Program at the Woodrow Wilson School of Public and International Affairs, and Maria Garlock, civil and environmental engineering professor, we are currently revising the Urban Studies Program in order to update its content to meet the new technology standards needed to enter into the fields of Planning and Urban Design.

The close working relationship between the Center for Architecture, Infrastructure and Urbanism (CAUI) and the new Princeton-Mellon Initiative in Architecture, Urbanism, and the Humanities will be crucial to the School's urban emphasis. The $1.96 million working budget of the Mellon Initiative will support a multi-year program to integrate architecture, urbanism, and the humanities. The focus of the initiative is on cities of North and South America. The programs supported include: developing new courses, conferences and research projects; and bringing postdoctoral fellows annually to the School to conduct research and engage with the Princeton academic community; and an extensive program of formal and informal public events. The three Mellon Fellows housed in the School of Architecture teach classes, participate in reviews, and organize public events, enhancing the public discussion around issues of urbanism.

5. An atmosphere of communication, collaboration, and transparency
The SoA operates as an open community in which decision making, as far as possible, is carried out in a transparent manner, with the full consultation and consent of the faculty and students, as appropriate. Our small size facilitates communication and collaboration, and we actively solicit student input and work to make many voices heard through the formulation of policies and procedures. There are a number of formal mechanisms in place to assure that faculty, students, and staff participate in policy and procedure formulations at the School, and we are constantly assessing what mechanisms are most effective. See "School and University Reviews and Accountability Processes" in Part I, Section 1.5. (I.1.5.) for more information. Beyond the formal procedures, we are aware that openness and communication are also part of the School culture. The Dean, staff, and faculty are approachable, and informal meetings and discussions are frequent. Reviews, lectures, symposia, and exhibition openings allow additional informal interaction.

As a means to facilitate communication, both internally and externally, the School launched *Rumor*, a newsletter published four times a year. Entitled as a playful way to foreground how the newsletter would make public some of the discussion internal to the School, *Rumor* featured publications of student work, interviews with visiting lecturers and faculty, and reports of events at the School. In recent years, a more active publications program has produced volumes documenting the conferences and events at the School, including the *Landform Building: Architecture's New Terrain*, a 474-page book based on a conference held at the School in 2009 and published in 2010. The new Dean completely redesigned the School's website, which is now much more interactive and allows faculty, staff and students to post their work, broadcasting it to the School and the public at large. Progress has been made, and the School continues to function well; however, some communication issues were identified in the last Advisory Council report, and it is our hope that there is an opportunity to address these issues with the change of leadership.

6. Integration of new technologies into the curriculum
The SoA seeks to integrate technological concerns into its comprehensive approach to design education. However, as the complexity of the construction industry increases—in both its technical and regulatory aspects—greater degree of specialization is needed. Given the increased importance of building envelope issues, and the increased attention to environmental issues this is an area where the School should continue to be an innovative leader, building on the strengths that were noted in the School's last 2009 Accreditation Report.

With regard to faculty resources devoted to building technologies, the School has always relied on visiting professionals with specific areas of expertise to compliment the expertise of the full time faculty,

specifically structural engineer Guy Nordenson. To update the Building Technology curriculum, the SoA has built on its strong faculty network while strategically restructuring faculty resources, and adding new courses where necessary. Mahadev Raman, a specialist in environmental technology, Nat Oppenheimer, a structural engineer, and Bruce Nichol have been appointed for several years at increased duty time. These faculty members meet regularly with Professor Nordenson and work closely together to coordinate the sequence and content of the course offerings. In particular, Professor Raman teaches both parts of the required two-semester course "ARC 514 and 515, Environmental Technology and Building Systems, Parts I & II," which has resulted in a much more coherent sequence. While visiting professionals provide expertise for the required courses in structural, mechanical, and environmental design, new full-time faculty have pursued more specific research within the school. With Axel Kilian and Forrest Meggers, the SoA has begun to develop a permanent line of research in digital design and fabrication, and energy and sustainability. Their engagement with the School has already created a specific but sustained culture for each of these disciplines. They have also developed research paths for graduate students, initiated a new Ph.D. program in architectural technology, and obtained a number of research grants.

Meggers was awarded funding through the ACEE-PEI Innovative Research, Teaching, and Mentorship in Energy and the Environment for "Beyond Shading: New Materials, Technologies, and Forms for Cool Spaces" and "Overloaded Structures: Bearing Multiple Loads for Sustainable Building Operation."
In addition, a key component of the Structures of Coastal Resiliency project, run by Professor Nordenson in close collaboration with faculty from Princeton's School of Engineering, is the development of new, cutting-edge approaches to storm modeling.

Given the increased complexity and central importance of this material to the NAAB-accredited curriculum, the School dedicated a graduate-level class, "ARC 509, Integrated Building Systems," which has now been taught successfully for eight years, and continues to offer students hands-on building experience in addition to classroom instruction. In recognition of the importance of the building envelope in contemporary practice, the School has also continued to offer the very popular elective course "ARC 513, Contemporary Façade Design." There is ample evidence that the School has made good progress in the area of building technology, but we will continue to evaluate the programs as the technology itself evolves.

Computation and digital media are an integral part of nearly all aspects of architectural design and research today. The SoA is committed to training all of its students in the productive use of the most advanced design and imaging technologies, as well as leading the field in the critical examination of the implications of these new technologies in architecture and urbanism. The School has made progress in all of these areas, but here too, constant updating is required. Incoming students are now requested to partake in a summer "boot camp" prior to the beginning of their first semester, aimed at getting everybody up to speed with key design hardware and software. As of 2013, every studio has also been assigned a studio assistant that introduces students to specific software, techniques, and skills. They are also available off hours for one-on-one tutorials, assuring that all students can learn at their own pace. This in turn has freed up resources that have allowed the School to offer more focused, advanced seminars in digital design technologies.

The School has continued to work to upgrade its equipment and facilities in order to support digital design technologies. In 2002, the School had one laser cutter, located at an off-site facility; today we have a fully equipped digital model-making facility: two Universal Laser Systems X Class CO2 Lasers; a 3-D Systems Invision HR 3-D Printer; and a Precix 4' x 8' 4600 Series Computerized Router Table. All three are used for 2-D and 3-D modeling and surface creation. All computerized equipment can be utilized after the completion of orientation and training sessions, although the Precix router and the Invision HR 3-D Printer are usually assigned for usage by design studios and/or seminars specific to their 3-D capabilities. Access to this equipment has improved tremendously with the relocation of the shop to the School of Architecture building, and the facility is actively used by all students.

Future Challenges and Areas of Improvement

The School is increasingly dynamic in its personnel, programs, and other activities. During Alejandro Zaera-Polo's two-year tenure as dean, he, in conversation with the Faculty, identified a number of future

challenges and areas for improvement. Zaera-Polo's initiatives included curriculum reform and a shift in the teaching and research focus of the School; specific points are outlined below. While not fully implemented, these goals remain in place during the interim period until a new dean is in place.

- *Diversifying the focus and balancing the curriculum by developing areas of knowledge that will enable the School to collaborate more effectively with other academic resources at the University:* This will enable collaboration with departments and programs outside the School, such as the Woodrow Wilson School of Public and International Affairs; the School of Engineering and Applied Science, including the Department of Computer Science and the Andlinger Center for Energy and the Environment; and the Princeton Environmental Institute. The SoA-based research entities, such as the Program in Media and Modernity, the Center for Architecture Infrastructure and Urbanism, and a planned Center for Embodied Computation, will enable the School to develop a more cross-disciplinary teaching and research agenda.

- *Synthesizing theory and practice in architecture through a greater emphasis on new technologies and collaborative, project-based learning:* Looking forward, knowledge of and expertise in computation, sustainability, and urbanism will be increasingly important to the education of future architects; the School is looking to expand its resources in these areas while retaining its existing strengths in design and history/theory. The new Ph.D. Program in Computation, Energy, and Technology in Architecture is also an important development in this shift.

- *Defining research as an integral part of the School's pedagogy:* This will be implemented by promoting faculty research and encouraging external research funding. The SoA will strengthen its research focus through curriculum reform, and will address changes to the curriculum by focusing coursework around thesis and independent research.

- *Strengthening the School's connection to the University through the undergraduate community:* Although the SoA has the unique feature of comprehensive undergraduate, Master's, and Ph.D. programs, we are not profiting sufficiently from the potential synergies among the programs. A more concerted effort is needed to increase and maintain undergraduate enrollment, and encourage stronger interfaces between the undergraduate and graduate programs.

- *Increasing the School's involvement with real-world projects and scientific output that involve collaboration and engagement with constituencies and communities outside the confines of academic architecture:* For a more comprehensive educational experience, the SoA community should engage with local communities, research grants, debates on the discipline, online and traditional publishing in the field, and collaborative projects.

The evolution of these multi-year objectives will continue to be assessed internally through such means as course evaluations and discussions with our Advisory Board, University administration, academic collaborators, students and alumni, and student and faculty committees.

I.1.5. Program Self Assessment

Procedures School and University Reviews and Accountability Processes
The stated mission of the School of Architecture is to offer a professional education that balances the areas of knowledge necessary for the contemporary practice of architecture with a broad understanding of the role that architecture plays in its cultural context. The educational mission of the School, while continually evolving in response to an ongoing process of self-assessment, remains fundamentally unchanged: to offer the highest possible quality professional education in a context appropriate to a major research university.

In order to gain the most from the processes of self-assessment, the SoA solicits recommendations from, and is careful to include, the views of students, faculty, staff, alumni, and outside voices in all of its

procedures. Princeton University has many procedures for continuous self-assessment by each school, department, and program. These include an annual report to the President, and regularly scheduled meetings with senior administrative officers of the University. In addition to the University's mandatory mechanisms, the SoA has instituted several additional procedures to monitor its performance. The reviews and recommendations of the School's Advisory Council are among the most important of these, and have incorporated the input of SoA graduates from the accredited programs. The School's administrative procedures, which include regular meetings and close consultation with the faculty, have a strong component of self-assessment. In faculty meetings, issues of immediate concern, as well as long-term planning and School orientation, are discussed and debated. Questions are raised and policies and recommendations are put forward and implemented. Informal means of self-assessment include faculty discussions at thesis reviews and awards meetings, (when the faculty has an opportunity to take an overview of the work produced during the year or semester); ongoing discussions with alumni, including the highly informative lecture series involving 83 alumni "What I Did Next"; and informal communications with members of the Advisory Council.

Students have numerous means, formal and informal, to offer their input. Students nominate and elect representatives from each of the programs at the School, who meet three times each semester with the Dean and the School Administrator. At the School and University level there are formal procedures in place for written student evaluations of each course, which are made available to the professor at the end of each term. It should be noted that in a small school such as Princeton, informal feedback from the students—at reviews, in seminars or discussions, after lectures, or in studio—contributes to and complements our formal procedures. The Dean has an "open door" policy, and meets regularly with students who bring both individual and collective concerns for discussion.

The School of Architecture engages members of the profession in a number of its self-assessment procedures. Prominent practicing professionals are included on the School's Advisory Council, and participate regularly in reviews. Twice a year, at the M.Arch. thesis reviews, the design work of the School is presented to a jury of academics and professionals from outside the School. Although self-assessment is not the primary purpose of the thesis reviews, they have proven to be a valuable mechanism for assessing the work of the School. At thesis reviews, a snapshot of the ideas, projects, and concerns of the School is presented publically, evaluated, and discussed by a panel of outside experts. In these reviews, it is not only the quality of the design work that is at stake, but also more general questions of the School's orientation: the kinds of problems addressed and the methodologies of working. Beyond these internal procedures, SoA design faculty is active in the profession, and constantly brings those concerns back to teaching and the discussions within the School. The School participates yearly in an exhibition and Deans' Roundtable organized by the New York City Chapter of the AIA, which is an opportunity to solicit feedback from members of the local professional community.

Each of these mechanisms of evaluation is broad-based and often speaks to more than one of the NAAB Perspectives simultaneously. Princeton's academic context, which is dedicated to public service, speaks to the perspective of Architectural Education and the Public Good. The composition of the Advisory Council assures a range of perspectives that include the profession, social issues, and academic concerns. Faculty who are active in the profession, and participate in competitions and awards programs, are under constant peer review. The School's IDP Educator Coordinator has the responsibility of monitoring and assessing graduates' progress towards Registration and reporting back to the faculty. It is the School's belief that through these many procedures of self-assessment, the School is well positioned to evaluate its focus and pedagogy, and to respond with immediate or long-term adjustments where necessary.

In the final instance, the Dean of the School of Architecture is responsible for filtering, evaluating, and establishing priorities among the many assessments and recommendations gathered over the course of the year. The Dean, however, works in close consultation with the faculty, who vote on all major issues, including personnel recommendations or changes to the curriculum. The Dean, in turn, meets regularly with the Dean of the Faculty and the Provost to discuss self-assessment, ongoing issues, and future planning. In addition, there are regular outside reviews, and upon the reappointment of the Dean (every

five years), confidential letters of assessment are solicited from all standing faculty. The specific means and conclusions of our self-assessment process are detailed below:

Annual Report to the President: At the end of each academic year, the Dean of the SoA submits a report to the President of the University detailing the year's activities and assessing the future direction of the School in relation to these activities. Areas such as curricular development, progress of the faculty, staffing, and budgetary matters are covered in detail. After the submission of this report, the Dean meets with the President to review the report and discuss all matters relating to the progress of the School. The Dean also meets regularly with the Dean of Faculty and the Provost, and the President, if necessary, to cover specific issues as they arise through the School's processes of self-assessment.

Student Evaluations: The University, through the Registrar's Office, requires that all undergraduate courses be evaluated by the students enrolled in that particular course. As the end of term approaches, the Dean meets with faculty members individually to discuss their courses in light of the student evaluations. The Dean also reports the results of these evaluations to the Senior Faculty for consideration in reappointment and promotion procedures concerning tenure-track faculty, and for the purpose of discussing curricular development and teaching assignments. All individual course evaluation results are compiled and detailed in a separate form showing overall University results. This form is then distributed by the Registrar's Office for the purpose of determining the relationship of departmental evaluations to those of the University as a whole. The SoA independently carries out a similar procedure for graduate courses, including design studios, and the distribution of the results is similar to that described above.

Faculty and Student Committees: The regular and ad-hoc faculty and student committees provide an important means of self-assessment at the SoA. Regularly scheduled SoA meetings offer a forum for all members of the SoA community to distribute information, discuss current issues, and recommend actions to be taken as a result of other self-assessment procedures. The **Full Faculty** (all part-time and full-time faculty) meets at the beginning and end of each semester. The elected Student Representatives are invited to join this meeting and contribute to the process of self-assessment. Additionally, the Dean and the School Administrator meet separately with the **Student Representatives** three times each semester. These meetings allow for a more detailed discussion of issues of particular importance to students only, and help to determine agenda items to be brought forward at the next SoA meeting. From time to time, as important issues arise (and at least once each academic year), the Dean meets with all students in a particular program (or an appropriate part thereof) to discuss specific issues. To allow as many voices as possible to participate in discussions of issues and School policy, the entire **Core Faculty**, (which includes all full-time faculty and visiting faculty with continuing appointments), meets three times each semester. These discussions are generally directed at long-term issues of School focus and pedagogy, and have proven to be a valuable means of self-assessment. Minutes are recorded, and committees are formed to follow up with issues. When an issue arises requiring a more detailed analysis than is possible in the context of a Faculty meeting, the Dean appoints an **Ad-Hoc Committee** to analyze the issue under consideration and make a report back to the Faculty. Students are included in these committees when appropriate (in the case of new faculty searches, for example), and these committees meet on a schedule determined by the chair of the ad-hoc committee in consultation with the Dean. The Dean also has convened several **Faculty or School Subcommittees** to examine larger topics relevant to the School, the University, and the field, and to provide recommendations to the Dean. Meeting two-to-three times a semester, and most frequently staffed by faculty, with occasional SoA staff and student participation, the committees established so far for fall 2014 are committees on diversity and space/facilities. Future committees on finance and curriculum are scheduled for spring 2015. Finally, from time to time, the faculty has met outside of its usual structure for **Faculty Retreats**, where specific issues of self-assessment and long-term planning are discussed.

Senior Faculty: The Senior Faculty deliberates and votes on all issues as required by the University including: re-appointment and promotion of tenure-track faculty (including the recommendation for tenure); appointment of full-time tenure-track faculty; salary of tenure-track faculty; and other matters requiring a vote of the Senior Faculty. There is a strong element of self-assessment built into the discussions that come before the Senior Faculty; as each appointment is discussed, questions of the

School's orientation and pedagogical balance are inevitably raised. The Senior Faculty also regularly discusses a wide variety of issues affecting the mission of the School of Architecture.

Executive Committee: The School's Executive Committee serves as an executive advisory group to the Dean when issues warrant quick action. The Executive Committee is made up of the Dean, the two Directors of Graduate Studies (Master of Architecture and Ph.D.), the Departmental Representative (for the undergraduate program), and the School Administrator. The School Executive Committee meets every two weeks, and keeps close tabs on all programs. The Committee can react quickly to assess individual student issues or curricular issues that require immediate attention.

Advisory Council: The SoA Advisory Council was established by the Board of Trustees in 1941 for the purpose of advising the School on the entire range of its activities. It is an effective instrument for independently gathering the views of students and the tenure-track faculty, conveying important issues and concerns to the University administration, and explaining the SoA's activities to the University administration. A report is written at the end of each council meeting addressed to the School and forwarded by the Dean to the President (through the Dean of the Faculty). If the Advisory Council so chooses, it may make a separate confidential report to the President.

The Council meets at the School for two days every 18 months to two years. Its members, who usually include academics, practicing professionals, and graduates of the School, are appointed by the Dean of the Faculty based on the recommendations of the Dean of the SoA. Members are appointed to four-year terms, renewable upon mutual consent. The Dean of the SoA solicits recommendations from students and faculty before making recommendations to the Dean of the Faculty for new Council members. Advisory Council members are recommended and appointed based on the recognition that it is necessary to attract a wide range of leaders in a variety of architectural areas relevant to the programs of the School, including heads of other academic and research institutions and practicing professionals. It should be noted that the most detailed and cogent assessments of the School are the reports from the School's Advisory Council.

In their visit from 2009, for example, the Council issued a generally positive assessment, concluding that "this year's Advisory Council found the School of Architecture at Princeton in an ascendant phase, clearly one of the best schools in the country if not globally." They identified specific strengths in the doctoral program and history/theory offerings, and a revived design culture "…effectively strengthened through renewed engagement of senior faculty, the addition of impressive practitioners from the region, and the longer-term commitments accepted by visiting international faculty." They also identified a number of areas of concern, among them the balance of the faculty and course offerings, the external identity and perception of the School, and the need for a greater engagement with new technologies and design methodology, in particular computation and digital media. They emphasized the potential to leverage the School's focus on research, both as a means of advancing knowledge and a way of activating the School's teaching and coursework. Their most forceful recommendation concerned the need for a "multi-faceted publication program with electronic and print media"; in other words, a coordinated program to project the public identity of the School beyond the academic context and engage a wider public.

The full text of the 2009 Advisory Council Report can be found here: http://soa.princeton.edu/files/naab-14/2009-PSoA-Advisory-Report.pdf (To access this report, the user login is APR-2014 and the password is NAAB@14).

During their most recent visit, the Council reviewed the changes initiated by Dean Zaera-Polo positively, and endorsed his push to undertake a major curriculum review and introduce some structural changes at the School, including the potential for part-time 'professor in practice' type appointments. They urged a focus on undergraduate education and additional upgrades to the physical space of the building and the educational experience of the students. They recognized progress in many areas, and expressed support for the Dean's new focus on technology and research. At the same time, they expressed some concern with regard to issues of communication and process, articulating the need to "focus on the

articulation of a vision, development of priorities, strategies, programs and specific ways forward regarding how to address perceived problems, and to consult with the School regularly and the faculty especially, as they will be an essential part of this project." These recommendations have been taken to heart and incorporated into our self-assessment conclusions.

The most recent Advisory Council Report, which dates from 2013, can be found here: http://soa.princeton.edu/files/naab-14/2013-PSoA-Advisory-Report.pdf (To access this report, the user login is APR-2014 and the password is NAAB@14).

2013-14 Advisory Council Members

Wiel Arets	Wiel Arets Architect & Associates D'Artagnanlaan 29 NL – 6213 CH, Maastricht, The Netherlands
Hilary Ballon '77	Deputy Vice Chancellor, New York University Abu Dhabi 14 East 4th Street, 3rd Floor, New York, NY 10012
Barry Bergdoll	Meyer Schapiro Professor of Art History and Archeology, Columbia University 918 Schermerhorn Hall, 1190 Amsterdam Avenue, New York, NY 10027
Jeffrey Brown	424 West End Avenue, Apt. 9-D, New York, NY 10024
Henry Cobb, FAIA	Pei, Cobb, Freed, and Partners 88 Pine Street, New York, NY 10005
Dana Cuff	Professor, UCLA Department of Architecture and Urban Design/Planning P.O. Box 951467, 1317 Perloff Hall, Los Angeles, CA 90095
Keller Easterling '81 *84	Associate Professor, Yale University School of Architecture 210 East 17th Street, 1A, New York, NY 10013
Martin Johnson '81	President and Chief Executive Officer Isles, Inc., 10 Wood Street, Trenton, NJ 08618
Phylllis Lambert	Canadian Center for Architecture 1920 Baile Street, Montreal H3H 2S6, CANADA
Greg Lynn *88	Architect and Professor, UCLA Department of Architecture and Urban Design/Planning Greg Lynn FORM, 1817 Lincoln Boulevard, Venice, CA 90291
Juergen Mayer H. *94	Principal and Founder, Freier Architekt Bleibtreustrasse 54, D-10623, Berlin, GERMANY
Lars Müller	Lars Müller Publishers Stadtturmstrasse 19, CH-5400 Baden, SWITZERLAND
John Ochsendorf	Class of 1942 Professor of Architecture; Professor of Civil and Environmental Engineering, Massachusetts Institute of Technology School of Architecture, Room 5-418C, 77 Massachusetts Avenue, Cambridge, MA 02139

Saskia Sassen	Robert S. Lynd Professor of Sociology Department of Sociology, Columbia University 713 Knox Hall, 606 W. 122nd Street, New York, NY 10027
Brett Steele	Director**,** Architectural Association School of Architecture 36 Bedford Square, London WC1B 3ES, UNITED KINGDOM
Philip Ursprung	Professor and Chair**,** History and Theory of Architecture, ETH Institute for the History and Theory of the Architecture, HIL d 62.2, Wolfgang-Pauli-Str. 15, 8093 Zurich Honggerberg, SWITZERLAND

Description of institutional requirements for self-assessment (if applicable): Institutional requirements for self-assessment are detailed in the section above. These requirements are fully integrated into the School's own process of self-assessment, and executed by the School itself. These include, among others, the regular outside evaluations by the School's Advisory Council, the annual report to the President, and regular meetings with the Provost and the Dean of the Faculty.

Summary of Self-Assessment Conclusions
In reviewing the inputs and feedback from these various means of self-assessment, we continue to believe that the School's holistic approach has successfully evolved with the changing conditions of architectural practice. We have responded effectively to the requirements of accreditation, and have consistently anticipated issues of concern to our graduates as they become members of the profession. Architectural education at Princeton occurs in the context of a university dedicated to maintaining the highest academic standards. Inquiry, experimentation, and risk taking are encouraged. Diversity and openness are rigorously promoted. The School of Architecture aspires to these same standards. It is the responsibility of the School to maintain a first-class faculty, a thoughtful and comprehensive curriculum, and to give support to its students and faculty in their intellectual endeavors. We believe that the School's greatest strength is this broad-based approach to architectural education: a program that prepares our students with both the technical skills and the intellectual habits necessary to continue to learn over the course of their professional lives. The School has developed a unique identity as a center for speculative design work and ambitious scholarship. By understanding architecture in this broad cultural context, we contribute to the future of the discipline, and help to prepare the next generation of architects to assume leadership in the field. Despite this spirit and overall positive assessment, there are a number of areas that we have identified where additional improvement is needed:

Building Technology: Although the school has made a number of changes to emphasize the role of building technology within the curriculum and in the composition of the faculty, the SoA is sometimes perceived as not having developed a substantial research in technology and Building Sciences, a field that is increasingly important for the discipline. While the Building Technology sequence is solid, the small size of the school limits the areas of specialization—increasingly a characteristic of the field of architecture—that can be targeted in the curriculum and on the faculty. The School will have to continue to be tactical and targeted in determining what are the crucial technologies relative to design and the built environment, and what emerging technologies require integration into the curriculum. While the School has made great improvements in the area of digital design technology, this is also an area that changes quickly, and will require constant reevaluation.

Practical Training and Exposure: The work of the students in the School is sometimes perceived as too speculative and not sufficiently pragmatic. While we believe the reality is more nuanced, the perception remains that Princeton graduates can be aloof and unable to engage with the everyday realities of the practice of architecture. The engagement with local communities and real projects is also a perceived lack in the program. A more proactive attitude on the part of the faculty to guide the students to address their activities to an external audience or a clientele is crucial for future architects: the days when architects could be single-minded visionaries are long gone, but there seems to be an inertia in the profession to remain within that mindset. A few studios have used an engagement with a constituency

outside the school as a subject matter, and the question of the "audience" and the "clientele" are now customary issues treated in the thesis project.

Balancing Academic and Practice Commitments among Design Faculty: Although the faculty is strong, there is always room for improvement. As design faculty run more and more successful practices, it can be difficult to maintain a commitment to teaching. The School needs to balance the presence of highly visible practitioners with dedicated teaching faculty. While all of our design faculty are high-level practicing architects, the standard full-time contract for tenured faculty in Princeton is not always suited to faculty with successful practices. We are in conversations with the University in order to find some flexibility in regards to the terms of practicing faculty contracts, which will enable us to optimize the use of our resources.

Curricular Development: While the School's faculty and students are extremely strong, the small scale of the School makes it difficult to compete in all of the expanding parameters of the discipline. One criticism is that the school appears like a smaller scale version of the larger schools, but without the breadth of choice that the larger scale provides. It is crucial to continue to review and modify the curriculum in order to make best advantage of the flexibility made possible by our smaller scale and our greater capacity to support independent research and innovative thinking. Student morale is good, but time management remains an area in need of improvement, since some students seek additional time to complete the rigorous demands of seminars, following the equally rigorous expectations of studio reviews. The M.Arch. thesis is a process that has and is undergoing additional refinement. Thesis requires careful and ongoing adjustments, as it is a crucial component of the SoA's curriculum.

Public Engagement and Information Dissemination: As noted by the Advisory Council, there is a continuing need for the School to be more proactive in broadcasting its activities and its engagement with the larger discussion in the discipline. Exhibitions, lectures, website, and online publishing have and will increasingly become a crucial part of these strategies. The potential to devote more School resources to publications and exhibitions, and involve students actively in these efforts, could be beneficial to the School as a whole.

Communication: As noted above, one of the key issues identified in the last Advisory Council report was the question of communication and openness in the School. We hope to be able to move forward on these issues in the remainder of this year and under new leadership in the coming years.

I.2. Resources

I.2.1. Human Resources & Human Resource Development

Faculty and Staff

Distribution of Faculty Effort: The teaching schedule is structured in such a way that it allows the SoA faculty adequate time to pursue research, scholarship, or creative design practice. The specific teaching load for full-time faculty is dependent on whether or not the faculty member teaches design studios or seminar and lecture courses. A faculty member's committee responsibilities and thesis advising responsibilities are considered factors. For example, the typical schedule for full-time faculty teaching design includes design studio (nine contact hours/week), one seminar (three hours/week), thesis advising to graduate and undergraduate students (one hour/week per student), and various administrative tasks. The teaching schedule for faculty members teaching theory and history might include a lecture course, seminars, thesis advising, and various administrative tasks. The University assigns different weights to courses and administrative tasks, which are considered by the Dean at the start of the academic year to ensure that adequate time is left for practice or research. The Directors of Graduate Studies and Departmental Representatives are relieved of some of the teaching obligations in recognition of their increased administrative service.

A faculty credential matrix for the two academic years prior to the preparation of the 2009 site visit (2012-2013 and 2013-2014) is included below and identifies each faculty member; the courses he/she was assigned during that time; and the specific credentials, experience, and research that support these assignments. The résumés of the full-time and part-time faculty members who have taught in the required M.Arch. program during the same time period may be found in Part IV, Section 2.

Term/Semester Fall 2012

Faculty member (alpha order)	**Summary of expertise, recent research, or experience (limit 25 words)**	**ARC 308**	**ARC 401**	**ARC 425**	**ARC 501**	**ARC 503**	**ARC 505**	**ARC 507**	**ARC 510**	**ARC 513**	**ARC 514**	**ARC 545**	**ARC 547**	**ARC 549**	**ARC 562**	**ARC 571**	**ARC 574**	**ARC 577**	**ARC 577**	**ARC 579**
Lucia Allais	Architectural historian specializing in 20th century architecture and urbanism with a broad background in the history of architectural theory and with design training.	**X**																		
Jean-Louis Cohen	Foremost historian of 20th-century architecture; he has concentrated on the international exchange of ideas between European architects and the Soviet Union, America and French colonies.																			**X**
Manuel DeLanda	Independent scholar and writer, whose work primarily explores the implications of complexity theory on architecture, the history of technology, urban life and cultural production.											**X**								
Elizabeth Diller	MacArthur Fellow; leads a highly admired and innovative contemporary design practice. Designed the High Line in New York, and ongoing master-planning at Lincoln Center.							**X**												
Mark Fornes	Architect specializing in computational design and fabrication, working both with advanced scripting and in an inventive and pragmatic way with actual construction.																**X**			
J. Robert Hillier, FAIA	His qualifications are derived from his experience building one of the largest, and most successful, architectural firms in this country; provides unparalleled preparation for professional practice.														**X**					

Term/Semester Fall 2012

Faculty member (alpha order)	**Summary of expertise, recent research, or experience (limit 25 words)**	**ARC 308**	**ARC 401**	**ARC 425**	**ARC 501**	**ARC 503**	**ARC 505**	**ARC 507**	**ARC 510**	**ARC 513**	**ARC 514**	**ARC 545**	**ARC 547**	**ARC 549**	**ARC 562**	**ARC 571**	**ARC 574**	**ARC 577**	**ARC 577**	**ARC 579**
Andrew Laing	One of the world's foremost experts in workplace design; managing director of DEGW, he has extensive practical and research experience.		**X**																	
Sylvia Lavin	Distinguished architectural historian, an important critic of contemporary architecture and a respected educator who combines a background in historical, and an engagement with contemporary work.																		**X**	
Paul Lewis, AIA	Partner at LTL-consistently identified as one of the most innovative practices of their generation. Has an ability to spark the student's excitement about material, fabrication.					**X**														
GianCarlo Mazzanti	Leader among Colombian and Latin American architects; nationally and internationally honored for his work, environmental conscience and social impact, Global Award for Sustainable Architecture, 2010.						**X**													
Michael Meredith, AIA	Practicing architect whose firm MOS received 2010 Architecture Award from American Academy of Arts and Letters; exhibited in Hong Kong/Shenzhen Biennale and the Venice Biennales.				**X**															
Bruce Nichol, AIA	Highly expert, innovative practitioner of exterior envelope or curtain wall design; trained as an architect with graphic and spatial skills acquired over 20 years of experience.									**X**										

Term/Semester Fall 2012

Faculty member (alpha order)	**Summary of expertise, recent research, or experience (limit 25 words)**	**ARC 308**	**ARC 401**	**ARC 425**	**ARC 501**	**ARC 503**	**ARC 505**	**ARC 507**	**ARC 510**	**ARC 513**	**ARC 514**	**ARC 545**	**ARC 547**	**ARC 549**	**ARC 562**	**ARC 571**	**ARC 574**	**ARC 577**	**ARC 577**	**ARC 579**
Guy Nordenson, PE	Structural designer who combines professional achievement, scholarly ambition and dedication to teaching; published three books in two years; received a Rockefeller Foundation grant.								**X**											
Yusuke Obuchi	Tenured Associate Professor at Tokyo University; his work explores concepts of materiality, design systems, computational design techniques and fabrication processes in contemporary architecture and design.						**X**													
Spyros Papapetros	Highly original historian and theorist with unique interdisciplinary training: historiography of art and architecture; intellectual history, critical theory, psychoanalysis, aesthetics, and film studies.													**X**						
Mahadev Raman	Principal at Arup and Partners (NY); preeminent mechanical engineer; recognized worldwide for creative engineering solutions, and broad reach of his practice; specialist in sustainable design.										**X**									
Enrique Walker	Architect, educator and critic, with an international reputation for his careful readings of contemporary architecture; specific area of research is the ‘everyday’ in 20th-century urbanism.			**X**																
Liam Young	Architect and founder of Tomorrows Thoughts Today, a group whose work explores the possibilities of imaginary urbanisms, speculation, emerging technologies, and future forecasting.						**X**													

Term/Semester Fall 2012

Faculty member (alpha order)	**Summary of expertise, recent research, or experience (limit 25 words)**	**ARC 308**	**ARC 401**	**ARC 425**	**ARC 501**	**ARC 503**	**ARC 505**	**ARC 507**	**ARC 510**	**ARC 513**	**ARC 514**	**ARC 545**	**ARC 547**	**ARC 549**	**ARC 562**	**ARC 571**	**ARC 574**	**ARC 577**	**ARC 577**	**ARC 579**
Michael Young	Emerging architect noted for his innate design talent and his intellectual curiosity; particular area of expertise is geometry and representation.												X							

Term/Semester Spring 2013

Faculty member (alpha order)	**Summary of expertise, recent research, or experience (limit 25 words)**	**ARC 302**	**ARC 489**	**ARC 492**	**ARC 502**	**ARC 504**	**ARC 506**	**ARC 508**	**ARC 509**	**ARC 511**	**ARC 515**	**ARC 518**	**ARC 520**	**ARC 528**	**ARC 543**	**ARC 557**	**ARC 563**	**ARC 576**	**ARC 588**	**ARC 596**
M. Christine Boyer	Scholar with a consistent record of publications, active internationally, whose contributions to the study of cities and urbanism remain important to the School's present focus.															X				
Mario Carpo	Important theorist in architecture with groundbreaking work in theorizing computation technologies and the impact of the world-wide-web in contemporary design methodologies and contemporary urban structures.													X						
Beatriz Colomina	Internationally renowned architectural historian and theorist who has written extensively on architecture and media; exploring 20th-century forms of culture and its interplay with technology.																	X		
Elizabeth Diller	MacArthur Fellow; leads a highly admired and innovative contemporary design practice. Designed the High Line in New York, and ongoing master-planning at Lincoln Center.							X												

Term/Semester Spring 2013

Faculty member (alpha order)	**Summary of expertise, recent research, or experience (limit 25 words)**	**ARC 302**	**ARC 489**	**ARC 492**	**ARC 502**	**ARC 504**	**ARC 506**	**ARC 508**	**ARC 509**	**ARC 511**	**ARC 515**	**ARC 518**	**ARC 520**	**ARC 528**	**ARC 543**	**ARC 557**	**ARC 563**	**ARC 576**	**ARC 588**	**ARC 596**
Mario Gandelsonas, FAIA	His practice focuses on urban work with consistently realized projects; makes important contributions to the field with a significant publication record and a prominent intellectual profile.			**X**																
J. Robert Hillier, FAIA	His qualifications are derived from his experience building one of the largest, and most successful, architectural firms in this country; provides unparalleled preparation for professional practice.																**X**			
Axel Kilian	An authority on geometric modeling and its applications in architecture; brings together a rigorous architectural background with the highest level of scholarly achievement.				**X**															**X**
Jeff Kipnis	Insightful and respected architectural theorist/critic with profound knowledge of architecture in the twentieth century. Award for architectural writing from American Academy of Arts and Letters.		**X**																	
Michael Meredith, AIA	Practicing architect whose firm MOS received 2010 Architecture Award from American Academy of Arts and Letters; exhibited in Hong Kong/Shenzhen Biennale and the Venice Biennales.												**X**							
Guy Nordenson, PE	Structural designer who combines professional achievement, scholarly ambition and dedication to teaching; published three books in two years; received a Rockefeller Foundation grant.											**X**								

Term/Semester Spring 2013

Faculty member (alpha order)	**Summary of expertise, recent research, or experience (limit 25 words)**	**ARC 302**	**ARC 489**	**ARC 492**	**ARC 502**	**ARC 504**	**ARC 506**	**ARC 508**	**ARC 509**	**ARC 511**	**ARC 515**	**ARC 518**	**ARC 520**	**ARC 528**	**ARC 543**	**ARC 557**	**ARC 563**	**ARC 576**	**ARC 588**	**ARC 596**
Nat Oppenheimer, PE	Structural engineer with extensive experience with small buildings, historic preservation, and interior renovation; relevant for courses with topics in structural engineering applicable to different buildings.									X										
Spyros Papapetros	Highly original historian and theorist with unique interdisciplinary training: historiography of art and architecture; intellectual history, critical theory, psychoanalysis, aesthetics, and film studies.	X																		
Peter Pelsinski	Architect with SPaN, known for the precision of his detailing work, knowledge of construction and materials, and his creative approach to design and construction.								X											
Mahadev Raman	Principal at Arup and Partners (NY); preeminent mechanical engineer; recognized worldwide for creative engineering solutions and broad reach of his practice; specialist in sustainable design.										X									
Jesse Reiser, AIA	Significant accomplishments in practice, winning two important international design competitions and completing O-14 in Dubai, extensive publication and a correspondingly elevated standing as design innovator.						X												X	

Term/Semester Spring 2013

Faculty member (alpha order)	**Summary of expertise, recent research, or experience (limit 25 words)**	**ARC 302**	**ARC 489**	**ARC 492**	**ARC 502**	**ARC 504**	**ARC 506**	**ARC 508**	**ARC 509**	**ARC 511**	**ARC 515**	**ARC 518**	**ARC 520**	**ARC 528**	**ARC 543**	**ARC 557**	**ARC 563**	**ARC 576**	**ARC 588**	**ARC 596**
Albena Yaneva	Accomplished author and academic with "cosmopolitan" perspective and groundbreaking work in theorizing mapping social and political controversies and their embodiment in physical structures.														X					
Alejandro Zaera-Polo, RIBA	Architect who developed a parallel practice of writing and teaching and design work; known for quality of built work and ability to theorize contemporary practice.					X														

Term/Semester Fall 2013

Faculty member (alpha order)	**Summary of expertise, recent research, or experience (limit 25 words)**	**ARC 401**	**ARC 425**	**ARC 501**	**ARC 503**	**ARC 505**	**ARC 507**	**ARC 510**	**ARC 513**	**ARC 514**	**ARC 519**	**ARC 521**	**ARC 525**	**ARC 530**	**ARC 545**	**ARC 547**	**ARC 549**	**ARC 562**	**ARC 571**	**ARC 574**	**ARC 575**	**ARC 577**
Stan Allen, FAIA	Practicing architect and educator; Dean of SOA 2002-2012; known for innovative approach synthesizing landscape, architecture and ecology. Received American Academy of Arts and Letters Award.					X																
M. Christine Boyer	Scholar with a consistent record of publications, active internationally, whose contributions to the study of cities and urbanism remain important to the School's present focus.												X									
Jean-Louis Cohen	Foremost historian of 20th-century architecture; he has concentrated on the international exchange of ideas between European architects and the Soviet Union, America and French colonies.																				X	

Term/Semester Fall 2013

Faculty member (alpha order)	**Summary of expertise, recent research, or experience (limit 25 words)**	**ARC 401**	**ARC 425**	**ARC 501**	**ARC 503**	**ARC 505**	**ARC 507**	**ARC 510**	**ARC 513**	**ARC 514**	**ARC 519**	**ARC 521**	**ARC 525**	**ARC 530**	**ARC 545**	**ARC 547**	**ARC 549**	**ARC 562**	**ARC 571**	**ARC 574**	**ARC 575**	**ARC 577**
Manuel DeLanda	Independent scholar and writer whose work primarily explores the implications of complexity theory on architecture, the history of technology, urban life and cultural production.														**X**							
Elizabeth Diller	MacArthur Fellow; leads a highly admired and innovative contemporary design practice. Designed the High Line in New York, and ongoing master-planning at Lincoln Center.						**X**															
Mark Fornes	Architect specializing in computational design and fabrication, working both with advanced scripting and in an inventive and pragmatic way with actual construction.																			**X**		
J. Robert Hillier, FAIA	His qualifications are derived from his experience building one of the largest and most successful architectural firms in this country; provides unparalleled preparation for professional practice.																	**X**				
Jeff Kipnis	Insightful and respected architectural theorist/critic with profound knowledge of architecture in the twentieth century. Award for architectural writing from American Academy of Arts and Letters.													**X**								
Andrew Laing	One of the world's foremost experts in workplace design; managing director of DEGW, he has has extensive practical and research experience.	**X**																				
Sylvia Lavin	Distinguished architectural historian, an important critic of contemporary architecture and a respected educator who combines a background in historical research with an engagement with contemporary work.													**X**								**X**

Term/Semester Fall 2013

Faculty member (alpha order)	**Summary of expertise, recent research, or experience (limit 25 words)**	**ARC 401**	**ARC 425**	**ARC 501**	**ARC 503**	**ARC 505**	**ARC 507**	**ARC 510**	**ARC 513**	**ARC 514**	**ARC 519**	**ARC 521**	**ARC 525**	**ARC 530**	**ARC 545**	**ARC 547**	**ARC 549**	**ARC 562**	**ARC 571**	**ARC 574**	**ARC 575**	**ARC 577**
Paul Lewis, AIA	Partner at LTL-consistently identified as one of the most innovative practices of their generation. Has an ability to spark the student's excitement about material, fabrication.				**X**																	
Forrest Meggers	An extraordinary engineer and educator with unique ability to navigate between science and projects, between the digital and the material, and between technology and architecture.											**X**										
Michael Meredith, AIA	Practicing architect whose firm MOS received 2010 Architecture Award from American Academy of Arts and Letters; exhibited in Hong Kong/Shenzhen Biennale and the Venice Biennales.			**X**																		
Bruce Nichol, AIA	Highly expert, innovative practitioner of exterior envelope or curtain wall design; trained as an architect with graphic and spatial skills acquired over 20 years of experience.								**X**													
Guy Nordenson, PE	Structural designer who combines professional achievement, scholarly ambition and dedication to teaching; published three books in two years; received a Rockefeller Foundation grant.							**X**			**X**											
Spyros Papapetros	Highly original historian and theorist with unique interdisciplinary training: historiography of art and architecture; intellectual history, critical theory, psychoanalysis, aesthetics, and film studies.																**X**					
Ivan Poupyrev	Trained as an engineer, his research focuses on inventing technologies that seamlessly blend the digital and physical in devices, everyday objects, living and working environments.					**X**																

Term/Semester Fall 2013

Faculty member (alpha order)	**Summary of expertise, recent research, or experience (limit 25 words)**	**ARC 401**	**ARC 425**	**ARC 501**	**ARC 503**	**ARC 505**	**ARC 507**	**ARC 510**	**ARC 513**	**ARC 514**	**ARC 519**	**ARC 521**	**ARC 525**	**ARC 530**	**ARC 545**	**ARC 547**	**ARC 549**	**ARC 562**	**ARC 571**	**ARC 574**	**ARC 575**	**ARC 577**
Mahadev Raman	Principal at Arup and Partners (NY); preeminent mechanical engineer; recognized worldwide for creative engineering solutions, and broad reach of his practice; specialist in sustainable design.									**X**												
Enrique Walker	Architect, educator and critic, with an international reputation for his careful readings of contemporary architecture; specific area of research is the 'everyday' in 20th-century urbanism.		**X**																			
Liam Young	Architect and founder of Tomorrows Thoughts Today, a group whose work explores the possibilities of imaginary urbanisms, speculation, emerging technologies and future forecasting.					**X**																
Michael Young	Emerging architect noted for his innate design talent and his intellectual curiosity; particular area of expertise is geometry and representation.															**X**						

Term/Semester Spring 2014

Faculty member (alpha order)	**Summary of expertise, recent research, or experience (limit 25 words)**	**ARC 302**	**ARC 411**	**ARC 489**	**ARC 492**	**ARC 502**	**ARC 504**	**ARC 506**	**ARC 508**	**ARC 509**	**ARC 511**	**ARC 515**	**ARC 536**	**ARC 546**	**ARC 563**	**ARC 572**	**ARC 576**	**ARC 588**	**ARC 596**	**ARC 598**
Stan Allen, FAIA	Practicing architect and educator; Dean of SOA 2002-2012; known for innovative approach synthesizing landscape, architecture and ecology. Received American Academy of Arts and Letters Award.												**X**							

Term/Semester Spring 2014

Faculty member (alpha order)	**Summary of expertise, recent research, or experience (limit 25 words)**	**ARC 302**	**ARC 411**	**ARC 489**	**ARC 492**	**ARC 502**	**ARC 504**	**ARC 506**	**ARC 508**	**ARC 509**	**ARC 511**	**ARC 515**	**ARC 536**	**ARC 546**	**ARC 563**	**ARC 572**	**ARC 576**	**ARC 588**	**ARC 596**	**ARC 598**
Beatriz Colomina	Internationally renowned architectural historian and theorist who has written extensively on architecture and media; exploring 20th-century forms of culture and its interplay with technology.																X			
Ignacio Fernandez	A façade consultant with 20 years experience, the last eight years at Ove Arup in Madrid. Teaches envelope systems at the Universidad Europea de Madrid.		X																	
Mario Gandelsonas, FAIA	His practice focuses on urban work with consistently realized projects; makes important contributions to the field with a significant publication record and a prominent intellectual profile.				X															
J. Robert Hillier, FAIA	His qualifications are derived from his experience building one of the largest, and most successful, architectural firms in this country; provides unparalleled preparation for professional practice.														X					
Andres Jaque	His practice explores the potential of post-foundational politics and symmetrical approaches to the sociology of technology to rethink architectural practices.						X													
Axel Kilian	An authority on geometric modeling and its applications in architecture; brings together a rigorous architectural background with the highest level of scholarly achievement.					X													X	

Term/Semester Spring 2014

Faculty member (alpha order)	**Summary of expertise, recent research, or experience (limit 25 words)**	**ARC 302**	**ARC 411**	**ARC 489**	**ARC 492**	**ARC 502**	**ARC 504**	**ARC 506**	**ARC 508**	**ARC 509**	**ARC 511**	**ARC 515**	**ARC 536**	**ARC 546**	**ARC 563**	**ARC 572**	**ARC 576**	**ARC 588**	**ARC 596**	**ARC 598**
Jeff Kipnis	Insightful and respected architectural theorist/critic with profound knowledge of architecture in the twentieth century. Award for architectural writing from American Academy of Arts and Letters.			X																
Michael Meredith, AIA	Practicing architect whose firm MOS received 2010 Architecture Award from American Academy of Arts and Letters; exhibited in Hong Kong/Shenzhen Biennale and the Venice Biennales.																			X
Nat Oppenheimer, PE	Structural engineer with extensive experience with small buildings, historic preservation, and interior renovation; relevant for courses with topics in structural engineering applicable to different buildings.										X									
Spyros Papapetros	Highly original historian and theorist with unique interdisciplinary training: historiography of art and architecture; intellectual history, critical theory, psychoanalysis, aesthetics, and film studies.	X																		
Peter Pelsinski	Architect with SPaN, known for the precision of his detailing work and knowledge of construction and materials and his creative approach to design and construction.									X										
Mahadev Raman	Principal at Arup and Partners (NY); preeminent mechanical engineer; recognized worldwide for creative engineering solutions, and broad reach of his practice; specialist in sustainable design.											X								

Term/Semester Spring 2014

Faculty member (alpha order)	**Summary of expertise, recent research, or experience (limit 25 words)**	**ARC 302**	**ARC 411**	**ARC 489**	**ARC 492**	**ARC 502**	**ARC 504**	**ARC 506**	**ARC 508**	**ARC 509**	**ARC 511**	**ARC 515**	**ARC 536**	**ARC 546**	**ARC 563**	**ARC 572**	**ARC 576**	**ARC 588**	**ARC 596**	**ARC 598**
Jesse Reiser, AIA	Significant accomplishments in practice, winning two important international design competitions and completing O-14 in Dubai, extensive publication and a correspondingly elevated standing as design innovator.							**X**										**X**		
Mark Wasiuta	Visiting from Columbia University, his research focuses on postwar environmental design. He is also a writer, curator and critic.													**X**						
Alejandro Zaera-Polo, RIBA	Architect who developed a parallel practice of writing and teaching and design work; known for quality of built work and ability to theorize contemporary practice.								**X**											

Equal Employment Opportunity/Affirmative Action Policy and Diversity
Princeton University values an environment that respects diverse individuals and strives to create and maintain a community that upholds the principles of equity and respect for all. All members of the University community are expected to conduct their operations in accordance with the fundamental guide "Rights, Rules, Responsibilities," which contains University principles of general conduct, regulations, and policies.

Princeton's equal opportunity policy (http://www.princeton.edu/hr/policies/statement/1.0/1.0.1/) protects all employees and applicants, and employment-related decisions are based on individual merit rather than stereotype and bias. All personnel and employment actions are made in accordance with the University's commitment to nondiscrimination. As a recipient of federal financial assistance and as a state and federal contractor, the University also has legal obligations to develop and implement a plan to undertake appropriate forms of affirmative action to recruit, employ, and promote women, people of color, people with disabilities, and veterans as another means to ensure equality of opportunity. The President and Provost are responsible for overseeing the implementation of this equal opportunity policy and the affirmative action plan. The Vice Provost for Institutional Equity and Diversity is responsible for monitoring University practices and procedures to ensure compliance with Princeton's policies and federal, state, and local laws and regulations, including Section 504 of the Rehabilitation Act and Title IX of the Education Amendments of 1972.

Equal opportunity and affirmative action work in tandem with the institutional equity and diversity initiatives that the University is undertaking to achieve its goal of creating and maintaining a climate of equity and respect that values the perspectives, backgrounds, and talents of a diverse community. Additional core University policies and statements on diversity and community, non-discrimination, and respect for others can be found on the Institutional Equity and Diversity at Princeton website (http://www.princeton.edu/diversity/).

Equity and Diversity Among Faculty: Diversity, as described in Part I, Section 1.2. (I.1.2), is a chief concern at the School of Architecture, and follows upon the current campus-wide initiative for the University community to be more proactively engaged in diversifying the ranks of its graduate students, postdoctoral fellows, faculty, and senior administrators. Academic departments and units, such as the SoA, as well as administrators, are expected to undertake a multi-pronged approach to address the problem, examine diversity issues within the particular academic entity, and propose strategies specific to a particular academic discipline. This includes offering incentives to academic departments that identify potential minority and female faculty candidates, building connections with traditionally minority and female institutions, developing "watch lists" and tracking systems for promising faculty and graduate students, and providing professional training that will identify unconscious bias. A University goal is to "embed diversity in the behaviors and practices of the entire institution," a process that the Princeton administration expects to yield progress within five years since the initiative's inception in 2013. In response, SoA has established a committee to address diversity issues within the School.

While equity and diversity among the faculty is a high priority at the SoA, we are aware that we need to do more in this area. The School has actively recruited women and people of color, and exercises all fairness in re-appointments and promotions. The University requires that academic employment postings be advertised strategically and broadly to ensure the development of a diverse pool of candidates, and encourages applications from women and minority candidates. Additionally, all hiring procedures are reviewed for compliance with affirmative action guidelines. In 2012-13, 2013-14, efforts have been made to appoint and reappoint women for full-time and visiting positions, including Lucia Allais, an assistant professor in history and theory; and visiting faculty members Sylvia Lavin, Gisela Baurmann, Hayley Eber, and Albena Yaneva. They build upon the strength and experience of the SoA full-time female faculty of M. Christine Boyer, Beatriz Colomina, and Elizabeth Diller, who all have been long-standing members of the Senior Faculty.

Since the last site visit, the School has been mindful of diversity in its appointment of visiting and part-time faculty. In 2008, David Adjaye was recruited as the Labatut Visiting Professor at the School. Adjaye

taught design studios in collaboration with visiting artist over a period of three years. Although we had hoped to increase his involvement with the School, his growing practice made it impossible for him to commit to a full time position. The list of all School of Architecture faculty from 2008-14 can be found here: http://soa.princeton.edu/files/naab-14/Faculty-list-08-14.pdf (To access this list, the user login is APR-2014 and the password is NAAB@14).

Based on the work of a Trustee Ad Hoc Committee on Diversity, in 2013 the University announced a new strategic plan designed to renew its commitment to recruiting and retaining a diverse faculty with an emphasis on underrepresented minorities and women in the STEM fields. In the new strategic planning process, departments are encouraged to develop individualized data-based diversity plans that best suit the unique characteristics of their academic discipline. Centralized funding is available through the Target of Opportunity Fund to assist departments in recruiting candidates who are currently underrepresented among the faculty ranks. Departments may request this central support, which may provide up to .50 FTE annually from general funds. The department provides the remaining FTE fraction from its current faculty staffing allocation or from endowed funds. Start-up packages are discussed with the Office of the Dean of the Faculty with the understanding that these appointments may require a larger-than-usual contribution from the central administration, depending on departmental resources. Departments may also request funding for special diversity-related initiatives such as conferences, workshops, or postdoctoral fellow programs. Decisions regarding the distribution of funds are made by the Faculty Advisory Committee on Diversity, which is co-chaired by the Provost and Dean of the Faculty.

Search Officer: In keeping with a Sense of the Faculty resolution from June 1981, each department is required to have a Search Officer, previously known as an Affirmative Action Officer. The Dean appoints a senior faculty member to this post and submits the name to the Dean of the Faculty at the beginning of each academic year. The rank requirement exists to ensure the Search Officer's effectiveness, since only a Senior Faculty member can have full access to appointment and promotion material, be present at tenured faculty meetings when appointments and promotions are being considered, and operate securely in a potentially adversarial position with the tenured faculty of his/her department.

The role of the Search Officer is to safeguard the University's commitment to affirmative action in various respects. He/she is kept informed about the availability of data concerning women and minorities in fields in which appointments are made. If the proportion of applicants from these groups is significantly less than the data would lead one to expect, the possible reasons are explored with colleagues, chairs, and the Dean of the Faculty with an eye to improving recruitment procedures. He/she reviews files of women and applicants from under-represented groups who were rejected at the various stages of the appointment procedure to determine whether any might merit further consideration. The signature of the Search Officer on the search report form for each appointment certifies the completeness and accuracy of the information contained therein.

Equity and Diversity Among Students: Princeton University's Graduate School actively recruits underrepresented and socioeconomically disadvantaged students, and strives to create an environment that is welcoming to all. Through the Office of Academic Affairs and Diversity, the Graduate School manages an ambitious program focused on the recruitment and retention of a diverse population of students enrolled in Princeton's graduate programs. That office has primary responsibility for developing and implementing these initiatives, and for establishing best practices to ensure that these students persist to the completion of their programs. These include daylong visits for prospective students, town hall meetings, and support for grassroots organizations.

The first weekend in April is reserved for one the Graduate School's most important events, Hosting Weekend. This event is organized to showcase the Graduate School's efforts to increase diversity and to encourage underrepresented and socioeconomically disadvantaged students who have been admitted to Princeton to matriculate. Hosting Weekend draws together these students to meet and interact with current graduate students and faculty from all disciplines, along with alumni and administrators, to learn first-hand whether Princeton is the best choice for their graduate studies.

Once admitted, all students have equal access to information, advising, and the various opportunities offered by the Graduate School in particular and by the University at large. The Diversity Fellows Program, Dissertation Writing Group, and a number of identity-focused student organizations help to foster an open and inclusive community where students are supported both intellectually and socially.

Human Resources Development

The School of Architecture encourages student and faculty growth by providing the widest possible range of human development opportunities, both within the School and through its larger Princeton University context. Public programs featuring lectures and exhibitions foster a sense of community and allow the exchange of ideas among students, faculty, and the public. Conferences, symposia, and an active program of visiting critics connect the School and its faculty to the wider network of architects and educators. Student-organized lectures and exhibitions create opportunities for students to meet with practicing architects, artists, and scholars, thus enlarging their own circle of contacts.

Faculty Remaining Current in Their Knowledge of the Changing Demands of Practice and Licensure

The School's design faculty not only remain current in their knowledge of the changing demands of the practice of architecture, but also are among those who are advancing knowledge in our discipline and in its practice. The design professors registered in New York and New Jersey are required to complete continuing education requirements for the renewal of their professional licenses. In addition to the typical channels available to architects, faculty can receive credit for lectures attended at the SoA. At these lectures, a wide range of national and international architects, scholars, and engineers present their ideas and their work. In this way, the lecture series plays an important educational role for our students and faculty. Other departments at the University offer a rich selection of lectures on technical and humanistic subjects that complements the more specific knowledge offered by the School. In addition, faculty participates in conferences, lectures, exchanges, and symposia worldwide. Through these activities, they not only come into contact with a wide variety of new forms of practice, but they are also exposed to the most current thinking in practice. SoA faculty themselves lecture widely, expanding their own scope and reputations nationally and internationally. Individual faculty members pursue research into new materials, building technology, and design technology. This information is shared with faculty and students in seminars and conferences. Most design faculty members maintain active architectural practices, and keep current through formal continuing education classes, professional journals, and participation in public programs.

Facilitating Faculty Research, Scholarly, and Creative Activities

Princeton strongly encourages research, creative practice, and scholarly activity among its full-time faculty. University resources to support such activities are available through central administrative units such as the Provost, Dean of Faculty, and Dean for Research offices, as well as through academic departments and units, including interdisciplinary centers, programs, and initiatives. Through an agreement with the Dean of Faculty dating back to 1997 and updated in 2005, the Dean of Faculty considers the creative practice of an architect faculty member to be equivalent to research or scholarly work, and therefore partially exempts them from the restrictions concerning outside consulting work. This recognizes the academic standing of the work produced by the design faculty and allows them to devote adequate time to practice.

The Dean of Faculty offers faculty funding from several sources. The University Committee on Research in the Humanities and Social Sciences has supported research assistance, travel, indexing, and subvention of publications or translations for SoA faculty. These grants are made available twice a year, during the academic year and the summer. A number of SoA faculty have taken advantage of the Barr Ferree Publication Fund at the Department of Art and Archeology, which offers support for book publications. Learned Society Travel funds are available to each faculty member in the professorial ranks to attend one learned society meeting per year. Faculty recipients of competitive, honorific fellowships such as a Guggenheim fellowship, which may not cover full salary and benefits for a semester of leave, may request supplemental support from the Dean of the Faculty.

The Dean of Research, who oversees and supports the University's research enterprise, works with the offices of Corporate and Foundation Relations, Technology Licensing, and Research and Project Administration in assisting faculty and the University research community with the solicitation, negotiation, and management of sponsored research funding and gifts from external sources. The results from such collaborations have been recent successful foundation-supported initiatives, such as the Princeton-Mellon Initiative in Architecture, Urbanism, and the Humanities (2013, PI: Stan Allen) and the Rockefeller Foundation-funded "Structures of Coastal Resiliency" (2013, PI; Guy Nordenson with Paul Lewis), both led by SoA faculty. Moreover, the Dean of Research administers special funds to support the University research community (http://www.princeton.edu/research/facstaff/funding/).

The School supports the creative practice and scholarly research of all faculty members, directly or indirectly, either through sabbatical or unpaid leaves, organizational or financial support for conferences, exchanges or publications, and technical assistance for specific projects. Annually, each member of the SoA faculty receives $5,000.00 of research funding from the School, with some of the tenure-track professors receiving additional research funds as part of their start-up packages and their area of focus. For example, two of our assistant professors, whose research focus on digital technologies, building technologies, energy, and the environment, receive increased research funding so that they are resourced in a manner commensurate with or closer to the faculty in analogous engineering departments. Additionally, the Dean provides internal funding for research, travel, exhibitions, and publications to faculty and students on an ad hoc basis. Efforts are underway to create a more systematic method of granting faculty and student funding requests through a new Faculty Committee on Finance. The Committee will implement an internal research and program funding process, review faculty and student proposals, and provide awards that may be available from the School's endowed funds.

The SoA also provides administrative assistance and unlimited use of its telephones, facsimile machines, computers and associated technologies, including the facilities of the Architecture Laboratory (laser cutters, 3D printers, and milling equipment), printers, postage meters, and photographic and photocopy facilities. In addition, the School provides more extensive secretarial services when necessary, and has paid for translation services to further the research efforts of members of faculty. The Architecture Librarian routinely purchases volumes to assist in faculty research. Although the Office of the Dean of the Faculty covers expenses associated with travel to conferences (see "Learned Society Travel"), the School pays any additional costs, such as hotel and food expenses.

Other academic departments also offer research funding to faculty. Since the last site visit, the SoA faculty has received awards through competitive campus-wide calls for proposals. Recent examples have included the Princeton Environmental Institute-Andlinger Center for Energy and the Environment Innovative Research Awards in Energy and the Environment (PI: Forrest Meggers, *Beyond Shading: New materials, technologies, and forms for cool spaces)* and two Strategic Partnership Grants from Princeton's Council for International Teaching and Research that support international research or program collaboration. These include SoA Professor Mario Gandelsonas collaborating with the Princeton Environmental Institute and the University of Sao Paulo on "São Paulo as Fluvial Metropolis: Infrastructure, Meta-projects, Imagined Futures and the City as Home," and SoA Professor Jesse Reiser working with Tokyo University on "Meet the Authors: A Cross Cultural Analysis of Architectural Writings."

Sabbatical and Leaves of Absence: "The Rules and Procedures of the Faculty of Princeton University" (updated May 2012) records the University's provisions for leaves of absence, including such types as leaves during term time and leaves for scholarship. During term time (the weeks of classes and the reading and examination periods), faculty desiring to be absent from the campus for three or more consecutive days, excluding weekends, should request permission from the Dean. Any unusual requests are subject to the Dean of the Faculty's approval.

Leaves for Scholarship: The leave program of the University is designed to ensure that faculty members may be relieved periodically from teaching and other University duties in order to pursue scholarship. The Dean recommends that a leave be approved based on a faculty member's proposed program of

scholarship, while taking into account the teaching needs of the School. The leave program does not guarantee that each faculty member will receive a specified number of leaves during a given number of years. Instead, it is intended to provide flexibility in planning both for the faculty member's scholarly pursuits and for the instructional program of the School. At least five semesters must elapse between nonconsecutive leaves of any kind for any one member of the faculty.

Leaves with pay for scholarship are administered on the basis of an allocation determined by the number of tenured faculty in the School rather than on a stated period of service. Such leaves, called quota leaves, may be with full pay for one semester or half pay for two semesters in the same academic year. External funds may be used to provide the other half salary provided these funds do not entail obligations which alter the purpose of the leave. In the special case of assistant professors in the humanities or social sciences, including at the School of Architecture, it is University policy to grant them one-in-six-leaves, which are one semester's leaves with full pay or its equivalent during their first three-year appointment.

Leaves Without Pay: The Dean may recommend leaves without pay on the basis of a faculty member's needs; this is contingent if the School's teaching and other functions can be met. In addition to those for scholarship, leaves without pay may be granted for such purposes as the temporary assumption of an important government post, a temporary honorific professorial or administrative appointment, or for personal reasons, including child rearing. Leaves without pay are not granted for regular teaching at another institution. Such leaves are granted for no more than one year, although under certain circumstances a one-year extension is permitted if requested; at the end of that time the University normally requires that the faculty member either return or resign. In all such cases the Dean of the Faculty is consulted at the outset of negotiations with an outside party. The Dean of the Faculty approves all leaves without pay.

Appointment, Promotion, Tenure, and Faculty Development Opportunities: The SoA recognizes the need to recruit and retain faculty and staff without reference to race, creed, national origin, gender, age, or varying physical ability. The Dean appoints from the Senior Faculty an equal opportunity representative, called a search officer, each academic year to monitor the activities of the School in this regard, and to represent the SoA as the occasion arises. Because the School is an integral part of the University, which consists of a single faculty, the School's hiring and advancement procedures conform to University guidelines, and its decisions are reviewed by the University (through the office of the Dean of the Faculty and the University's Faculty Advisory Committee on Appointments and Advancements) prior to their implementation. The SoA also participates in all the programs listed above in the University's efforts to achieve diversity, equality, and community.

The School's procedures for promotions and appointments require that it advertise regionally for all staff appointments, and nationally for all part-time and full-time faculty appointments. The SoA routinely goes beyond these requirements by advertising internationally for all full-time faculty appointments.

Faculty Search Committee: The Dean appoints a faculty search committee after the Senior Faculty has voted to conduct a search and the Dean of the Faculty approves the search. This Committee approves the advertisement and where it will be posted, reviews applications, and makes a recommendation through the Dean for the Senior Faculty's approval. The Committee represents the faculty and student body, and consists of tenured full professors and associate professors, non-tenured assistant professors, and student representatives from the graduate and undergraduate programs.

The SoA is required by the University to complete a Faculty Search Report when seeking to fill an available position at the rank of professor (including assistant and associate professors) or full-time lecturer. This report is filed with the Office of the Dean of the Faculty and includes a description of the efforts the School will make to attract women and minorities. Generally, this is achieved by advertising in publications specifically targeted at under-represented groups, in publications that these groups are likely to encounter, and through other special efforts to directly contact qualified candidates among under-represented groups. The SoA is also required to submit a copy of the advertisement for the position to the Office of the Dean of the Faculty for approval. As applications are received, they are held for review by

the Faculty Search Committee. The Committee reviews each application, and, after deliberation, makes a recommendation to the Dean that is subsequently given to the tenured faculty for their consideration.

Promotion and Retention: The University's "Rules and Procedures of the Faculty" specifies that, in considering lecturers, assistant professors, or other full-time faculty for advancement in rank or salary, "the quality of scholarship and teaching shall be primary considerations and service to the University community an important consideration." All departments are expected to follow this University policy carefully and consistently. Department chairs and deans indicate to faculty members the extent to which their departments, or schools, have taken these considerations into account, particularly in cases of possible promotion, but also in cases of reappointment or salary adjustment.

The University's Faculty Advisory Committee on Appointments and Advancements reviews each candidate's teaching record carefully, particularly in cases of promotion. The Committee has recommended promotions of faculty whose scholarship was very good, but not outstanding, when the candidate's teaching record was strong and showed evidence of important service to the department and the University; on the other hand, the Committee has declined to recommend promotions in cases of candidates whose scholarship was very good, but not outstanding, when the candidate's record has shown poor or inconsistent teaching and little service to the department or to the University. The Committee requires that chairs submit detailed information about the teaching record of all candidates, and bases its decisions on both departmental information and the teaching evaluation records provided by the Registrar. Of great importance to the Committee are issues reflecting the University's desire to see that appointments and the make-up of its faculty reflect its policy of equality and diversity.

Procedures for Promotion at the Rank of Lecturer: The SoA's procedures for the promotion of tenure-track faculty at the rank of lecturer require that the Senior Faculty reviews lecturers for promotion to the rank of assistant professor or senior lecturer after six years at that rank. After careful review of the lecturer's updated curriculum vitae and teaching evaluations, the Senior Faculty votes to recommend the candidate to the University's Faculty Advisory Committee on Appointments and Advancements, which in turn recommends the candidate to the Trustees, through the President, for approval. Candidates not recommended for promotion are also reviewed by the University's Faculty Advisory Committee on Appointments and Advancements to ensure that the School's procedures have been fair and have followed the University's "Rules and Procedures of the Faculty."

Procedures for Reappointment at the Rank of Senior Lecturer: After three years at the rank of senior lecturer, the Senior Faculty carries out the review of each candidate for re-appointment at that rank for a second three-year term, or at the option of the candidate and the discretion of the faculty, a five-year term. In the spring semester of the senior lecturer's second year, the dean meets with the candidate. Following that meeting, the candidate receives a letter informing him of the upcoming review, and requesting that he prepare a dossier of supporting materials to be turned in to the School in early fall. This material, including teaching evaluations, course enrollments, and student supervision, is made available (at the departmental office) to the Senior Faculty well in advance of the meetings scheduled later in the fall. It is assumed that senior lecturers are primarily drawn from the ranks of active professionals in design or technical fields. They are expected to be active participants in the educational programs in their field, and to have expertise and a high standing in their field, as demonstrated through their publications, professional activities that involve outside peer review, and/or recognition such as conference presentations, professional society activities, or creative accomplishment. Their appointment or reappointment should be based primarily upon their teaching record, as evidenced by student evaluations, their work on curriculum development, and related administrative responsibilities. The Senior Faculty meets to discuss the case in a minimum of two meetings, separated by at least a week, in order to ensure evenhanded deliberations. A vote is taken only after the Senior Faculty is satisfied that the case has been fully and fairly debated. They vote to recommend the candidate to the University's Faculty Advisory Committee on Appointments and Advancements, which in turn recommends the candidate to the Trustees, through the President, for approval. Candidates not recommended for reappointment are also reviewed by the University's Faculty Advisory Committee on Appointments and Advancements to

ensure that the School's procedures have been fair and have followed the University's "Rules and Procedures of the Faculty."

If the candidate requests reappointment to a five year term, the SoA requests from the candidate a list of three external reviewers to help determine the candidate's standing among others in the field outside of the University. The Senior Faculty reviews the candidate's list and produces an annotated list of at least eight potential referees who may be asked for a letter either by the School or, if the recommendation is to promote, by the University's "Faculty Advisory Committee on Appointments and Advancements."

Procedures for Reappointment of Assistant Professors: After three years at the rank of assistant professor, the Senior Faculty carries out the review of each candidate for reappointment at that rank for a second three-year term. In the spring semester of the assistant professor's second year, the Dean meets with the candidate. Following that meeting, the candidate receives a letter informing him of the upcoming review, and requests that s/he prepare a dossier of supporting materials to be turned in to the School in early fall. This material, including teaching evaluations, course enrollments, and student supervision, is made available (at the departmental office) to the Senior Faculty well in advance of the meetings scheduled later in the fall.

At this time, the SoA also seeks letters from outside reviewers to help determine the candidate's standing in his or her field, the national and international recognition the candidate's scholarly or design work has received, and his or her likely growth as an architect or scholar. Three letters are requested from names submitted by the candidate, and at least three from a list provided by the Senior Faculty. The Senior Faculty meets to discuss the case in a minimum of two meetings, separated by at least a week in order to ensure evenhanded deliberations. A vote is taken only after the Senior Faculty is satisfied that the case has been fully and fairly debated. They vote to recommend the candidate to the University's Faculty Advisory Committee on Appointments and Advancements, which in turn recommends the candidate to the Trustees, through the President, for approval. Candidates not recommended for promotion are also reviewed by the University's Faculty Advisory Committee on Appointments and Advancements to ensure that the School's procedures have been fair and have followed the "University's Rules and Procedures of the Faculty."

Tenure Review, Assistant Professors: In the fall of the sixth year of appointment at the rank of assistant professor, the Senior Faculty carries out the review of each candidate for promotion to the rank of associate professor (with tenure).

1. The dean meets with the candidate in the fall of the fifth year to review the schedule and procedures for tenure review. At that time, the dean gives the candidate a copy of the tenure procedures.
2. In the spring of the fifth year, the candidate is notified in writing of the upcoming review. The candidate is asked for the following material, to be submitted by the beginning of the fall term of the sixth year:
    - A personal statement, detailing scholarly/design activities, teaching and future plans;
    - A portfolio of design projects, if applicable;
    - Copies an updated curriculum vitae, including a complete bibliography;
    - Of published materials;
    - Reviews of design or written work;
    - Book manuscripts (indicate if accepted for publication);
    - Other materials that the candidate feels are relevant.

In addition, the candidate is asked to submit the names, addresses, e-mail addresses, and telephone/fax numbers of at least six persons who would be in a position to provide an assessment of their qualifications. This list is annotated to indicate the referee's qualifications, and their familiarity with the candidate's work.

3. To these materials, the Dean adds:
    - List of courses taught (with enrollments);

- List of graduate and undergraduate students advised;
- Solicited comments from faculty members in other departments or programs in which the candidate has taught or otherwise participated, if applicable;
- Signed letters, solicited or unsolicited, from students, if available;
- Teaching evaluations.

4. Given the small size of the SoA, the Senior Faculty operates as a committee of the whole in tenure cases.
5. The Senior Faculty produces an annotated list of at least 12 potential referees who may be asked for a letter either by the School or, if the recommendation is to promote, by the University's Faculty Advisory Committee on Appointments and Advancements. This list is in addition to, and independent of, the candidate's list. In some cases, experts in the field of architecture may include distinguished figures in the profession who may not hold academic positions.
6. The dean requests a minimum of six letters for departmental review, drawn in equal numbers from the candidate's list and the faculty's list. A package of materials prepared by the candidate is sent to these referees directly from the School. The letters received become part of the candidate's dossier.
7. When complete, the candidate's dossier is held in the departmental office, and each member of the Senior Faculty is expected to read and review the file. These materials help the Senior Faculty determine the candidate's standing in the field, the national and international recognition his or her scholarly or design work has received, the quality of teaching, and the candidate's contributions to the field of architecture.
8. After a full review of the dossier, the Senior Faculty meets to discuss the case in at least two scheduled meetings before a formal vote is taken. Faculty should be present at both meetings for their votes to be recorded, but if absent may submit their opinions in writing to the University's Faculty Advisory Committee on Appointments and Advancements. The Dean votes as a member of the faculty.
9. The Dean informs the candidate of the School's recommendation as soon as possible after the vote is taken, and no later than November 15. No detail of the vote is to be communicated other than that it was positive or negative. The Dean summarizes the content of the discussion without attributing opinions to individual colleagues.
10. Following the meeting, the Dean writes a report to the University's Faculty Advisory Committee on Appointments and Advancements, outlining the reasons for the School's recommendation. If the decision is to promote, the School prepares two separate lists of external referees to be submitted to the University's Faculty Advisory Committee on Appointments and Advancements: one will include all those names on the candidate's list not previously contacted, and the other will include all the names on the Senior Faculty's list not previously contacted. These lists become part of the School's report; candidate's materials, including books, manuscripts, or portfolios may be forwarded to the Dean of the Faculty office for distribution to these outside referees. This report is available to voting faculty members in the department office for two weeks, preferably preceding its submission to the Dean of the Faculty on December 1. Faculty members who add to or dissent from the report may write separately to the Dean of the Faculty, with a copy to the dean. All such communications will be placed in the file to be reviewed by the University's Faculty Advisory Committee on Appointments and Advancements.

Visiting Faculty: Given the small size of the School, visiting faculty play an important role. These visitors fall into several categories. Visiting history/theory faculty sometimes teach a single seminar, or in some cases (Sylva Lavin, Jeff Kipnis, and Jean-Louis Cohen) have a more extended commitment. In addition to Lavin and Cohen, visiting faculty in this area have included Mario Carpo, Manuel DeLanda, Jorge Otero-Pailos, and Anthony Vidler. Visiting Design faculty complement the offerings of full-time faculty, and bring new perspectives. Recent visitors in design have included Amale Andraos and Dan Wood, Jeanne Gang, Michael Maltzan, Philippe Rahm, and Hani Rashid. Other visiting faculty cover areas not addressed by the expertise of the full-time faculty, such as Carl Rosenberg (acoustics); Margie Ruddick and Catherine Seavitt (landscape); Hilary Brown (energy and form); and Andrew Laing (programming and workspace design). Marc Simmons and Bruce Nichols offered courses in envelope and facade design,

supplementing the technical resources of the School; and Ryan Johns, Marc Fornes, and Steven Sanderson allowed us to broaden our digital design and fabrication offerings.

In order to establish more continuity among visiting faculty, and to bring internationally recognized figures to teach in the design studios, the School established the Jean Labatut Visiting Professorship. Over a period of more than 25 years the Labatut Professorship has brought a range of distinguished international figures to the School, including Ben van Berkel and Caroline Bos, Kazuyo Sejima and Ryue Nishisawa, and Iñaki Abalos and Juan Herreros. From 2008 to 2010, Madrid-based architects Luis M. Mansilla and Emilio Tuñón held the Labatut Professorship. To document the work of their studios, in 2012 the School published *Luis M. Mansilla + Emilio Tuñón: From Rules to Constraints*. The book includes student work, as well as the teaching methods and professional work of Tuñón and Mansilla. From 2008 through 2011, David Adjaye served as Labatut Professor at the School. Also published in 2012, *Authoring: Re-placing Art and Architecture* documented the work of his studios, challenging traditional assumptions about the relationship between art and architecture. Each studio focused on a collaboration with three distinguished artists—Matthew Ritchie, Teresita Fernández, and Jorge Pardo—on interventions in three vastly different sites: the state of New Jersey, the Gowanus Canal in Brooklyn, and the city of Mérida in Mexico's Yucatán Peninsula. The publication of these *Studio Series* books not only disseminates the work of the School to a wider audience, but it also offers students and faculty an opportunity to publish work and encourages dialogue and discussion inside and outside of the School.

Invited Lecturers and Critics: The School of Architecture brings to campus guest lecturers and critics under a number of lecture programs, conferences, and symposia organized by the School, its faculty, and students, and also co-organized with other Princeton departments and programs. Since the last site visit in 2009, the SoA has invited 336 speakers and critics, many of them recognized architects, scholars, and leaders from around the world, to the Princeton campus.

Of particular note are the School's Kassler Lectures. The series was endowed in honor of Kenneth Kassler, a member of the Princeton Class of 1927 who received his graduate degree from the SoA in 1930. The first Kassler Lecture was given in 1966 by R. Buckminister Fuller. Recent lectures have included such notable figures as: Kazuyo Sejima, Steven Holl, Rem Koolhaas, Denise Scott Brown, Paulo Mendes da Rocha, and Wolf Prix. Since 2009, lectures have been delivered by Toyo Ito, Dave Hickey, Rafael Moneo, and Stanley Tigerman. Working with Princeton Architectural Press, the School has published two books documenting the Kassler Series. In 2013, *R. Buckminster Fuller: World Man*, edited by Daniel Lopez-Perez, was published. The book includes a full facsimile of the lecture's typewritten transcript, as well as an introductory essay on Fuller's work, a glossary of key terms and phrases, and a postscript by Stan Allen, based on an interview with Robert Geddes, the dean responsible for bringing Fuller to lecture at the school. In 2012, *Toyo Ito: Forces of Nature,* edited by Jessie Turnbull, documented Ito's 2010 lecture at the School. Told primarily in Ito's own voice, the book features the edited lecture transcript, as well as an interview with the architect by Julian Worrall and a new translation of Ito's 1980 essay "The Projection of the 'Profane' World onto the 'Sacred.'"

A full list of the 336 visitors to the Princeton School of Architecture between 2009 and 2014 is available here: http://soa.princeton.edu/files/naab-14/Visiting-Lecturers-Critics.pdf (To access this list, the user login is APR-2014 and the password is NAAB@14).

Public Exhibitions: Each year the School of Architecture organizes an exhibition of student work during the fall Open House for prospective students, as well as an exhibition during the spring Open House for the newly admitted graduate students. These exhibitions showcase thesis work from the past year, as well as work from the graduate design studios. Additionally, the theses of graduating M.Arch. students are exhibited during the week of graduation each spring. Below is a list of other exhibitions since the previous visit (2008-14) that have been organized at the School of Architecture and other locations at Princeton University:

January 30-February 8, 2011, AFTER HOURS: An exhibition of experimental art practices by architecture students that challenge conventions of imagining, representing, and constructing space in the SoA

Gallery. This exhibition, organized by the M.Arch. and Ph.D. students, featured drawings, sculpture, photography, fashion, video, and product design by these students.

September 2012-February 2013, "Playboy & Architecture—1953-1979 in the SoA Gallery. This exhibition explored the crucial yet unacknowledged role *Playboy* played in the cultivation of design culture in the USA, and was developed from a research seminar led by Professor Beatriz Colomina with students Luis Avilés, Marc Britz, Daniela Fabricius, Gina Greene, Margo Handwerker, Joy Knoblauch, Yetunde Olaiya, Enrique Ramirez, Molly Steenson, and Federica Vannucchi. The project culminated in the collaborative production of a traveling exhibition. The exhibition at Princeton was part of a larger exhibition on display at the same time in Maastricht in the Netherlands, and featured photos and renderings from the magazine, *Playboy* television segments, and photos from the installation at Maastricht.

Studio Exhibition: "The Bowery Reimagined: Ideas City Street Fest." In anticipation of the Ideas City Festival, Alejandro Zaera-Polo's architecture studio teamed up with the New Museum to reimagine what the future of the Bowery may be. Some studio projects were exhibited during the Ideas City Street Fest on May 4. The Festival featured dozens of projects, workshops, conferences, and presentations exploring the future of cities. The main event was the Streetfest on Bowery Street, with installations that look at the theme of "Untapped Capital" in the Bowery. The Princeton studio is exhibiting design proposals based on integrating social media and mobile technology with emerging forms of manufacturing, residential, retail, workspace, public space, leisure, and transportation that are part of the "knowledge" and "creative" economy in the age of austerity. Each project uses the Bowery's residents, scale and economy in pursuit of a new urban charter, one that looks at the people, possibilities, and problems of the neo-liberal city of tomorrow.

February 15, 2013, "Shanghai Studio" in the James S. Hall '34 Memorial Gallery, Butler College. The projects on display showcased the final body of design work produced by the seniors in the School of Architecture. The students were in the China studio of the School of Architecture, taught by Mario Gandelsonas with Ivi Diamantopoulou.

June to August 2013, "Master of Architecture Thesis Exhibition 2013" in the SoA Gallery: This exhibition featured the work of students who graduated in June 2013. The projects were *From the Sound Up: Generating Form from Acoustic Preferences*, by Matthew Bertsch and Willem Boning; *Miniature Architecture: Selling Out* by Laura Ettedgui and Julianne Gola-Papa; and *Mixed Reality Modeling*, by Ryan Johns.

February 10-19, 2013, "The Chair Project: Junior Independent Work Studio Exhibition" at the James S. Hall '34 Memorial Gallery, Butler College. Throughout the history of modern architecture, furniture has served as the most concise representation of an architect's design principles. While these principles could be applied to projects at any scale, the social, material, geometric, and aesthetic forces underlying an architect's disciplinary project here find their most poignant resolution. The studio was directed by Professor Jesse Reiser, the curator, and the Assistant Instructor was Dorit Aviv. Students included Jiae Azad, Denisa Buzatu, Benjamin Denzer, Jose Escamilla, Gabriella Figueroa, Dalma Foldesi, Michael Glassman, Jessica Holechek, Kassandra Leiva, Jessica Luo, Caleb Negash, Maryia Rusak, Nicolas Schmidt, Michael Semenov, Eric Shullman, Injinash Unshin, and David White.

February 25-March 12, 2013, "Liquid Landscapes/A Twenty-First Century Water Park," at James S. Hall '34 Memorial Gallery, Butler College. This exhibition presented the student work of the Senior Urban Studio, and was the second consecutive year that students majoring in architecture had the opportunity to show their work at Butler College. The 2013 Senior Urban Studio was jointly developed in conjunction with the Faculty of Architecture at the University of São Paulo (FAU USP), Brazil. The studio trip to São Paulo during the fall term break was an opportunity for a joint presentation of student projects and a discussion to assess and compare the different architectural and pedagogic approaches to the program. The students visited the city, its major public spaces and architecture, and the site of the final project, São Miguel Paulista.

Spring 2013, "Views from the Landscapes of Unnatural History" in the SoA Gallery. Organized by Liam Young and Kate Davies, the exhibit focused on the biannual expeditions of the Unknown FieldsDivision, a nomadic design studio that ventures to the ends of the earth exploring unreal and forgotten landscapes, alien terrains, and obsolete ecologies.

Spring 2013, "Nosotros Jugamos Ustedes Juegan/We Play You Play" in the SoA Gallery. "We Play You Play" is an exhibition into the methods in which the office of Giancarlo Mazzanti engages the discipline of architecture in a specific way. The project documentation served to introduce the visitor to the work of Mazzanti Arquitectos, providing the participant with a set of references as well as a base knowledge of the projects. "The rules of our game are the strategies and explorations we develop in the office as part of our architectural design process. How something folds, circulates, masses, programs, or communicates, etc. Making a piece, a system, and an adaptable configuration is how We Play."

Fall 2013, "Little Magazines in the SoA Library" in the SoA Gallery. In the summer of 2013, the School of Architecture Library, in close collaboration with students and faculty, acquired a number of new publications for the collection, which culminated in the fall digital exhibition, *Little Magazines & New Acquisitions.* Over 40 items were on exhibit during the fall 2013 semester, ranging from alternative, subcultural or radical design publications to rare post-war Italian architectural publications. Highlights of the exhibit include *ANZA Magazine* (Tanzania), *Piseagrama* (Brazil), *Too Much* (Japan), *Archigram* issues, and a complete holding of *A: Attualita Architeturra Abatzione Arte,* an experimental publication by Luigi Mattioni, Bruno Zevi, Carlo Pagani, and others.

February 6-20, 2014 "The Aesthetics of Information" in the SoA Gallery. This exhibition was organized by Jeff Dolven, Director, Interdisciplinary Doctoral Program in the Humanities (IHUM) at Princeton University, and brought together scholars from across the humanities to think about the convergence of two developments, the new availability of sophisticated data sets related to traditional humanistic subjects, and new possibilities for representing what we discover there. The category of aesthetics stands at their juncture.

April 7-May 14, 2014, "Urban Enactments" in the SoA Gallery. This exhibition featured the works of Andrés Jaque/Office of Political Innovation. In the last 10 years, the Office for Political Innovation has explored the question: "What happens to architectural practices when common notions of the urban (as something confined in CITIES) are replaced by others in which the urban is contained in URBAN ENACTMENTS (ordinary interactions in which politics are produced)?" The works included in this exhibition were not architectures designed to be later occupied by society, but techno-societies in which architectural design attempts to gain relevance.

June-August 2014, "Master of Architecture Thesis Exhibition 2014" in the SoA Gallery. This exhibition features the work of students who graduated in 2013-2014. Projects by the following students were included: Dorit Aviv, Tsvetelina V. Churalska, Han Dong, Gabriel Fries-Briggs, Pak Lun Leung, Nicholas Pajerski, Brendan Shea, Fei Wang, and Harry Mingxia Wei.

October - November 2014, "Freedomland" in the SoA Gallery. The exhibition is the latest in a long line of visionary plans for American living: an experiment in reconciling the seemingly incompatible needs and desires that define our current economic, environmental, and, most importantly, political climate. *Freedomland* colonizes the super grid that blankets America, attempting in the process to solve every problem, and please every citizen.

Students

Professional studies in architecture at Princeton occur within the larger context of the School of Architecture, the University's center for teaching, research, and scholarship in architecture and urbanism. In addition to the NAAB accredited Master of Architecture program, there are three other programs and one joint degree program at the School of Architecture: an undergraduate concentration in architecture

(A.B.); a Ph.D. in the history and theory of architecture; a post-professional two-year Master of Architecture degree (not accredited by the NAAB); and a joint architecture/civil engineering degree at the undergraduate level. All programs housed in the School of Architecture are taught by a single, unified faculty. They share an administrative structure, and they serve to support and enhance one another. The interplay between these different programs offers a number of benefits to the School's professional Master of Architecture students. Beyond simply creating a broader and more diverse group of peers, the contact with Ph.D. students engaged in advanced research in history and theory of architecture raises the intellectual bar in seminar classes. Most of the Ph.D. students have a background in design and/or a professional degree in architecture, and they often serve as Assistants in Instruction for Design Studio and other courses. This creates close ties between the student groups, leading to collaborative projects for exhibitions, publications, or design work. The presence of an active undergraduate program in the School (Master of Architecture and undergraduate students share studio space) in turn creates opportunities for Master of Architecture students to serve as Assistants in Instruction for undergraduate courses. Sometimes teaching is the best way to learn, and this hands-on teaching experience has proven invaluable to our Master of Architecture Graduates. At thesis time, undergraduates pitch in and help the Master of Architecture students, creating a collaborative atmosphere across the different programs of the School.

M.Arch. Admission Process
(See the requirements in Part II. Section 3): The application requirements and evaluation procedures for the admission process of the accredited Master of Architecture (M.Arch.) Program are the same for first year, advanced standing, and transfer applicants. Students must hold a four-year undergraduate degree from an accredited college or university, but are eligible for admission to the professional master of architecture program regardless of their undergraduate major. A year of college-level mathematics (preferably calculus), physics, and survey courses in the history of art and architecture are required. Students demonstrate preparedness for a professional architectural education through a portfolio of architectural projects or work in a related visual field. Although not required for admission, if not taken as part of their undergraduate degree, these courses must be completed before the applicant begins the M.Arch. program.

In some cases, students who have extensive undergraduate architectural education, (typically, but not always, those with a Bachelor of Science in Architecture) or may be transferring with adequate credits, there is an option to receive advanced standing in the professional M.Arch. program. This decision is made at the discretion of the Admissions Committee, which is comprised of full-time SoA faculty. Students with a Bachelor of Architecture degree (B.Arch.) or its equivalent from an international institution are eligible for admission to the non-accredited post-professional program.

The online application is administered by the Graduate School. Application information and instructions can be found on the School's website (http://www.princeton.edu/gradschool/admission/). All applicants are required to submit an application fee (waivers are available for students with demonstrable financial need), three letters of recommendation, transcripts, mid-year grades (if currently enrolled in school), a statement of academic purpose, a resume, GRE general test scores, and TOEFL or IELTS scores (international applicants only). A hard copy design portfolio must be submitted by mail. Applicants who wish to be considered for financial aid must submit a statement of financial resources directly to the Graduate School. SoA admissions are need blind, and this information is not made available to the Admissions committee until after admissions decisions have been made. Once a student has been made an offer of admission, the Graduate School uses that information to determine the appropriate level of financial support for each student.

After the application deadline, all applicants to the M.Arch. programs—the NAAB-accredited Three-Year Professional and Advanced Standing Professional, and Two-Year Post-Professional programs—are screened initially by the School's Director of Graduate Studies (DGS), who ensures that the applications are complete and makes a preliminary determination of the appropriate program for each applicant. Students who hold the Professional B.Arch. degree or its equivalent from an international program are placed in the Post-Professional pool; students with an undergraduate major in a field other than

architecture are placed in the Three-Year Professional pool. The undergraduate schools of the applicants with a major in architecture are then checked against a master list of all undergraduate programs in architecture. Students coming from pre-identified schools with a particularly rigorous curriculum (typically B.S. in Architecture programs), who have completed a minimum of four semesters of undergraduate design studio (or its equivalent) and have completed a minimum of 120 semester hour credits are initially placed in the Advanced Standing Professional pool.

Subsequently, the Dean of the School of Architecture and the DGS for the M.Arch. programs each make an initial review of all the applications to confirm that students have been placed in the correct program, and eliminate any unqualified applicants. After this review, the applications are divided among the members of the Admissions Committee, typically comprised of all full-time faculty, such that each application is evaluated by two different faculty members. This needs-blind procedure ensures that each applicant is assessed on the application's merits: design portfolio, academic record, references, statement of aims, and standardized test scores. The Committee ranks the applicants on a scale of one through 10 in two areas: overall academic achievement, and design aptitude and achievement. In the case of applicants with advanced standing, faculty may determine that a student's design work has not attained the level equivalent to two semesters of graduate design studio work, and will recommend that the student be placed in the three-year professional program pool.

After the candidates are each reviewed by two faculty members, the top candidates are reviewed by all the faculty in an all-day session to determine the top candidates in each program. As part of this review, applicants are sorted by their scores and then ranked separately in a list for each program. The lists serve as a starting point for discussion at the final review process, where the full faculty debates the merits of the best applications, portfolios, and course work. A final list of candidates is also generated, which considers gender balance and the diversity of the student body. Applicants who have self-identified as belonging to an underrepresented group are identified during this meeting, with special attention made to certain candidates who could enhance the diversity of the student body.

The Dean and DGS then present and discuss their choices with the Dean of the Graduate School and the Graduate School's Associate Deans of Academic Affairs and Finance and Administration. They also discuss the distribution of financial awards to the admitted students. Based on merit and need, the final decisions are made by the Dean of the School of Architecture, the DGS, the Dean of the Graduate School, and the Graduate School's Associate Dean of Finance and Administration. Once admission and financial decisions are complete, admissions decisions are announced. As a member of the Council of Graduate School, Princeton University adheres to the April 15th Resolution, which allows all admitted students until April 15 to accept or decline their offer of admission and financial assistance.

Student Support Services
To facilitate student growth, the SoA and the University maintain a full program of support services, including funding for field trips, academic exchanges, site visits, and trips abroad. In order to assist its faculty in achieving and maintaining the highest possible professional and academic standing, the School and the University have a range of programs that support research, scholarship, and creative work. Recognizing that a faculty of active professionals is an asset to an architecture school, the University policies allow sufficient time for practice, continuing education, and career development. This ensures that the faculty can continue to communicate the most up-to-date information and knowledge to SoA students, preparing them for future practice and continued growth.

Academic and Personal Advising: Academic and personal advising is provided at both the School and the University levels. At the SoA, students are encouraged to seek advice on day-to-day matters from their studio adviser or course lecturer. Overall responsibility for attending to the academic and pastoral needs of students rests with the Director of Graduate Studies (DGS) for the Master of Architecture Programs, who also advises students on their programs of study, taking into consideration their previous academic experience. Students are encouraged to take their personal and academic problems to the Director of Graduate Studies, but the Dean is always available for consultation or advice on any personal or academic matter.

Career Services: Career Services is committed to educating the undergraduate and graduate students of Princeton University in the areas of self-assessment, career exploration, career planning, and job hunting. It assists alumni in their efforts to explore and redirect career interests as they develop fulfilling and rewarding careers. Its goal is to help with the development of lifelong career management skills and integration of academic and career interests. Career Services endeavors to foster and maintain relationships with employers and provide services to facilitate their connection to students and alumni seeking employment opportunities. The University's Career Services Office offers general advice on employment to all graduate students. Job placement assistance, however, is normally provided by individual departments within the University.

Internship Placement: There is no designated job placement officer at the SoA, but students may seek the advice of any member of the faculty about suitable offices for employment or internship. Most of the faculty are active in the profession, and are therefore in a position to offer sound advice on job placement.

Progress Evaluation: Studio advisers, lecturers, and the Director of Graduate Studies are jointly responsible for monitoring each student's academic progress. There is a procedure for warning students whose work is not up to the required standards, and who may be in danger of failing a particular studio or lecture/seminar course. All graduate design studios are graded as High Pass, Pass, Low Pass, and Fail. Students continue to receive either a written or verbal evaluation from the faculty in charge of the studio. Any student, regardless of his or her overall GPA, who receives two Low Pass grades in design studio, whether in consecutive semesters or not, shall be reviewed by a sub-committee of the School's faculty, appointed by the DGS, for termination of enrollment or another action that, in their judgment, is fair to the student. This review will take place prior to the end of the semester.

Financial Assistance: The Directors of Graduate Studies monitor the financial position of each student and recommend increases in scholarship and stipends for students in need to the University Office of Financial Support.

Assistants-in-Instruction: In addition to its considerable support resources, the School has funds to hire teaching assistants for undergraduate lecture courses. Doctoral students who hold a professional architecture degree are eligible to serve as teaching assistants in graduate design studios. Students interested in teaching are asked to submit their names to the Directors of Graduate Studies. Although a student's University fellowship is reduced in proportion to the compensation s/he received as an Assistant-in-Instruction, students find teaching rewarding and extremely helpful when seeking teaching appointments following graduation.

Health Care Services: University Health Services (UHS) is a fully-accredited health care facility that provides comprehensive health services to Princeton University undergraduate and graduate students and their dependents, and Princeton University faculty and staff. In a given year, 84 percent of all undergraduate and graduate students receive services from UHS. UHS clinicians are available 24 hours a day, seven days a week during the academic year. A multidisciplinary staff comprised of physicians, nurse practitioners, physician's assistants, registered nurses, psychologists, clinical social workers, consulting psychiatrists, athletic trainers, physical therapists, health educators, and administrative and technical personnel provide a comprehensive array of services. Medical Services include: outpatient primary medical care services by appointment; urgent care walk-in services; after hours emergency care; women's and men's health services; athletic medicine; immunization and allergy services; travel planning services; inpatient services; and, ancillary services including radiology, laboratory, and physical therapy. Counseling and Psychological Services include: crisis intervention; individual psychotherapy; group psychotherapy; couples counseling; psychiatric consultation; same day triage consultation for urgent problems; after-hours emergency services; referrals for long-term treatments; educational workshops and training; preventive health screenings; specialized interdisciplinary treatment teams; and, sexual harassment/assault advising, resources, and education (SHARE).

Counseling and Psychological Services: Counseling and Psychological Services, located in McCosh Health Center, are available to all undergraduate and graduate students at Princeton University. Spouses

and dependents of Princeton University students may also use Counseling and Psychological Services for consultation with a possible fee. Counseling and Psychological Services staff is available 24 hours a day, seven days a week during the academic year to respond to urgent psychological and psychiatric concerns. Friends or others, including a roommate, family member, dean, faculty, or coach who are concerned about the well-being of a student can also contact Counseling and Psychological Services for consultation, guidance, and assistance. Psychologists, clinical social workers, and consulting psychiatrists provide expert mental health care to all students. Psychological services include: crisis intervention; individual psychotherapy; group initiatives and programs; couples counseling; psychiatric consultation; referrals for long-term treatments; after-hours emergency services; educational workshops and training; preventive mental health screenings; and, specialized interdisciplinary treatment teams.

Housing: The Graduate School's policy is to provide housing for all first-year graduate students whose applications for University housing meet the announced deadline in mid-April, and to allocate housing so that it is available to an equal percentage of enrolled single students and students with dependents.

After all eligible first-year students have been housed, the following priority system applies: second-year students receive the first priority, third-year students second priority, and fourth-year students third priority. Fifth-year students should not expect to receive housing. If there are vacancies after all first- to fourth-year graduate students have been placed, however, housing will be offered to fifth-year students.

Most students can expect to be housed for three years. Enrolled students who need to remain in University housing for special personal/financial reasons may receive priority over other returning students if they apply for hardship housing. Additional information is given in the booklet *Housing and the Cost of Living for Graduate Students*, which is sent to all newly-admitted students.

Information Technology: Princeton students are given access to a varied and powerful computing environment supported by the Office of Information Technology (OIT). OIT provides Dormnet, a fiber-optic-based network that brings high-speed data connections to the rooms of the Graduate College (including the Annexes) and Lawrence, Hibben, and Magie Apartments. The University also provides wireless service in most campus residences, academic buildings, and outdoor wireless areas. OIT helps students safeguard their important academic work by providing central file storage. Students can often purchase the software necessary to complete their work through OIT's special student pricing.

OIT provides many avenues of technology support when students have technology questions or problems. OIT Helpdesk consultants are available 24 hours a day, seven days a week via phone, e-mail, and online chat venues. For technology support in a student's campus residence, OIT has installed "residential computing consultants." For higher-level hardware and software issues, students can take their computers to a walk-in clinic located in the Frist Campus Center.

The University, working with strategic computer vendors, offers a Student Computer Initiative (SCI). SCI is a computer purchase program that offers notebook computers specially selected and priced for Princeton University students. The program offers four to five computer models and includes both Macintosh and Windows computers. Purchasing an SCI computer means: state-of-the-art technology, Princeton network-ready, an extensive suite of software installed and configured, software for math, science, and engineering students (optional), expert, prompt and convenient OIT assistance and support, guaranteed protection with the three-year warranty, peace of mind with the computer loaner program, attractive pricing with several payment options.

In addition to accessing computing resources from their room in the Graduate College, graduate students can use any one of more than 250 workstations and numerous high-quality printers in that residence, in Butler and Lawrence Apartments, and in the two dozen other OIT-supported computing clusters around campus. The campus clusters contain a mix of Windows-based Intel computers, Unix workstations, and Apple Macintoshes. Software on cluster computers includes basic productivity tools such as word processors, information access tools used to explore the Internet, special software needed for the many classes in which computing is integral to learning, and sophisticated programs for use in research.

Each student is given a NetID, an identifier that enables the use of e-mail and allows access to Unix servers. Students also have access to specialized resources including the online library systems. All of these resources are available over the campus network. Princeton is fully connected to the Internet with multiple high-speed services, including Internet 2, allowing students to take full advantage of a wide range of resources made available through the Internet. The total bandwidth connecting the campus to the Internet is 1000Mbs, and the Internet 2 connection is 500Mbs.

OIT Academic Services and the New Media Center (NMC), which specializes in simulation, visualization, and other academic computing concerns, provide consulting and training on application of multimedia and instructional technology in teaching and research. Among other things, the NMC helps students with scanning, color printing, CD and DVD-R burning, digital audio and video editing, digital video production, graphic design, and website creation.

Additional OIT services include support in the use of selected software packages, maintenance of the University Human Resource Center and video library, and support for instructional technologies in classrooms and over the campus network. Several clusters around campus provide students with access to high bandwidth resources such as streaming video for use in language and other courses.

OIT provides a number of information access servers, including Web servers, on which students can create their own Web pages. A Common Gateway Interface (CGI) server allows students to write programs that can be accessed and executed over the Internet. OIT supports a Course Management System Server (Blackboard), which makes available a course web page for every course taught at Princeton. SCORE is Princeton's Student Course Online Registration Engine. Students can use SCORE to add, drop, or swap courses.

Foreign language and educational programming and selected cable TV channels are broadcast over the campus network to dorm rooms on a subscription basis, and to public viewing rooms, classrooms, and the Language Resource Center.

OIT also provides state-of-the-art printing services, including binding and xerography, and local telephone service and voice-mail service to the campus, including dormitory rooms. OIT manages the University ID card office, which supplies students with Princeton IDs and dorm access proximity cards.

General information about campus and network resources is available by contacting OIT's Help Desk or visiting the OIT web site at www.princeton.edu/oit.

Contingency Loans: Short-term contingency loans are available to students coping with unexpected financial emergencies. Typically no more than $500, they are repayable through deduction from stipend checks or federal loan disbursements.

Public Safety: The Department of Public Safety is the primary department at the University charged with creating a safe and secure environment. The department consists of 62 professional police and security officers and other team members dedicated to providing first-class service to the community. Officers patrol the campus on foot, by bicycle, and in vehicles. Several officers and a supervisor are on duty 24 hours a day. The Communications Center is staffed with trained and certified communications officers who answer calls for service, dispatch officers and other emergency services to incidents, and monitor intrusion detection and fire alarms. University uniformed Public Safety Officers and Police Officers, who are not in uniform, are primarily responsible for building security and enforcement of parking and traffic regulations. The non-uniformed Police Officers, and the shift supervision Sergeants and Lieutenants, who are in uniform, have the authority of commissioned police officers with full power of arrest under N.J.S.A. 18A:6-4.5 and are required to complete a rigorous basic police officer training program. In addition, specialized advanced training continues throughout their careers. The campus falls under the jurisdiction of several police agencies whose services the Department of Public Safety supplements, rather than replaces. The Department of Public Safety maintains a close working relationship with those agencies.

Local police agencies provide information to the Department of Public Safety on matters of criminal activity at off-campus recognized student activities. Crime statistics are compiled by coordination with these local police agencies and by an electronic record keeping system dedicated to the department.

Carl A. Fields Center: The Carl A. Fields Center for Equality and Cultural Understanding acknowledges, celebrates, and promotes the diverse experiences that each member of Princeton University brings to the community. In collaboration with academic departments, the Women's Center, the International Center, LGBT Student Services, and affiliated student organizations, the Fields Center acts as a catalyst for exploring critical issues on campus by initiating programs focused on race, class, gender, social justice, civic engagement, sexual orientation, and the historical and current realities that impact the understanding of these topics.

The goals of the Fields Center are to: advocate and encourage a more unified campus community by fostering cultural understanding, communication, and collaboration among and between student groups and campus departments; support undergraduate and graduate students of color by promoting student-initiated efforts and by providing timely, well-planned opportunities for civic engagement and leadership development; strengthen the greater community by preparing students for responsible citizenship in an increasingly complex and diverse society by fostering mutual respect and cultural understanding through critical inquiry and self-analysis; and, advance the use of the Fields Center as an educational resource for members of the campus community.

Women's Center: An integral part of the Office of the Dean of Undergraduate Students, the Women's Center focuses on enhancing the quality of life and enriching the experience of women in the University. The center is committed to fostering student leadership; facilitating mentorship between and among students, staff, faculty, and alumnae; and creating opportunities for dynamic discussion on a range of topics. Throughout the academic year, the Women's Center offers a diverse range of programming, such as speakers' events, film series, and discussion groups. Located in Room 243 at Frist Campus Center, the Women's Center has a conference room and a reading/resource room. It serves as a welcoming space for women of all races, ethnicities, nationalities, socioeconomic backgrounds, sexual orientations, spiritualities, and abilities, and is open to all Princeton University community members.

LGBT Center: Princeton University's Lesbian, Gay, Bisexual, and Transgender (LGBT) Center is by, for, and about lesbian, gay, bisexual, transgender, intersex, questioning, and ally members of the Princeton University community. The LGBT Center works to create a safe and supportive academic environment through educational opportunities and advocating for the needs and concerns of LGBT students. Its goal is to improve the Princeton University campus climate by coordinating efforts across campus, providing outreach to students, staff, and faculty, and working to ensure the inclusion and integration of LGBT issues campus wide, to enhance the Princeton University campus community and to ensure the advancement of students' academic pursuits by creating an open and affirming environment void of homophobia, heterosexism, and gender bias. Through educational, social, and supportive programming, along with conducting training sessions and consultation, the LGBT Center serves the entire campus community.

The Kathryn W. and Shelby Cullom Davis International Center: The Kathryn W. and Shelby Cullom Davis International Center at Princeton University offers advising, specialized services, and programs for international students and scholars, which include immigration regulatory advising and processing, cultural adjustment, social enrichment, and assistance with practical matters related to living in the U.S. The Center also acts as a site for cultural and educational programming that advances cross-cultural understanding and interaction between U.S. and international students and scholars, and promotes cultural competency across the University.

The McGraw Center for Teaching and Learning: The McGraw Center views teaching and learning as processes of inquiry. For teachers, that inquiry entails reflecting on what they want students to learn and deciding how to advance and assess that learning. For students, that inquiry involves the self-conscious questioning and awareness of their approaches to learning. Thus effective teaching and successful

learning depend on an understanding of the research on human learning. In its consultations, programs, and publications, the McGraw Center translates that research into meaningful ideas for practice for both teachers and students. It supports faculty members and instructors as they advance as teachers, graduate students as they begin their teaching practice and progress as teachers and professionals, and undergraduates as they develop as learners and scholars.

Office of Graduate Student Life: The Office of Graduate Student Life provides information, programs, and services designed to enhance student life. The Office serves as the liaison between graduate students and all others in the University community, representing the students' best interests and advising them accordingly. The Office is also linked with several other University offices that provide services to graduate students and administer the graduate programs. Financial difficulties and assistance, including short-term contingency loans; federal aid; assistance with unreimbursed medical expenses; and College Work-study are handled here. For example, the International Graduate Student Advisor reviews all admitted students' files; determines and issues appropriate documents for visa applications; provides immigration assistance; and advises on applications for extensions of stay, permission to work, change of status, and transfers to other universities. The Financial Aid Office for federally funded educational/grant programs processes about 300 applications per year and carries out needs analysis for a number of loan programs.

In addition, the Office of Graduate Student Life formulates residential and apartment life policies in conjunction with the Housing Department; recommends policies on Food Services, Building Services, Public Safety, Physical Planning, the International Center, the Women's Center, the Carl A. Fields Center for Equality and Cultural Understanding, Health Services, and Communications; initiates and evaluates ongoing orientation programs for graduate students; implements financial policies and procedures for disciplinary circumstances; coordinates student employment and the determination of salaries; and advises approximately 30 student organizations.

Field Trips and Other Off-Campus Activities
The SoA organizes and sponsors extensive travel opportunities for the M.Arch. students. These include the ongoing Japan studio as well as specific site visits, field research opportunities, conferences, and study trips organized by individual studio or seminar instructors, ranging from local travel to New York City to sponsored trips to Tokyo, Mexico City, and Saõ Paulo.

A selection of the sponsored travel over the last two years follows:

ARC 505, Graduate Design Studios, Fall 2012-13, Yusuke Obuchi, Giancarlo Mazzanti, and Liam Young. Students in Yusuke Obuchi's studio traveled to Tokyo, Japan, and met with students at the University of Tokyo; students in Giancarlo Mazzanti's studio traveled to Medellin, Colombia in a trip co-sponsored by the Program in Latin American Studies; and students in Liam Young's toured historic and contemporary sites in Mexico.

ARC 513, Contemporary Façade Design, Fall 2012-13, Bruce Nichol. The class traveled to Brooklyn and to the Pierpont Morgan Library in New York.

ARC 492, Topics in the Formal Analysis of Urban Structure, Spring 2012-13, Mario Gandelsonas. The class traveled to New York, NY to attend the Annual Regional Assembly of the Regional Plan Association.

ARC 504, Graduate Design Studios, Spring 2012-13, Alejandro Zaera-Polo. Graduate students in this studio traveled to San Francisco and Silicon Valley in California to visit the corporate headquarters of Twitter, Code for America, Future Cities Lab, Stamen Design, and IDEO.

ARC 506, Graduate Design Studios, Spring 2012-13, Jesse Reiser. The Graduate Design Studio went to Tokyo and Kyoto, Japan to visit numerous architectural sites. They also participated in a joint midterm

and final reviews with students and faculty from the Nagoya Institute of Technology, Tokyo University, as well as Tsinghua University from Beijing, China.

ARC 576, Advanced Topics in Modern Architecture: Manifesto Architecture, Spring 2012-13, Beatriz Colomina. Ph.D. students traveled to Saõ Paulo and Rio De Janiero to attend the conference "Architectural Elective Affinities: Correspondences, Transfers, Inter/Multidisciplinarity," held at the Faculdade de Arquitetura e Urbanismo, University of São Paulo, and sponsored by the European Architectural History Network. The Ph.D. and M.Arch. students in the same class also toured Philip Johnson's Glass House in New Canaan, CT.

ARC 492, Topics in the Formal Analysis of Urban Structure, Spring 2013-14, Mario Gandelsonas. The class traveled to New York City to attend the Annual Regional Assembly of the Regional Plan Association.

ARC 503, Integrated Building Studio, Fall 2013-14, Paul Lewis. Site visits to Newark, NJ and New York, NY took place.

ARC 505, Graduate Design Studio, Fall 2013-14, Liam Young. Site Visits for this studio included ones to data centers in New Jersey; a week-long trip to the states of California, Oregon, and Washington to study the development of the Internet and related technological systems.

ARC 513, Contemporary Façade Design, Fall 2013-14, Bruce Nichol. There were site visits to Brooklyn and the Pierpont Morgan Library in New York, NY.

ARC 504, Graduate Design Studio, Spring 2013-14, Andres Jaque. Students traveled to Mexico City as research for this studio on "Micro-urbanisms and Mexican Global Architecture."

ARC 506, Graduate Design Studio, Spring 2013-14, Jesse Reiser. The students in the "Japan Studio" went to Tokyo and Kyoto to visit numerous architectural and historical sites. They participated in a joint midterm and final reviews with students and faculty from Nagoya Institute of Technology, Tokyo University, and Tsinghua University in Beijing, China.

Professional Societies and Organizations, Honor Societies, and Other Campus-Wide Activities
Graduate and undergraduate SoA students have a rich environment at Princeton University and the School to engage in a multitude of student organizations and societies, and participate in other campus-wide activities. Beyond the campus, they also engage with student chapters of professional architectural associations.

Council of International Graduate Students: The Council of International Graduate Students (CIGS) is a group of international graduate students that organizes events with an international flavor, of interest to graduate students. These programs include receptions, monthly international dinners, film series, art shows, sports, trips to the New York Metropolitan Opera, workshops, lectures, and concerts. These activities and events provide opportunities for students to meet in a relaxed atmosphere, and to gain exposure to different cultures. CIGS jointly sponsors other programs and lectures on issues of international interest with related groups on campus. CIGS also helps the Assistant Dean with orientation programs for new students to ease their adjustment to living and studying in the United States.

Graduate Student Government (GSG): The GSG's mission is to advocate for the interests of graduate students at Princeton, to provide a forum for free and open discussion of matters affecting graduate students, and to provide financial and organizational support for social events within this community. In 1989, the Princeton Graduate Student Union was created through a referendum among all graduate students in order to provide a unifying voice to express graduate student concerns to the Princeton administration. During the time since its inception, students have received help and support from the administration and several service departments to bring many ideas to life. These successes have led to a working relationship with the University, which is the envy of several of our peer institutions. The GSU

organization set the precedent for the representative system currently in use. Every graduate department and program and recognized graduate student group is represented in the Assembly by a student who serves as a distributor of information to the students and source of feedback to the Assembly on a variety of issues pertinent to graduate student life. The GSU also became a sponsor of many social events geared towards graduate students. Over two-thirds of the budget from student fees goes directly towards subsidizing special events for students, ranging from film series and information sessions to holiday parties and summer barbeques.

In October 1999, the GSU changed its name to Graduate Student Government. This change highlighted the organization's representative character and growingly active role in shaping University policy through appointments to a number of University decision-making bodies. In November of 1999, the U-Council amended its charter to allow graduate students, through the GSG Assembly, the right to elect their own representatives to the Council, and members of the Council's Executive Committee, for the first time. The GSG Assembly also acquired the right to make nominations for the other committees of the U-Council, including the Priorities Committee, which makes recommendations to the Board of Trustees each January on the allocation of the University's operating budget, and the Rights and Rules Committee, which sets codes of conduct for the University and its students, faculty, and administration.

In October of 2000, the graduate student body overwhelmingly ratified a new GSG Constitution, adding for the first time a set of by-laws to grant the GSG the flexibility to fully embrace these new responsibilities and actively respond to future ones.

Other Graduate Student Organizations

African Graduate Students Network
Association of Chinese Students & Scholars at Princeton (ACSSPU)
Association of South Asians at Princeton
Bible Exploration on Campus
Black Graduate Caucus (BGC)
Butler Committee
Butler Yoga
Center for the Return to American Values and Exceptionalism; C.R.A.V.E.
DCS - Princeton
Ex-Yugoslavian Student Association
Forging Fabrication
Fr. Georges Florovsky Orthodox Christian Theological Society
Game
Giving What We Can: Princeton
Graduate Christian Fellowship
Graduate College House Committee
Graduate Entrepreneurship Forum
Graduate Economics Club
Graduate Engineering Council
Graduate Engineering Social Committee
Graduate Muslim Student Association
Graduate Princeton Evangelical Fellowship
Graduate Turkish Student Association
Graduate Women in Science & Engineering (GWISE)
Graduate Women of Color Caucus
Inventory
JGAP of Princeton (Jewish Graduates & Professionals)
Korean Graduate Student Association (KGSA)
Latino Graduate Student Association (LGSA)
Lawrence Committee
Metallurgists Engaged in Teaching & Learning
Princeton Association for India's Development
Princeton Association of Taiwanese Students
Princeton Committee on Palestine
Princeton Graduate Music Society
Princeton Open Soccer League
Princeton Research Symposium
Princeton Salsa Club
Princeton Slavic Club
Princeton Soccer Club
Princeton Students for Human Rights in China
Princeton Tai Chi Club
Princeton Tango Club
Princeton University Case Competition
Princeton University China Energy Group
Princeton University Chinese Christian Fellowship
Princeton University Folk Society
Princeton University Georgian Choir
Princeton University Graduate Consulting Club
Princeton University Mountaineering Club
Princeton University Student Veterans Organization
Queer Graduate Caucus (QGC)
Rumi Club
Thingira

Tigers With Cubs
Wesley L. Harris Scientific Society
Woodrow Wilson Action Committee
Women in Design and Architecture

Office of Religious Life: The Office of Religious Life embodies Princeton University's care and support for the many religious communities that flourish on its campus. It seeks to support all religious traditions in the practice and expression of their faith, and strongly encourages interfaith dialogue and cooperation. It also seeks, through programs and in collaboration with others, to provide opportunities for community service, cross-cultural understanding, and constructive social action.

Murray-Dodge Hall houses the Religious Life offices, the Student Volunteers Council (SVC), the Murray-Dodge Cafe, the Muslim Prayer Room, an interfaith meditation room, and a number of Chaplains' offices. It also provides space for a wide variety of worship services, student meetings, study, and informal gatherings. The Center for Jewish Life (CJL) offers programs and services for the Jewish community on campus. Ecumenical Christian services are held in the University Chapel on Sunday mornings, with sermons preached by the Deans of Religious Life and special guests, and music provided by the Chapel Choir. Opening Exercises and the Baccalaureate Service also take place in the University Chapel. The Chapel is open daily for prayer and meditation from 7 a.m. - 11 p.m. (7 a.m. - 4:30 p.m. during breaks, and 7 a.m. - 4 p.m. in the summer).

University Chapel: The Princeton University Chapel serves the entire campus community as well as the surrounding region. The Chapel provides space for numerous chaplaincies and student organizations to gather for prayer, song, and worship. The Chapel also links the Office of Religious Life to University employees at all levels who claim it as their place to celebrate and to grieve, townspeople who regard it as a civic institution, local clergy who embrace it as a truly ecumenical and inter-religious worship space, and seminary students who take advantage of it as a professional training ground.

All are welcome at the ecumenical Christian worship services every Sunday at 11 a.m. (10 a.m. during the summer), when students, faculty, staff, seminarians, townspeople, and visitors to Princeton gather. Services follow the liturgical year, and the weekly Bible readings are taken from the Revised Common Lectionary.

The Dean and Associate Deans of Religious Life preach regularly, joined by an array of nationally known guest preachers throughout the year. The Chapel Deacons are students who assist the Deans in leading weekly worship. The 80-strong chapel choir performs every Sunday, and each service is preceded and followed by a musical offering on the Grand Organ. A fellowship hour takes place immediately after the service in the narthex (vestibule) of the chapel.

Vision: The faiths represented on Princeton's campus (at present or in the last number of years) include: Aquinas Institute (Roman Catholic Chaplaincy), Athletes in Action, Baha'i Club, Baptist Student Fellowship, Center For Jewish Life, Faculty Commons, Christian Science Organization, Episcopal Church at Princeton, Gospel Ensemble, Hallelujah!, Hour of Power, IMPACT, Intervarsity Christian Fellowship, Jehovah's Witnesses, Latter-Day Saints, Lutheran Campus Ministry, Manna Christian Fellowship, Muslim Students' Association, Orthodox Christian Fellowship, Princeton Buddhist Students' Group, Princeton Chabad Student Group, Princeton Evangelical Fellowship, Princeton Faith and Action, Princeton Graduate College Intervarsity Christian Fellowship, Princeton Hindu Satsangam, Princeton Presbyterians (Westminster Foundation), Seventh-Day Adventists, Unitarian Universalist Campus Community, Wesley Foundation (Methodist), and Yavneh House.

The Pace Center: The Pace Center was founded in 2001. It is named for John Pace Jr., a member of Princeton's class of 1939, and his wife, Augusta Pace. As part of a continuing effort to make Princeton University a "center of excellence" for civic engagement and community service initiatives, Community House and the Student Volunteers Council joined the Pace Center on July 1, 2007. While each of these organizations will remain in its current location and continue to offer its own programming, the organizational change is intended to facilitate collaboration in support of their common goal of providing meaningful opportunities for every Princeton student to understand and take action on public problems.

The Student Volunteers Council: The Student Volunteers Council promotes an ethic of community involvement and works to foster and strengthen partnerships within the community. The Student Volunteers Council is the largest student-run organization at Princeton University. Heir to a long tradition of student volunteerism at Princeton, the SVC dates back to the establishment of the Philadelphian Society in 1825, affiliated with the Office of Religious Life. In 1967 the SVC adopted its current organizational structure and since then has adapted and reshaped itself at various junctures in response to an ever-changing campus and community, joining the Pace Center in 2007 in an effort to streamline initiatives for civic engagement at Princeton.

Community House: Community House is a diverse gathering of Princeton University students and staff committed to responding to needs identified by the community to enrich, empower, and renew the lives of underserved children and families in the Princeton Borough and Township by providing educational, cultural, and recreational programs.

AIA New York Chapter/ Student Memberships: The School of Architecture encourages student memberships to the AIA New York Chapter through the Center for Architecture, and distributes a limited number of free passes to the Center for Architecture events. Benefits of membership include: a subscription to Oculus, the Chapter's quarterly magazine; free admission to most AIA New York Chapter events; e-Oculus and calendar, the Chapter's electronic newsletter; advance notice of Center for Architecture and AIA New York Chapter events; special invitations for Center for Architecture and AIA New York Chapter events; opportunity to serve on AIA New York Chapter Committees; a complimentary copy of the AIA New York Chapter Directory and Center for Architecture Handbook; and discounts on items purchased at the Center for Architecture, including AIA documents.

Architectural League of New York: The School of Architecture maintains an institutional membership at the Architectural League of New York and encourages student membership. The mission of the Architectural League is to advance the art of architecture. The League carries out its mission by promoting excellence and innovation, and by fostering community and discussion in an independent forum for creative and intellectual work in architecture, urbanism, and related disciplines. It presents the work and ideas of the world's most interesting and influential architects and designers to New York, national, and international audiences through lectures, exhibitions, publications, and the worldwide web. The League identifies and encourages talented young architects through competitions, grants, exhibitions, and publications. SoA faculty Paul Lewis and Nat Oppenheimer are members of the board of directors.

Facilitation of Student Research, Scholarship, and Creative Activities
The SoA is committed to facilitating student research, scholarship, and creative activities. These outlets of activity are supported formally and informally by the School. Students in each graduate program, including the M.Arch. students, have, at a case-by-case basis, access to additional financial support from the School to fund their participation in or organization of conferences, lecture series, and other scholarly and creative activities. Starting in fall 2014, every SoA graduate student now has up to $800 each year to cover travel expenses associated with conferences and similar scholarly activity he or she is invited to present. Students are involved in faculty-led research throughout the year, particularly in the summer while working at the faculty member's practice. They subsequently contribute, and in some cases, co-author papers and publications with faculty and other students. Other channels for creative and scholarly activity have been the School's student-run publications, such as *Pidgin*. The School encourages its students to attend student organization and honorary society meetings, and its institutional memberships in the Architectural League and AIA New York Chapter provide discounts on student memberships.

Research Awards and Prizes: At the close of each academic year, the SoA faculty collectively identifies a number of prizes and awards for the undergraduate, M.Arch., and Ph.D. students. The following are available to M.Arch. students:

The Alpha Rho Chi Medal is awarded to a graduating student in the Master of Architecture program who has shown leadership, performed willing service for the School and department, and demonstrated promise of professional merit through his or her attitude and personality.

The Henry Adams A.I.A. Medal is awarded annually to the graduate student in the professional Master of Architecture program who has compiled the best overall academic average. The purpose of the award is to recognize the student whose record combines outstanding work in design with an excellent academic record in coursework.

The Henry Adams A.I.A. Certificate is awarded annually to the graduate student in the professional Master of Architecture program who has compiled the second best overall academic average.

The Howard Crosby Butler Traveling Fellowship in Architecture was established in 1961 under the will of Professor Butler, Class of 1892, and a member of the SoA faculty from 1896 to 1922. The prize supports graduate student research in preparation for the thesis and is open to all second year professional degree candidates.

The John A. Curtis Fund is awarded to graduate and undergraduate students who will work on projects or undertake a course of study in Japan with the purpose of facilitating contacts between SoA students and the architectural community of Japan. Since it is not a prize or award, the support from the Curtis Fund can be distributed throughout the year.

The School of Architecture History and Theory Prize, established in 2012, is awarded to the graduate student, including in the professional Master of Architecture program, who has demonstrated excellence in their course work in the history and theory of architecture.

The Suzanne Kolarik Underwood Prize was established in 1989 by the Kolarik-Underwood family, and is awarded to a graduate student who has demonstrated superior ability and talent in his/her architectural design studio work during the second year of the Master of Architecture program.

Student-Organized Exhibitions, Lecture Series, and Conferences: The graduate students also organize annual exhibitions, lecture series, and conferences (see above for select exhibitions organized by SoA students), of which the last two academic years are listed below. Every year the undergraduate and graduate students work cooperatively to coordinate a film series.

September-November 2012, Student Lecture Series, "Subject to Change."

March-April 2013, Undergraduate Lectures: Junior Independent Work Pavilion Series.

March-May 2013, Ph.D. Lecture Series, "Conversations on Writing: Methods, Procedures, Protocols": This lecture series is an opportunity for emerging and established art/ architectural historians and theorists to individually present drafts of work-in-progress in an intimate and informal workshop setting to doctoral students at Princeton SOA. While the topics addressed in the series represent a wide range of interests and methodologies, the workshop has been a useful format to discuss a variety of historical and contemporary issues, interdisciplinary concerns, methodologies, and historiographical debates.

February 15-16, 2014, "Forging Fabrication: Prototyping Ideas": This conference was organized by Nicholas Pajerski and Brendan Shea, M.Arch. '14. Speakers included Jason Kelly Johnson of Future Cities Lab and California College of the Arts; Andrew Witt, Gehry Technologies and Harvard Graduate School of Design, and Axel Kilian, Princeton School of Architecture. This event was sponsored by the Graduate School, Program in American Studies, Program in Latin American Studies, and Princeton Institute for the Science and Technology of Materials (PRISM).

April-May 2014, Student Lecture Series, "Craftwork": The spring student lecture series suggests an expanded exploration of the role of craft within contemporary architectural practice.

February-April 2014, Ph.D. Lecture Series, "Conversations on Writing: Methods, Procedures, Protocols": See above.

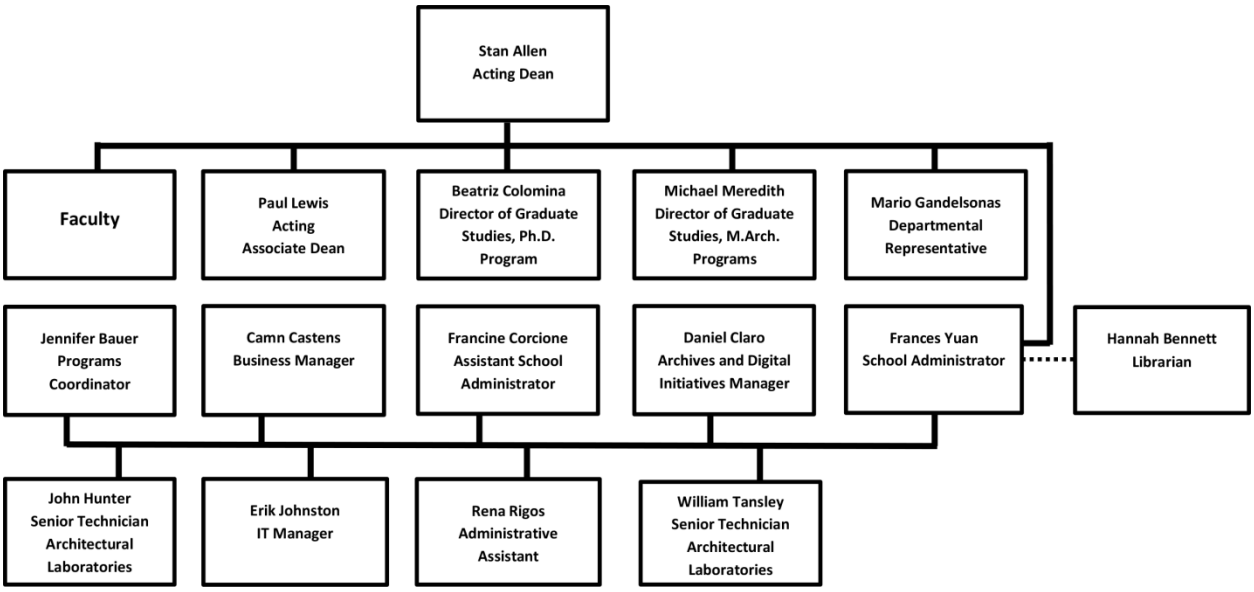
I.2.2. Administrative Structure & Governance

University Administration
Princeton University is directed by a 40-member Board of Trustees and led by President Christopher L. Eisgruber, who works with a body of academic and corporate officers who oversee and manage the operations of the University (http://www.princeton.edu/pub/profile/officers/). The trustees approve the operating and capital budgets, supervise the investment of the University's endowment, and oversee campus real estate and long-range physical planning. They also exercise prior review and approval concerning changes in major policies, such as those in instructional programs and admission, as well as tuition and fees and the hiring of faculty members. The President is charged with the general supervision of the interests of the University and has special oversight of the various departments of instruction.

School of Architecture Administration
The School of Architecture is an academic unit that belongs to the Humanities division (Division I), which is one of four academic divisions within the University. As of one of three schools at Princeton, the SoA sponsors and carries out programs of education and research in architecture and urban design. The School also functions as an academic department at the undergraduate and graduate level, conducting programs of upper-class concentration and graduate programs of professional education for careers in architecture and urban design.

The School's administration is under the leadership of a dean with the SoA faculty sharing academic responsibilities in varying degrees. Supporting the Dean is an Executive Committee consisting of two Directors of Graduate Studies, who separately oversee the M.Arch. and Ph.D. students, and a Departmental Representative, who directs the undergraduate students. The School Administrator, who provides operational management for the School, supports the School's administration, and oversees the non-faculty employees at the School. The academic duties of the Dean, the Directors of Graduate Studies, and the Departmental Representative are all defined by University guidelines that are interpreted by the Dean of the Faculty, the Dean of the College and the Dean of the Graduate School. The organizational structure of the SoA, with all personnel identified follows; specific responsibilities are described below:

School of Architecture Organization Chart



NB: Hannah Bennett, Architecture Librarian, reports to the University Librarian.

Degree Programs Offered by the School of Architecture
The School of Architecture administers a number of different yet complementary degree programs. As noted above, all programs housed in the School of Architecture share a unified faculty and a single administrative structure. The degrees offered at the School of Architecture are:

- Bachelor of Arts with a concentration in Architecture
- Professional Master of Architecture (accredited)
- Post-Professional Master of Architecture
- Doctor of Philosophy in Architecture
- Doctor of Philosophy in Computation, Energy, and Technology in Architecture

Certificate Programs: At the undergraduate level, students may earn a certificate by completing the requirements in one or more of the certificate programs offered by the University in addition to their departmental concentration. At the graduate level, the Program of Media and Modernity offers a program certificate at the M.Arch. and Ph.D. level.

- Program in Architecture and Engineering (joint undergraduate program with the Department of Civil and Environmental Engineering)
- Program in Urban Studies (undergraduate)
- Program in Media and Modernity (M.Arch. and Ph.D.)

Dean: The Dean of the School of the Architecture, as an academic officer of the University, is responsible to the President and the Board of Trustees for the administrative oversight of the School; for planning and development; and for the coordination and maintenance of the School's relationship with other University departments and offices. Reporting directly to the Provost, the chief academic and chief budgetary officer of the University, the Dean also has all the responsibilities of a department chair, and oversees all aspects of the School, both organizational and academic. The academic responsibilities are shared, in varying degrees, with the faculty. The Dean appoints a Faculty Search Committee, which advises the Senior Faculty. The members of the Committee, in consultation with the Dean, are responsible for making recommendations to the Dean of the Faculty concerning promotions and appointments in the School.

The Dean is expected to define policy issues for the School, and to do everything possible to strengthen the School and ensure its continuity. He works within the conventions of the academic environment, transmitting University policy to the School's faculty and staff, and representing the School to the Central Administration. His main responsibility is to ensure a future for the School by recruiting high-caliber faculty who will succeed in gaining tenure, and whose contributions will energize the School. He advises and counsels the non-tenured faculty with regard to their academic careers and their preparation for tenure review.

The Dean is responsible for planning the year's tasks, staffing the various design studios, lectures, and seminars. He hires part-time faculty as necessary to meet fluctuating student loads while remaining within the FTE budget assigned by the Dean of the Faculty. He reviews all requests for leaves, sporadic and scholarly, and makes recommendations for grant requests by the faculty, and for salary levels for all faculty.

The Dean meets four times per academic year with the President, Provost, Dean of the Faculty, the deans of the School of Engineering and Applied Science and the Woodrow Wilson School of Public and International Affairs, and chairs of the other academic departments. The entire University faculty meets as a body each month. All members of the faculty are expected to attend, and the Dean is responsible for representing the School and its interests at these meetings.

Directors of Graduate Studies: The Dean annually appoints two members of the faculty as Directors of Graduate Studies, one for the M.Arch. programs and a second for the Ph.D. program. Faculty members appointed to these positions liaise among the Dean, the graduate students of the School, and the Graduate School administration. The duties of the Directors of Graduate Studies are clearly outlined by the Office of the Dean of the Graduate School (add link to DGS handbook) and include, but are not limited to: academic advising; record keeping on all graduate students; and reviewing all University policies and regulations to ascertain that all graduate students are in compliance. The Directors of Graduate Studies maintain regular office hours to meet with students. During the course registration period at the beginning of every semester, the Directors of Graduate Studies meet with each student to review the student's proposed schedule, keeping in mind the student's academic record and the degree requirements that remain to be completed.

Departmental Representative: The Departmental Representative is the School's liaison between the Dean, the undergraduate students of the School, and the College administration. Appointed each year by the Dean, the duties of the Departmental Representative are clearly outlined by the Office of the Dean of the College and include but are not limited to: academic advising; keeping records on all undergraduates; and reviewing all University policies and regulations to ascertain that all undergraduate students are in compliance. During the period of preregistration for courses, the Departmental Representative meets with undergraduates to review their programs of study. In addition, the Departmental Representative keeps regular office hours and meets with students to discuss issues of concern to them.

School Staff

School Administrator: The School Administrator is responsible for the fiscal and physical administration of the School. The Administrator reports to and assists the Dean in all matters, including faculty staffing, space allocation, course offerings, and student affairs. The Administrator maintains and reviews the School's operating budget, as well as the income from various endowed accounts and sponsored research. The Administrator supervises a staff of two office support members, four members of the administrative ranks, and two members of the lab and shop staff. The Administrator prepares material for annual reports to the President of the University and the NAAB. The Administrator coordinates the Faculty Search Committee activities, including scheduling interviews with candidates, preparing materials for meetings, and meeting with candidates to discuss University benefits and policies. The Administrator coordinates individual faculty schedules for the scheduling of classes. In addition, the Administrator supervises the updating and rewriting of all publications including the SoA brochure, student handbooks, and the *Undergraduate Announcement*. When necessary, the Administrator meets with and counsels

students on matters concerning the School, including space allocation, scheduling conflicts, security, and personal concerns. The Administrator works with the Dean in setting policy and procedures. The Administrator serves as administrator to the Center for Architecture, Urbanism, and Infrastructure, the Program in Media and Modernity, and the Program in Urban Studies, providing administrative support to the faculty associated with these three programs.

Assistant School Administrator: The Assistant School Administrator assists the School's Administrator in carrying out the administrative responsibilities at the School of Architecture. The Assistant School Administrator is responsible for organizing the lectures and exhibitions held throughout the school year, and acts as the managing editor for all SoA publications, including the annual Programs Brochure and the *Princeton Papers on Architecture* series. The selection of lecturers and exhibitors is done by faculty members appointed by the Dean, and the Assistant School Administrator is responsible for all administrative details, including travel arrangements, publicity, reception organization, and the supervision of students who install the exhibitions and who assist during lectures. The Assistant School Administrator is responsible for all of the administrative arrangements for the three international graduate design studio trips, as well as domestic travel for studio trips, graduate and undergraduate. She expedites the processing and procuring of visas for international travel, where necessary. Additionally, she works with Princeton's University Health Service's Travel Planning Services to ensure that students have proper travel immunizations, receive specific information about local health risks and recommended precautions, disclose any health condition which may result in a medical emergency abroad, and obtain adequate medicine for the duration of the trip. She also obtains, reviews, and provides the students with the relevant U.S. Department of State Travel Advisories, including Public Announcements, Consular Information Sheets, Travel Information, Tips for American Students Abroad, and the ISOS information. She coordinates all travel, hotels, car services, meals, and ensures that all expenses are within budget limits.

Business Manager: The Business Manager administers the School's finances, from operating budget and endowed gifts and term funds, to accounts. Her responsibilities include purchasing, creating and maintaining monthly projections for project grants, clearing deficits/credits, and finalizing expired accounts. She also manages current account files and reconciles accounts monthly, as well as prepares financial reports for budget projections, and works with the School Administrator to facilitate decisions concerning departmental financial commitments. The Business Manager is responsible for maintaining detailed budget records and reports, detailing expenditures, and forecasting total yearly expenditures for review by the Dean and Administrator. She ensures compliance with intended purpose for grants/awards and endowed funds as indicated in deed of gift. She is responsible for disseminating policy and regulation changes to department faculty, students, research and administrative staff, and students, and coordinates with the School Administrator in providing guidance to faculty, staff, and students on how best to reach their goals while meeting compliance requirements in accordance with University policies and procedures. The Manager is responsible for visitor honoraria paperwork and payments. The Business Manager also prepares requisitions, direct purchase orders, and vendor check requests on a daily basis, and processes these documents in accordance with established University procedures. The Business Manager must resolve problems with products, supplies, and equipment for the School, and works with vendors to obtain competitive bids for these items. She assigns, reviews, and approves the work of the School's work-study students, as well as enters and approves hours for casual hourly employees and graduate students working as research or teaching assistants**.** In addition to the financial and administrative duties described, the Business Manager works with members of the faculty on grant reimbursements, as well as makes travel arrangements for the Dean, jury and lecture visitors, and studio class trips.

Programs Coordinator: The Programs Coordinator assists the Directors of Graduate Studies, the Departmental Representative, and the Director for the Program in Urban Studies with duties involving academic matters, as well as other aspects of student life pertaining to the School. Specific duties include: handling course evaluations, course scheduling, fellowship and funding information, grade changes and grade submissions, graduate admissions, and re-enrollment issues. The Programs Coordinator has the added duty of handling prospective student inquires through both verbal and written

correspondence, as well as to provide tours of the Architecture School's facilities. The Coordinator works closely with various on-campus departments, such as Graduate Admissions and the Registrar's Office, in completing academic projects in a timely manner. The Coordinator also monitors current students' academic records and the completion of departmental requirements; maintains records of graduate students' financial awards; and organizes the process in which applicants for admission are selected. In addition, the Programs Coordinator arranges for the selection of the Assistants-in-Instruction and the School prizes.

Administrative Assistant: The School's Administrative Assistant functions as the School receptionist and Dean's scheduler. The Office Secretary is responsible for answering the telephones of the main office and the faculty offices, routing telephone calls to the proper office both at the School and at the University, and greeting visitors to the School. The Administrative Assistant schedules the use of the Architecture Building classrooms and Betts Auditorium for School purposes and for outside groups. She also maintains the Dean's calendar and schedules his meetings. The Administrative Assistant is also responsible for updating and maintaining the alumni database, and maintains the database created each year to manage requests for information on the School's undergraduate, master's, and Ph.D. programs, as well as a database for managing current student records. The Administrative Assistant is responsible for distributing and collecting keys to the offices and student desks and the deposits required. She also sorts and distributes mail, and helps facilitate the School's special events support. In addition, the Administrative Assistant is responsible for office supplies and the routine maintenance of office equipment: copier, postage machine, printer, and FAX machine.

Archives and Digital Initiatives Manager: Formerly the Visual Resources Curator, the Archives and Digital Initiatives Manager administrates the SoA website, related microsites, and online media outlets, develops collections databases, initiates and manages digitization efforts, provides reference services for SoA analog and digital archives, writes grants to support archival projects, specifies educational technology in classrooms and galleries, collects student work, facilitates the photography and recording of events, loans AV equipment, maintains a photo studio, coordinates digital exhibitions, houses the School's registered student groups, and coordinates with the University's Offices of Communications and General Counsel concerning copyright questions and concerns related to image use and web publishing.

IT Manager: The IT Manager, also previously known as the Computer Administrator, supports the use of computers by faculty, staff, and students in the School of Architecture as required by both the undergraduate and graduate design studio curricula. All M.Arch. students are required to maintain a computer at their desk as part of their studio equipment. Undergraduate concentrators are encouraged to maintain a computer at the School, but are not required. The number of student computers totals in excess of 70. Administering these student machines includes the installation and use of required software, establishment and maintenance of network connections, troubleshooting and advising students on hardware problems, and the maintenance of shared peripherals. The IT Manager is also responsible for the maintenance and upkeep of the Computing and Imagining Facility in the School of Architecture. Additional responsibilities include the setup of student accounts, the physical setup and relocation of systems, maintenance of software licensing, administration of several Microsoft Windows 2000 servers (for security, printing and file sharing), and hardware upgrades as required. The maintenance and upkeep of the administrative and faculty computers in the School of Architecture also falls to the IT Manager. The IT Manager maintains the database of all hardware at the School in the Computing and Imagining Facility, administrative and faculty offices, and software used at the School. He also serves as a liaison between the School, the Office of Information Technology, and software and hardware vendors. Finally, one of the key responsibilities of the IT Manager is to make recommendations to the Dean for hardware and software that will further the mission of the School.

Architecture Laboratory Technicians: The architecture laboratory technicians manage and supervise all aspects of the SoA's two laboratory facilities. They work with students to help construct models and studio projects; oversee the maintenance and special projects at the School of Architecture Building; construct special furniture and furnishings at the School; order materials; and consult with students and faculty on School projects. They assist in labs for undergraduate and graduate structures classes. They

supervise a team of graduate students shop monitors, and maintain and repair lab equipment. Throughout the school year they conduct orientation and training sessions in tool safety, nomenclature, and proper shop usage. The technicians manage the online scheduler for the laser cutters, milling machine, and 3-D printer.

Faculty, Staff and Student Involvement in the School's Governance: As described in Part I, Section 1.5. (I.1.5.), Program Self-Assessment, the SoA aims to operate in a highly transparent and collaborative manner, where faculty, students, and staff have multiple opportunities and outlets to participate in the School's governance. Faculty and student committees are the means for such involvement and self-assessment, and consist of:

- Regularly scheduled SoA meetings for all members of the SoA community;
- Full faculty meetings, which include all part-time faculty;
- Core faculty meetings, which include all full-time faculty, and visiting faculty with continuing appointments;
- Student representatives meetings, which entail elected representatives from the accredited M.Arch. program and SoA administration; and
- SoA staff meetings, which are for the SoA department (non-academic) staff.

Dependent on the need or issue, the Dean may also appoint an ad-hoc committee to address a topic under consideration. Students are included in these committees, when appropriate. For the 2014-15 academic year, new committees on diversity and facilities/space will begin meeting in the fall. Two additional committees focused on curriculum and finance will be launched later in the 2014-15 academic year.

I.2.3. Physical Resources

The School of Architecture is located in two buildings: the Architecture Building on Princeton University's main campus, and the Architectural Laboratory, a separate facility in the University's science neighborhood. The Architecture Building houses most of the School within its three floors. This includes the SoA's administrative and faculty offices, studios, classrooms, conference and seminar rooms, jury and exhibition areas, architecture library, visual resources collection and archive, shop/fabrication facilities, and computer facilities. All of the facilities meet ADA accessibility requirements,

Offices: All faculty members and most administrative staff are given the use of an office at the School. Offices are grouped in the administrative wing of the building, and the School is able to give each full-time faculty member a private office equipped with standard office furniture, a telephone, and a personal computer with an Internet connection. Administrative staff also have private offices, with the exception of administrative support and temporary support staff, who have a shared work space in the front office. Administrative and faculty offices are either equipped with a local printer or have access to the School's laser printers via the network. Due to space considerations, part-time and visiting faculty share office space.

Studios: The School's studio space totals 12,555 square feet. It is divided into two undergraduate and three graduate studio areas, with fixed student workstations. Each work station contains the following furniture and equipment: two 3' x 6' work tables; two drafting lamps; one task chair; and one locking steel cabinet. Shared privacy panels placed between individual desks were taken away during the summer of 2014 to open up the studio. Each student has access to one data jack and exclusive use of two wall outlets. Extension cords approved by the University's Electrical Shop are affixed to each work station. The studios contain a fire suppression system in the form of sprinklers, as well as fire doors and curtains in the stairwell.

Classrooms and Betts Auditorium: Within the Architecture Building, the School has two officially recognized classrooms and an auditorium for classes, public lectures, conferences, and other large meetings. The classrooms (N-106, and N-107) used for seminars and precepts vary in size,

accommodating up to 40 students. Betts Auditorium has 88 fixed seats, moveable chairs, and fixed benches. Additional teaching spaces include a faculty conference room (S-118) in the administrative wing of the Architecture Building, gallery spaces on the first floor, a gallery space on the second floor, and many informal spaces around the building.

Both the Registrar's Office and the School maintain classroom and auditorium furnishings and equipment. In 2011-12, Betts Auditorium received a much-needed upgrade to its carpet, fixed seating, moveable chairs, and benches. In 2014, we received a new Canon RIALiS projector and HDMI input in Betts, which provides HD images and digital sound; a blu-ray player; and equipment to facilitate video recording and streaming. The audio and lighting infrastructure in Betts has not needed changing since 2009.

As in Betts, our primary classrooms (N-106, and N-107) are Registrar-owned, so we work with a "Classroom Committee" to specify and improve the equipment housed in those rooms. In 2009, the University mounted new NEC projectors in Betts Auditorium, N-106, and N-107 (note that existing slide projectors remained in place). These digital projectors are high quality general-purpose machines, but they cannot display line drawings well. With that upgrade came a complicated control panel system that took much effort to function consistently and gain faculty support. To make the classrooms more accessible, we installed classroom computers in 2010-11. These Mac Mini computers, mounted on carts and connected to the existing audio and visual infrastructure, allow anyone to walk in and begin a presentation using existing resources. Since 2009, we have requested new projectors with HDMI and/or DVI connections for better contrast and higher resolution output.

Teaching spaces that are not Registrar-owned are the School's responsibility to maintain. Historically, N-104 had no projection capability; a projector needed to be rolled-in on request. To remedy this, in 2011 we mounted a projector in the room and connected it to a Mac Mini room computer. Other teaching spaces include S-118, the second floor gallery space, the Mezzanine, and the main galleries. These spaces have all utilized the six rolling LCDs, which provide both a computer and an HD screen. We attach computer speakers to these portable systems to support the need for sound. In addition, we have five portable projectors for student exhibitions.

Jury and Exhibition Areas: Public design juries for studio and thesis are held in the School's exhibition gallery spaces on the first floor, the pin-up space on the second floor in the middle of the design studios, and our classrooms. Interim reviews during the semester happen all over the building as needed. In spring 2009, moveable 8' x 8' pin-up partitions were added to the exhibition gallery spaces on the first floor. These added pin-up space and the ability to partition both galleries. In 2010-2011, we added six rolling LCD stands—designed and fabricated in house—to the exhibition gallery area. Each has a 42" LG LCD screen, a Mac Mini computer, and wiring to connect a laptop. These screens travel around the School for reviews and exhibitions. In 2013, pin-up areas were added to the basement floor and the south side of the Architecture Building.

The School has always held public exhibitions in its galleries, from overviews of contemporary architects' work and artists' installations to student and faculty research projects. In fall 2013, we added three permanent partitions on the north and south sides of the gallery to serve as projection walls and extra pin-up spaces. To create an immersive digital exhibition space, we installed four high-lumen NEC projectors driven by sign units with parabolic speakers attached. The addition of opaque shades on all north and south windows helps manage ambient natural light. Since the new projector locations required wiring new power outlets, we were able to run one much needed set of power outlets to the south gallery (which previously had no power). During final reviews, this space is available to students.

Architecture Library: As a division of Princeton's Firestone Library system, the Architecture Library is located in the Architecture Building, embodying a 4,775-square-foot area. Its holdings are focused on current publications in architecture, urbanism, and landscape. Renovations occurred to the space in 2012 when the library's facilities were updated with new carpeting, furnishing, carrels, a book scanning station, and shelving. Additionally, staff offices and the circulation desk area were fully remodeled. (See I.2.5. Information Resources for more detailed information.)

School of Architecture Archive and Audio-Visual Resources Collection: Located on the ground floor of the Architecture Building (S-11), the SoA Archive and Audio-Visual Resources Collection consists of three main collections—images (64,000 slides and 70,300 digital images), recordings (1300 analog cassette tapes, 35mm slides, VHS, MiniDV and Hi-8 video tapes), and student work (approximately 600 studio and thesis projects)—and the SoA Archive. The SoA Archive houses materials of historic value related to the history of the School. These include selected students' thesis projects, student files, school files, and the Jean Labatut collection, which includes papers, slides, and drawings that Labatut donated to the School. The Archive and Audio-Visual Resources Collection also provides equipment for creating and exhibiting digital media. These resources are available to faculty and students and include a photo studio. (See I.2.5. Information Resources for more detailed information.)

Architecture Laboratory and Shop Facilities: The Architecture Laboratory and Shop facilities comprise of two distinct teaching and fabrication laboratories. The first is known as the Architectural Laboratory, and is a facility separate from the Architecture Building. It is located south of the Jadwin-Fine Complex and the Frick Chemistry Building, near Princeton Stadium and Jadwin Gymnasium. Access is off Washington Road. The second is the SoA Shop, a 1,830-square-foot space located in the basement floor of the School that was created as part of larger building renovations completed in 2007. The Architectural Laboratory provides additional teaching and research facilities and workshop space which includes a six-axis robotic arm; plans are underway for significant renovation of this building, which will house a new Center for Embodied Computation.

The School's primary shop space is located in the lower level of the School's building. Students have access to a full range of shop equipment and digital fabrication facilities. Trained technicians assist students in the training, safety, and use of the equipment, as well as the construction of model bases or exhibition elements. The shop is equipped for building in wood, plastic, and metal, enabling students to build and test a full range of models for design studios and design seminars.

The School's digital fabrication facilities are housed in the SoA Shop, recognizing that it is no longer easy to draw a clear line between digital and physical fabrication techniques. At present, the SoA Shop houses two Universal Laser Systems (ULS) X-class 60-watt large bed laser cutters; a Precix 4' X 8' 4600 Series computerized router table; and a Z Corp. (3-D Systems) Z-650 color 3-D printer.

Model-making at the SoA often combines digital and analog technologies, and the location of these facilities as part of the School's primary shop encourages hands-on experimentation with diverse model-making techniques and materials. All computerized equipment can be utilized after the completion of orientation and training sessions, although the Precix router and the Invision HR 3-D Printer are usually assigned to design studios and/or seminars.

The School actively encourages the use of models in design studio, and the Shop is heavily used during the academic year. The labs are staffed by skilled technicians from 9:00 a.m. to 12:00 a.m., Monday through Thursday; 9:00 a.m. to 9:00 p.m. on Fridays; and 10:00 a.m. to 5:00 p.m. on Saturdays and Sundays. Provisions are made to keep the facility open for additional hours, when necessary. Laser cutters are available via secure ID card access 24/7 to all certified graduate-level students. The SoA Shop also utilizes trained graduate-level shop monitors to assist their fellow students with fabrication, file set-up, and materials preparation, and to extend the hours of operation of the SoA Shop. Orientations regarding shop safety and machine operation and nomenclature is mandatory for all students using either of the laboratories, and are given at the beginning of every semester. All undergraduate students are supervised at all times when the laboratories are open. The shop technicians have expertise in new digital fabrication techniques, and can assist with file set-up and the operation of the equipment.

Adjacent to the SoA Shop is the Visual Studies Laboratory (VSL). This is a smaller model-making workshop that houses light weight power tools, a foam cutter, and hand tools. After completing an orientation program, all graduate-level students are granted 24-hour access to the VSL, which is primarily

used for study models and material experiments. A paid student monitor supervises the VSL, keeps the tools clean and organized, and brings any problems to the attention of the shop technicians.

The Architectural Laboratory is a separate, 5,000-square-foot facility constructed in 1949 that allows for heavier fabrication work, hands-on material experiments, and the construction of full-scale mock-ups. Courses in design and construction at the undergraduate and graduate levels have met in the Architectural Laboratory for weekly labs during both the spring and fall semesters. With the School's focus on parametric design, robotics, and fabrication, and the acquisition in 2012 of an ABB 7600 Robotic Arm, the Labatut Pavilion (also known as the "Cage"), with its 32' ceiling, is being restored to its original condition as a working research laboratory. The Architectural Laboratory houses facilities for building in wood, plastic, metal, and concrete, and enables students to learn general model theory, build and test models of actual buildings, and study current building systems and technology. Courses in design and construction both at the undergraduate and graduate levels meet in this facility for a weekly workshop during the academic year. The School has received permission for a major upgrade to this facility, which will house the center for Embodied Computation described in detail elsewhere.

Computing Resources
Computing is an integral part of nearly all aspects of architectural design and research today. The School is committed to training all students in the productive use of the most advanced design and imaging technologies, as well as leading the field in the critical examination of the implications of these new technologies in architecture and urbanism. Drawing on a broad range of sources and expertise, faculty and students engage in an open-ended investigation of the new potentials for computer technology within the specific demands of architecture as a discipline. These include spatial modeling, simulation of program and use, the generation of formal and organizational strategies, digital fabrication, and rapid prototyping.

The School of Architecture is equipped with wired data ports and wireless access points throughout the building, including the design studios, gallery, classrooms, and all office spaces. Students can connect to School resources from anywhere on campus, including their University residence, at no additional charge. The University provides students and faculty with network storage space and Google exchange e-mail accounts. For the purposes of completing work in the design studio, every Master of Architecture student is required to purchase their own computer, and the School provides each student with access to a consistent software package. The specific requirements and available software are described below. Support is available to students who cannot afford to purchase a computer. In addition, the School's computer administrator provides network "scratch space" for students to temporarily store large files and collaborate with other students and faculty. Through the University's Virtual Private Network (VPN) server, students and faculty are able to remotely access resources and data located at the School. The Computer Administrator, using remote access software (currently Dameware Mini Remote Control and Bomgar), is able to troubleshoot and administer the School's servers, printers, and desktop computers from anywhere internet access is available.

Each classroom is equipped with a ceiling-mounted projector. The projectors can be connected to an Apple Mac Mini, located on a cart in each room, or connected directly to faculty and student notebook computers. Cables and VGA adapters are provided by the School.

The School also maintains 4 HD Projectors. They are ceiling-mounted in the gallery. These projectors are provided to encourage faculty and students to produce and display digital exhibitions.

In addition to the classroom computers and projectors, the School maintains six mobile technology carts for use in the classrooms, studio, or faculty offices. These carts consist of a 47" LCD HD display, an Apple Mac Mini and various cables and adapters.

Computer-Aided Design: This facility is a cluster of workstations and peripherals maintained for the purpose of helping students and faculty to embrace the latest developments in computer-aided design in their work. Classes in digital technologies meet in the CAD classrooms, which are configured with

projection, individual workstations, and a podium to facilitate effective teaching in digital media. The lab is open 24 hours a day with unlimited access to software and printing. Faculty and support staff members are continually reviewing new software and other developments in the field to ensure that the most appropriate and up-to-date software and equipment are available for student use.

Hardware:

- Twenty-two Dell Precision Workstations
- Ten Apple 27" iMac workstations
- Windows 7 and Max OSX
- 8-16GB RAM
- 2GB discrete graphics cards
- Built in Media Card readers
- Networked and internet ready
- CD-RW, DVD-RW, media card readers
- Twenty-two 27" high resolution displays
- Two Oce' Colorwave 650 44" color plotters
- One HP Designjet T1200 44" color plotter
- Two Xerox Phaser 7800 11"x17" color laser printers
- Two large format Canon scanners.
- Two NEC color LCD projectors (ceiling mounted and mobile cart)
- Full-time, on-site technical support

The School of Architecture requires that all incoming students in the Master of Architecture programs own and maintain a computer on their desktop for the duration of their enrollment, as part of the basic equipment necessary for the education of an architect. Student computers must meet minimum requirements as outlined in this memorandum. For an annual fee of $350, the School of Architecture supplies drafting software, around-the-clock use of our private computer lab, unlimited plotting (including paper and ink), and software support during normal business hours (including technical and design support). The $350 fee can be paid in two installments of $175 at the beginning of each semester.

Hardware Requirements for Incoming Master of Architecture Students, Fall 2014 (Windows-based systems):

	M I N I M U M (~ $1700)	P R E F E R R E D (~$2500)
Processor:	Intel Dual Core i5 2.3GHz (or better)	
RAM:	8GB	16GB
Hard drive:	500GB SATA or better	
Video:	500MB RAM, AGP OpenGL compliant	2GB RAM, AGP OpenGL compliant (or better)
Monitor:	19 inch HD LCD (or better)	
Printer:	Optional	
Network Adapter:	10/100 PCI Ethernet / Wireless (or better)	
Sound:	Optional (purchase headphones)	
Removable storage:	DVD+/-RW	32GB Flash drive; ext. HD; media card reader
Operating system:	Microsoft Windows 7 or 8	
Warranty:	Warranty and Service Contract must cover the length of time you will be at Princeton	

Additionally, you will most likely want to purchase the latest version of Adobe Creative Suite. While Photoshop, Illustrator, In Design, After Effects, and Acrobat are available on the computers in the Computer Lab, the School does not provide this software to our students.

The small displays provided by notebook and laptop computers make designing a challenge. Therefore the School recommends that students purchase a separate 19" or larger display to keep in the studio.

Software: The following software is available to students, either in the CAD Lab or over the School's network:

- Adobe Creative Suite
- Adobe After Effects
- AutoDesk Design Institute 2015
- V-Ray Plug-In for 3DS Max and Rhino
- Rhinoceros 5.0 and plug-ins
- RhinoCAM
- Digital Project
- Bentley SELECT XM Edition
- ARC GIS (provided through Firestone Library)
- AutoDesSys FormZ
- Microsoft Office Professional 2010
- SAP2000
- Solid Works

Printing: Undergraduate and M.Arch. students are charged for all printing activities at the School of Architecture. The Dean provides each student with a $150 allowance at the beginning of each academic term (fall and spring). The pricing schedule is as follows: *(subject to change)*

Source	**Cost**	
Plotting	$.50 per square foot	
Laser printing to Xerox Laser Printers	$.05 Letter	$.10 Tabloid

Students can add funds to their account by contacting the School's business manager and make payment by personal check or student account debit.

The School provides plain bond plotter paper, letter, and tabloid paper, and there is an option to use upgraded paper types in printers at the student's expense. The $150 initial allowance is meant to cover incidental prints and printing errors (paper jams, bad print images, etc.). Given this allowance, the School is not obligated to refund students for these types of problems.

All Windows and Mac users printing from a personal computer are required to download and install the Equitrac client from the "software" directory on ARC-PROMETHEUS. Students who fail to use the Equitrac system may be required to reimburse the School for unauthorized printing.

Digital Fabrication Facilities: See description of Architectural Lab and shop, above.

University Computing Resources: The University aims to encourage a common platform for electronic communications and core applications through several computer acquisition programs: DeSC, Faculty Computer Program, and the Student Computer Initiative.

Desktop Systems Council: The University standardized the desktop computer environment for administrative computing through the Princeton Desktop Initiative (PDI). This project was launched by the

Provost in November 1996. A common computing infrastructure was considered essential for the success of the new administrative computing applications under development.

The DeSC computer is a particular computer model, running a particular set of central software. The University's decision to establish a standard hardware and software desktop environment stems from the goal of streamlining costs associated with application development, software installation, computing support, system administration, and software licensing. By choosing one hardware model and a standard software suite, the University is positioned to negotiate better pricing and maintenance fees, and computing support staff are better able to provide the best possible assistance.

Faculty Computer Program: The Faculty Computer Program, in place since 1996, refreshes the desktop technology of full and associate professors and other select members of the faculty (such as research scholars and senior research scholars). The refresh cycle is a new computer every four years. OIT administers the Faculty Computer Program and maintains the historical data regarding eligible faculty and computer purchases. Eligible faculty members have a choice of a Windows-based notebook or desktop computer, an Apple notebook computer, or a Lenovo Tablet PC.

Student Computer Initiative: The Student Computer Initiative (SCI) is a computer purchase program that offers notebook computers specially selected and priced for Princeton University students. The program offers four to five computer models, and includes both Macintosh and Windows computers. Purchasing an SCI computer provides: state-of-the-art technology; Princeton network-ready; an extensive suite of software installed and configured; software for math, science, and engineering students (optional); expert, prompt, and convenient OIT assistance and support; guaranteed protection with the three-year warranty; peace of mind with the computer loaner program; and attractive pricing with several payment options. Some students prefer to own a laptop computer for its portability. As an additional service to SoA students, SCI provides an option for students to purchase a monitor (19” or larger display to keep in the studio) that will be compatible with either a laptop or notebook computer purchased through SCI.

Work Completed in 2014

Administrative Offices: Several of the School’s administrative offices have been consolidated into one general location to centralize the administrative staff’s presence. A suite of three offices (S-111a-c) that share one entrance will be divided into three individual offices with separate entrances for the school administrator, assistant school administrator, and programs coordinator. This renovation project will be completed in fall 2014.

Student Program Space: The space that housed the SoA’s Visual Resources Collection will be converted into a new program space for registered student groups, such as *Pidgin* and *Attention*, and a dedicated equipment cage for the School’s audio-visual equipment. This project will be completed in fall 2014.

Proposed/Future Plans: The School is has received permission for the construction of a Center for Embodied Computation, which would combine architectural and engineering experimentation to utilize computation design, digital fabrication, and sophisticated sensing, actuation, and control electronics to revive the Architectural Laboratory as the center for interdisciplinary design exploration and prototyping. Among the leading components of this facility will be a project space for developing and testing large-scale architecture and engineering prototypes inside and outside or as facade elements. Additionally, there will be the development of a state of the art research environment with digital fabrication equipment for full scale material prototyping, such as water jet cutter, large scale metal laser cutters, multi-use Robotic arm platforms for milling, additive fabrication and human machine collaboration for research in construction, and an electronics workbench for the development of sensing and control and physical computing applications.

Space Issues: Space constraints throughout the School are an ongoing problem. There is a shortage of offices for administrative, faculty, and research staff, and current offices are being shared or partitioned. Visiting and part-time faculty members share offices with faculty and administrative staff, and, at times, utilize the School's conference room as a meeting space. That said, potential for expansion is limited, and the School's location in the center of the campus is an asset.

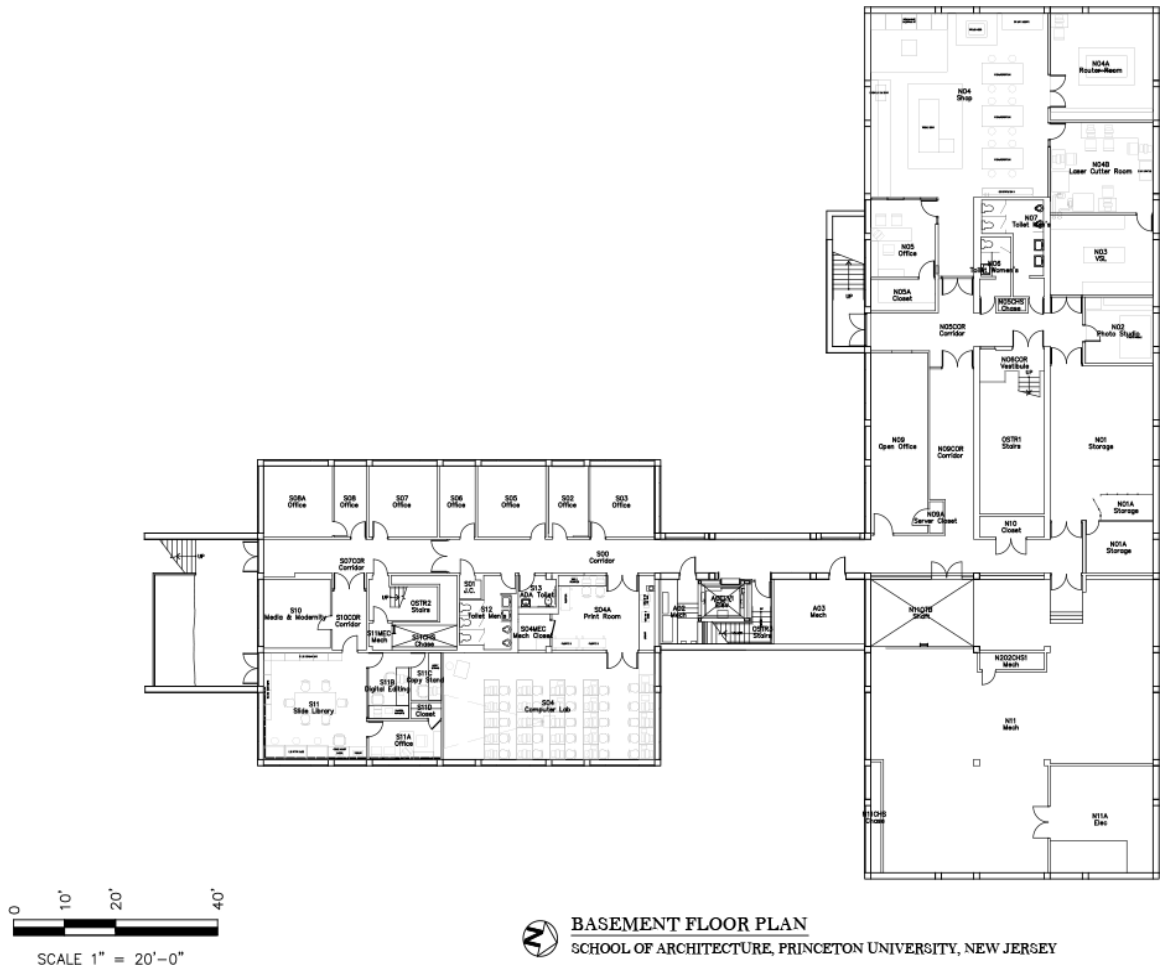
While studio space is generous, meeting spaces for seminar and lecture classes are limited. Generally, all classes can be accommodated, but the lack of space creates scheduling challenges, and discourages informal meetings. Pin-up space is adequate, but here too, reviews must be scheduled to account for the limited space, which does not allow for more than two (or at the maximum three) reviews to occur simultaneously.

The remote location of the Architectural Lab allows it to be larger than if it were located in the constrained central campus location of the SoA Building (as well as allowing more flexibility for construction projects and material experiments that would not be appropriate on the central campus). On the balance, this is a worthwhile trade-off, but the distance (a ten-minute walk) can sometimes discourage its use and visibility. Insufficient instructional space also has resulted in the Robotic arm occupying the Labatut Pavilion at the Architecture Lab. The location had been allocated for undergraduate and master's level Construction Methods classes. Since the robot's arrival, these classes have been moved to outdoor facilities on the side of the Architectural Laboratory, and are inconveniently subjected to weather-related cancellations.

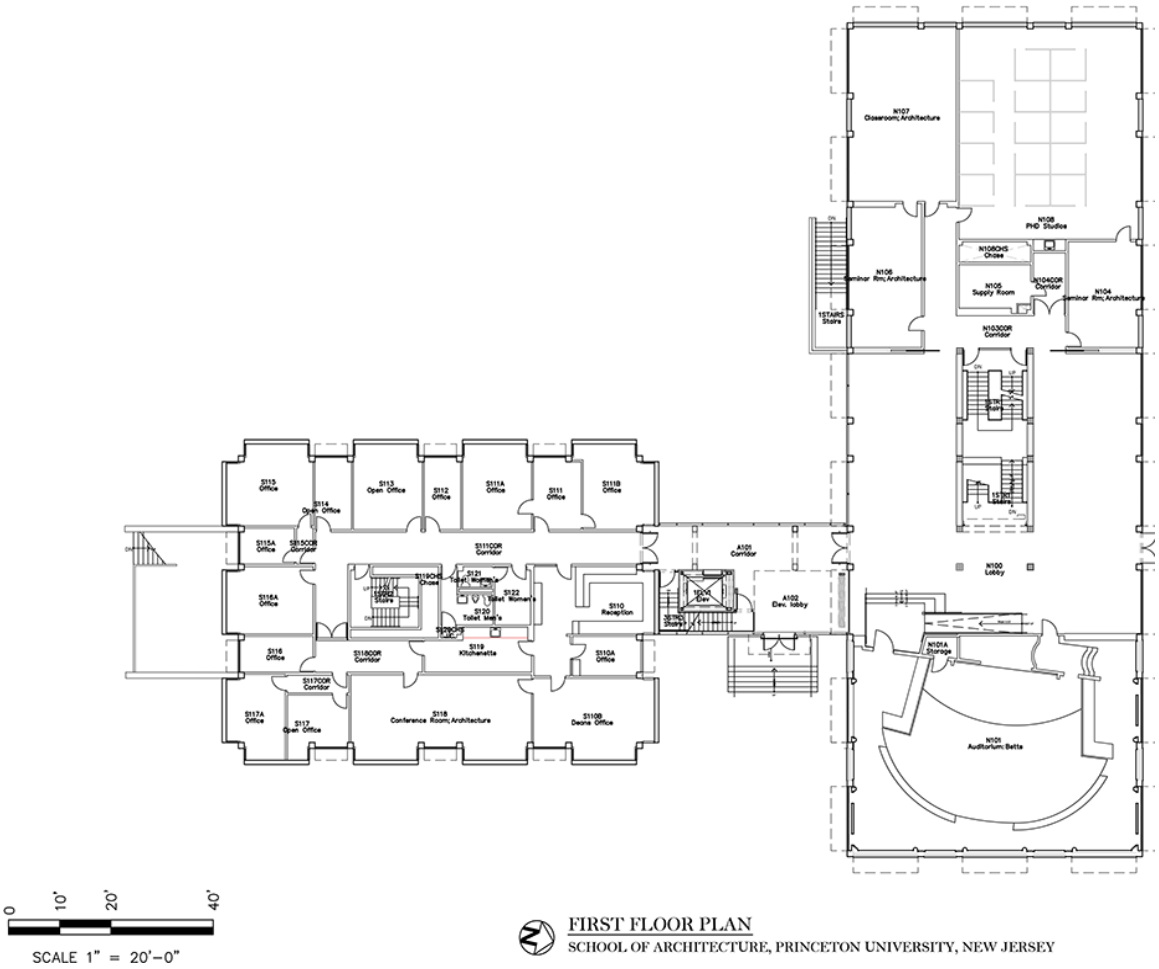
The School's new digital exhibition space has been functioning well, but still limits the kind of material that can be exhibited, and long-term, a secured exhibition space would be a welcome addition to the SoA facilities.

Power is an ongoing concern in all teaching spaces. Since more and more students use laptops to take notes and perform exercises in class, and all faculty/student meetings require some sort of projection, our lack of power outlets in teaching spaces is a problem. We have installed 24-outlet power strips in S-118, N-104, N-106, and N-107, but even that solution suffers from poor access to wall outlets.

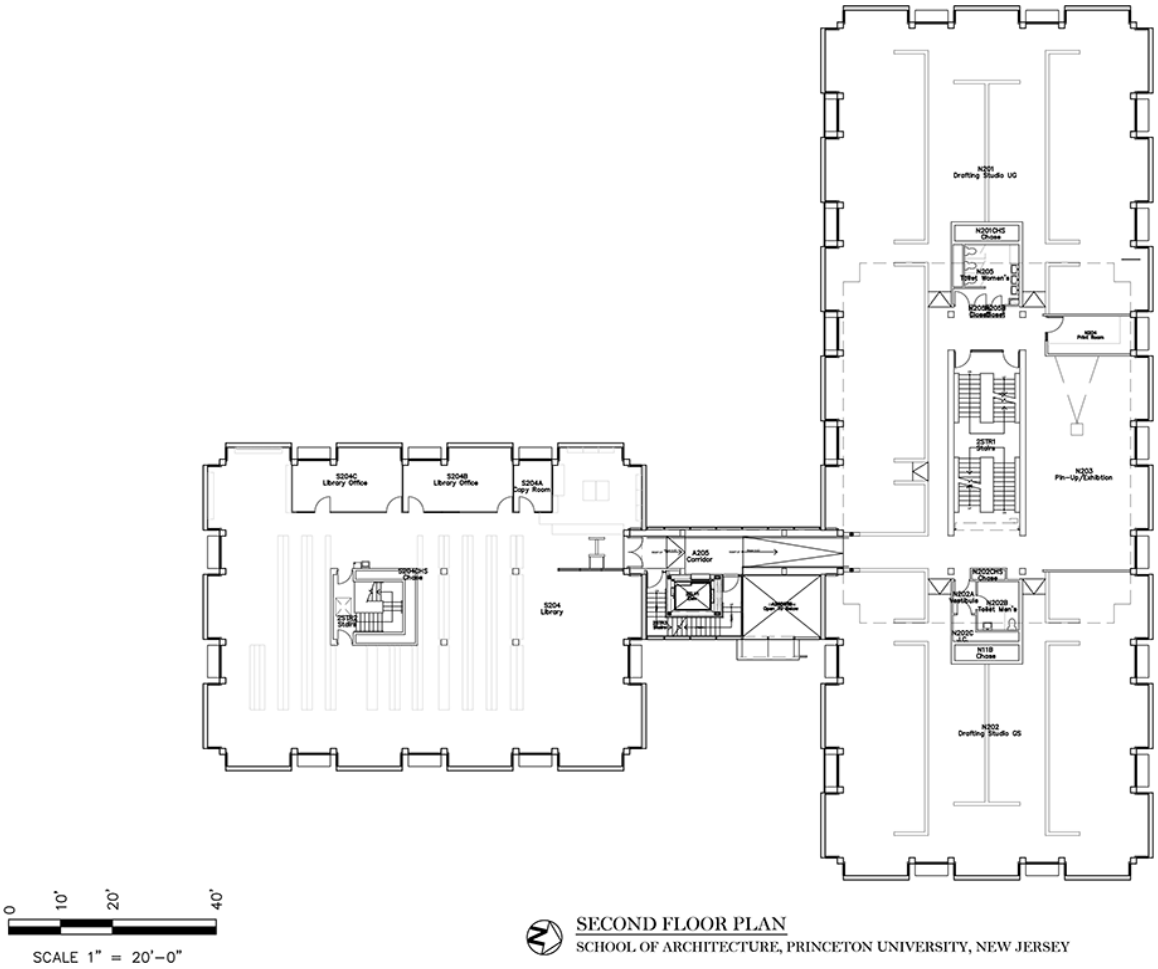
Floor Plans: Basement Floor, Architecture Building



Floor Plans: First Floor, Architecture Building

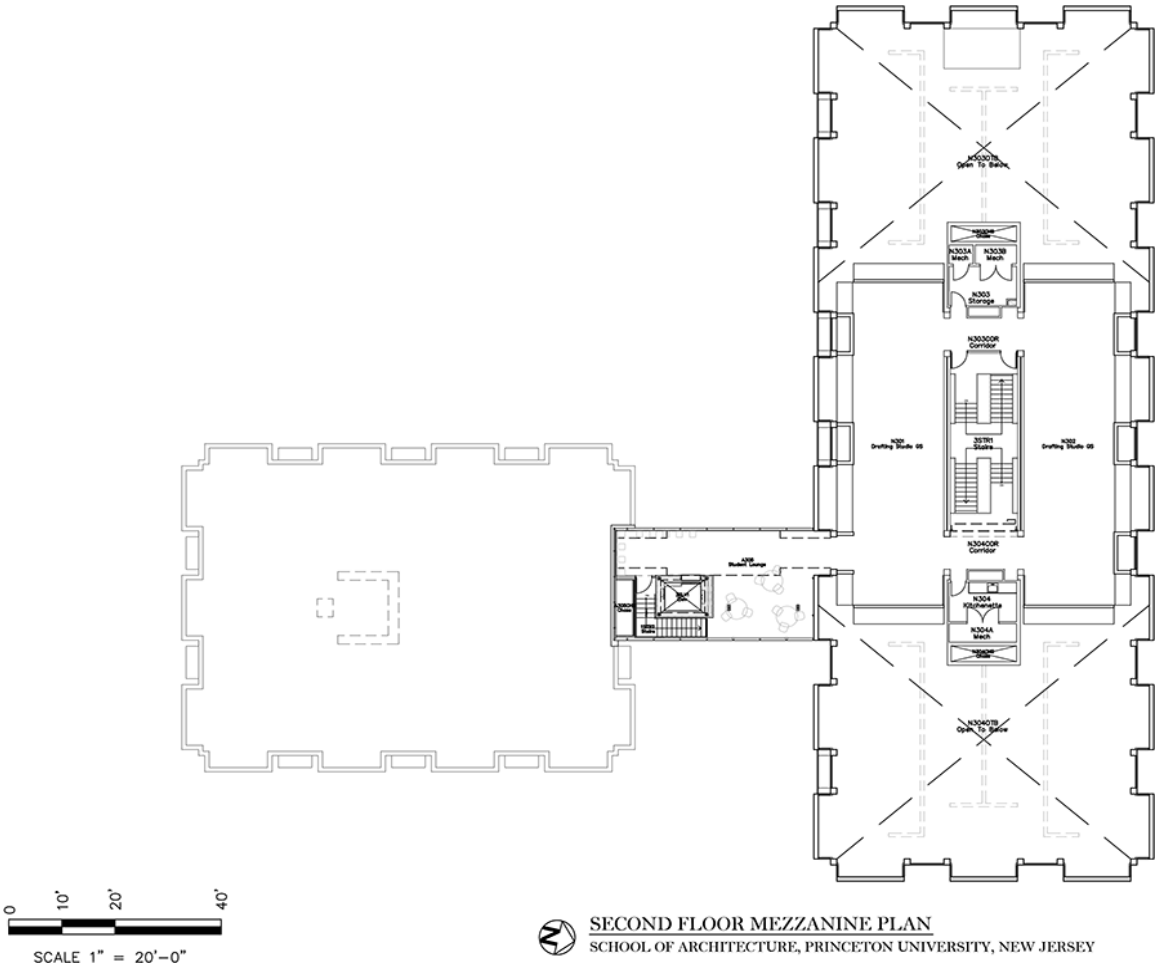


Floor Plans: Second Floor, Architecture Building



SECOND FLOOR PLAN
SCHOOL OF ARCHITECTURE, PRINCETON UNIVERSITY, NEW JERSEY

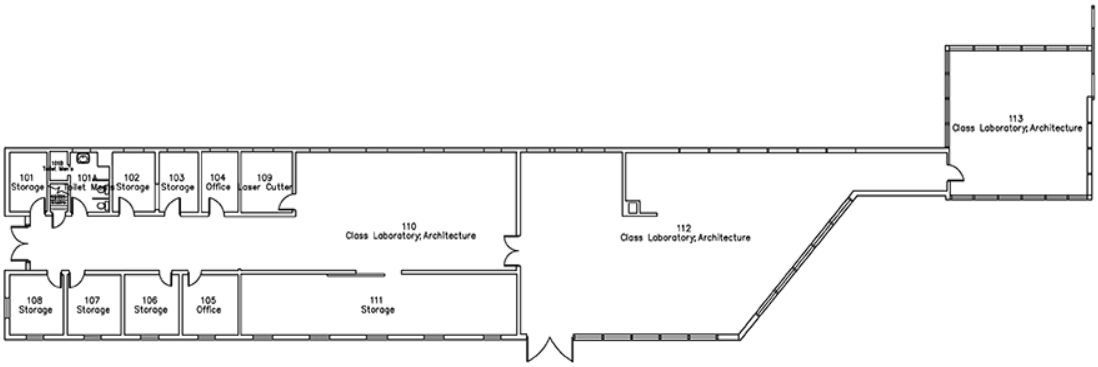
Floor Plans: Second Floor Mezzanine, Architecture Building



Floor Plans: Architectural Laboratory

16' 0 16' 32'
1/16" = 1'

BASEMENT FLOOR PLAN
ARCHITECTURAL LAB, PRINCETON UNIVERSITY, NEW JERSEY



16' 0 16' 32'
1/16" = 1'

FIRST FLOOR PLAN
ARCHITECTURAL LAB, PRINCETON UNIVERSITY, NEW JERSEY

I.2.4. Financial Resources

As an academic unit of Princeton University, the School of Architecture receives annual budget support from several funding sources. The Office of the Provost allocates general funds to the SoA for the faculty teaching budget, the departmental administrative allowance, and graduate student support. The School also draws upon a number of various restricted and unrestricted sources, include earnings from restricted endowments, restricted term gifts, outside income (for example, conference fees), and other sources. Finally, the School also receives support from non-governmental sponsored funds, such as grants from foundations, and on occasion, some support from governmental sponsored research grants. Funding for capital improvements is handled centrally through the Office of the Vice Provost for Facilities, and is not accounted in the School's budget.

The table below shows that since the collapse of the financial markets in 2008-09, the School's departmental budget has grown, with particularly notable increases in the total budget and ending balances in both 2012-13 and 2013-14. Increases since 2012 are principally due to a few new, significant University and external grants during these years.

Income Category	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Beginning Balance						
University Appropriation						
Gift Income						
Non-Gov't Sponsored Income						
Other Income						
Transfers In/(Out)						
Endowment/Investment Income						
[redacted] **Revenue**						
Expense Category	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Faculty and Staff Salaries and Benefits						
Graduate Assistants						
Student Aid						
Professional Fees and Services						
Print/Duplication/Shipping						
Rent/Lease						
Travel/Meetings						
Materials and Supplies						
Repair and Maintenance						
Other Operational Expense						
Total Expense						
Ending Balance						

Faculty Teaching Budget: In keeping with the University policy of a single faculty, the School of Architecture receives a Full Time Equivalent (FTE) budget from the Dean of the Faculty office each year to support all teaching salaries. The School of Architecture allocation of 15.75 FTE has remained constant over the years. In addition, the School is authorized to spend up to 2.0 FTE out of its endowed Labatut Professor Fund to support additional teaching needs. From time to time, in discussion with the Dean of the Faculty, small allowances are made to accommodate special leaves or other situations that might adversely affect the School's FTE budget.

Operating Budget: At the beginning of each fiscal year, which runs from July 1 to June 30, the SoA receives an administrative allowance from the University's central administration to cover operating expenses. These costs include, but are not limited to: general operating expenses; curricular expenses; operation of the visual resources collection and the School's archive; operation of the architecture laboratory system; exhibitions; staff salaries; and telephone costs. For FY 2013-14, the allowance totaled [redacted] Annual changes in the School's budget are based primarily on the University's internal rate of inflation and changes in the level of activity in the SoA, as measured by a benchmarking formula. The standard inflation rate for FY2015 is 3.7 percent. The benchmarking formula measures the level of activity within the School as indicated by the number of majors, graduate students, course enrollments, and lab

contact hours, as well as the number of authorized teaching-budget FTEs, and the amount of indirect cost recovery from sponsored research.

Endowment: [redacted] The Labatut Memorial Lecture fund finances the lecture series; the Kenneth Kassler Memorial Lecture Fund finances the School's most prestigious lecture; the Richard Cramer Fund provides travel funds for thesis research for Ph.D. students; the Robert Simmons '33 Memorial Fund, the Suzanne Kolarik Underwood Fund, and the Simmons Matching Fund are all used for the betterment of the School of Architecture; the Dean's Discretionary Fund provides for administrative expenses; and the Labatut Professorship Fund provides funds outside the normal teaching budget to bring distinguished scholars and/or practitioners to the School. The Graduate School at Princeton University also manages the income from a few endowment funds dedicated to providing SoA graduate student support.

Funding from Other Sources for Specific Projects: The SoA faculty have received additional programmatic or research-related grants from many University and external sources. Examples of internal support include grants from the University Committee on Research in the Humanities and Social Sciences, and multi-year Princeton strategic partnership grants from the University's Council for International Teaching and Research (CITR) to enable select SoA faculty to foster collaborations between Princeton and the University of San Paolo and the University of Tokyo. Separately, the Princeton-Mellon Initiative in Architecture, Urbanism, and the Humanities is one of the School's significant externally-supported endeavors (2013-14).

Scholarships: The School of Architecture receives funding for all students in the graduate programs from the Graduate School. [redacted]

Program	# of Students	Tuitions	$ Equivalent	Stipend
Three-year M.Arch. (accredited)	34	25	[redacted]	
Two-year M.Arch. (advanced standing)	11	5		
Post-Professional M.Arch.	9	3		
Ph.D.	24	20		
Total	**78**	**53**		

An additional means of student support is the Assistant-in-Instruction (AI) program, funded through the Dean of the Faculty. In addition to the student support listed above, the School is allotted the equivalent of nearly 7.0 FTEs to support teaching assistants in undergraduate lecture courses and Master of Architecture level design studios. This program is the cornerstone of the preceptorial system. Students interested in teaching are asked to submit their names to the Director of Graduate Studies; faculty members are also asked to submit the names of graduate students with whom they would like to teach. After determining the enrollment in each undergraduate course, the Director of Graduate Studies allocates the AI positions in increments of .25 FTE. Students with AI positions receive additional stipend funds, which are dependent on the number of hours of the assignment and an equivalent percentage of tuition. Usually, a full-time assistant in instruction receives a stipend for carrying a teaching load of six contact hours per week per term, which normally requires 20 hours of effort per week. Despite the reduction of students' University stipends by half for the semester in which they are teaching, students still accept these teaching assistant positions.

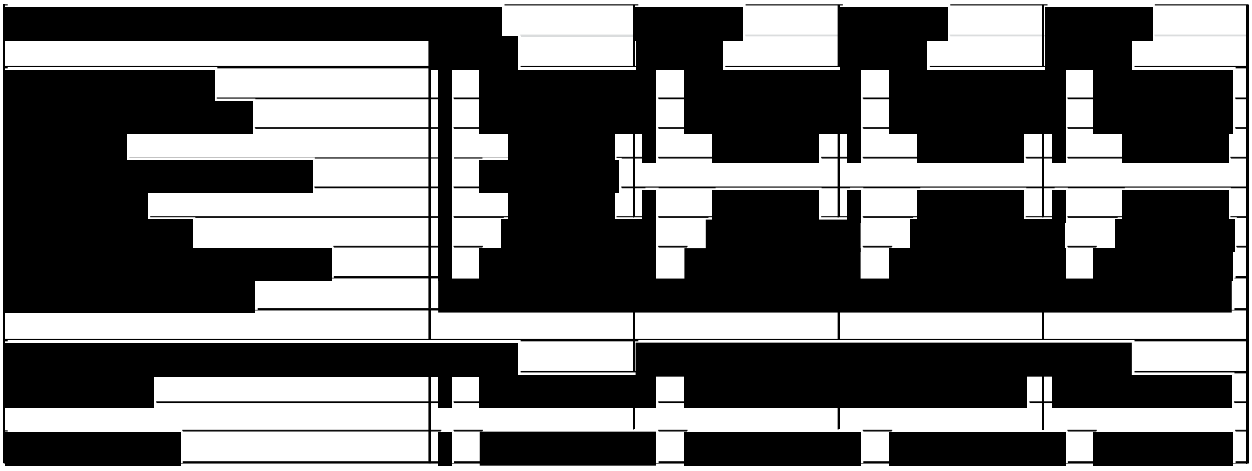
Assistantships in research (AR) are occasionally awarded to SoA graduate students, who assist faculty members with their research. The AR position offers a student meaningful research experience that usually is connected to the student's dissertation research. A full-time assistant in research receives a

stipend for 20 hours of research per week during the 10-month academic year. Part-time and summer ARs are also available to eligible graduate students.

Development: Princeton University's fundraising function is centralized in the Office of Development, where professional fund-raisers, administrators, and support staff work with Princeton alumni to raise support for the University. Reporting to the Vice President for Development, the Development team is wildly recognized for its success and leadership in academic fund-raising, which builds upon the great Princeton tradition of strong and loyal alumni support. Term, endowment, and building funds for all University department and program needs are raised through careful research and the cultivation and solicitation of alumni, parents, and other friends of Princeton. Resource development from corporations, foundations, and governmental agencies is managed by the Offices of Corporate and Foundation, Technology Licensing, and Program and Research Administration, which report to the Dean for Research.

While the primary responsibility for fund-raising rests with the Development Office, the Dean and other SoA faculty members occasionally partner with the Development Office and the Alumni Council on fund raising and alumni relations events. Large-scale fundraising initiatives embarked on by an academic department require central University administrative authorization to proceed, while smaller scale fund-raising for specific programs is sometimes handled directly through the School of Architecture. This includes publication and exhibition initiatives and the Center for Architecture, Urbanism and Infrastructure.

Projected Budgets and Expenditures
In the table below, the projections for 2014-15, 2015-16, and 2016-17 are based on the following calculations: University appropriations, including department administrative allowances, are projected at an annual rate of 4 percent of increase, while endowment and investment income is projected at an annual rate of 5 percent of increase. Total expenses per year are based on a standard inflation rate of 3.7 percent. All other figures are calculated on a rolling three-year average.



Annual expenditures and total capital investment per student, both undergraduate and graduate, correlated to the expenditures and investments by other professional degree programs in the institution.

The comparison between the University's total annual expenditures and total capital investment in 2013-14 in the SoA's degree programs, including the accredited Master of Architecture program, to Princeton's investment and expenditures to its other professional degree programs is illustrated below. The other masters programs are the Master of Finance (M.Fin.) program, offered by the Bendheim Center for Finance, the Master of Science in Engineering (M.S.E.) and Master of Engineering (M.Eng.) programs, offered by the School of Engineering and Applied Sciences, and the Master in Public Affairs (M.P.A.) and

the Master in Public Policy (M.P.P.), offered by the Woodrow Wilson School of Public and International Affairs.

Data includes all students with status of regular graduate student, ABS (in absentia, DCE (degree candidacy extended), and ABX (degree candidacy extended, in absentia). Please note that the data reflects the following and:

1.) Assumes that all Fund 10 and Fund 20 sources represent University support.
2.) Assumes that all Fund 40 and 60 sources represent non-University support.
3.) Includes all degree students including students in absentia and DCE status.
4.) Its source is 2013-14 commitments, which closely approximates actuals paid.

Institutional Financial Issues
At present, there are no identified or planned reductions or increases in student enrollment for the School. Similarly, there are no planned changes in funding. Each year, the SoA academic administrative allowance, or departmental budget, is contingent on the University's internal rate of inflation, and changes to reflect the level of activity in the department.

Regarding changes in funding models for faculty, instruction, overhead, or facilities since the last visit, the University approved two-year plan to simplify the graduate student stipend structure to make it more attractive to prospective students and reduce the administrative burden. The plan included raising humanities and social science graduate fellowship stipends more than the normal 3 percent annual increase for 2013-14 (FY14) and 2014-15 (FY15). For FY15 the increase will be 3.5 percent.

The accredited M.Arch. program, the SoA, and Princeton University are currently operating in a financially stable environment. Since the 2008 economic downturn, the University has successfully recovered its endowment (earnings) with returns in 2013-14. While continuing to maintain overall fiscal prudence and restraint, the University is no longer operating under austerity measures as was necessary between 2009 and 2011.

I.2.5. Information Resources

School of Architecture Library

Institutional Context and Administrative Structure
Princeton University Library (PUL) (http://library.princeton.edu/) supports the teaching, learning, and research activities of Princeton University faculty and students. The library system is comprised of 13 library branches—including the School of Architecture Library—which collectively house over 8.2 million volumes, is staffed by 148 professional library staff, 170 support staff, and numerous student staff, making it one of the largest units within the University. The management structure includes the University Librarian, who reports to the University provost (as does the Dean of the School of Architecture), along with three Associate University Librarians and a Deputy University Librarian, all of whom report to the University Librarian.

The School of Architecture Library (http://libblogs.princeton.edu/archlib/) occupies the second floor of the School of Architecture (SoA) building, and supports the curricular needs and research activities of SoA faculty and students, along with the SoA certificate programs and dual degree programs with other departments. The Architecture Library also provides teaching and research support for constituencies across the University, notably the Departments of History, American Studies, Art & Archaeology, Sociology, and the School of Engineering.

Core functions of the Architecture Library 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 $275,000 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.

While the SoA Library is the primary research base for the School of Architecture, the School of Engineering Library and the Marquand Art & Archaeology Library also address many of the research and curricular needs of the faculty and students, particularly given that several classes per year are cross-

listed with the School of Engineering as well as the Department of Art & Archaeology. Firestone, the largest library with over four million volumes on site, houses the bulk of the humanities collections, the Rare Book and Special Collections unit, the microform collection, and most administrative services. All Library branches and special collections are available to School of Architecture faculty and students.

Services
The SoA Library maintains extensive service hours during the academic year, averaging 100 hours per week. The School of Engineering Library is open approximately 113 hours per week, and Marquand, 101 hours per week. Reference and information services in architecture and related fields are provided by the School of Architecture Librarian onsite, by phone, or email. The Librarian is also available for reference consultation by request or as assigned by faculty. Since the last APR, the Architecture Library has become a circulating collection to better meet the research needs and practices of the SoA. Prior to this change in policy, the collection had been strictly non-circulating. Online tutorials and web research guides are routinely developed and revised for specific courses, the Senior Thesis, and specific areas of the collections.

Princeton University Library belongs to a number of consortia and inter-lending networks which open up hundreds of research collections to the Princeton community. For example, Borrow Direct is a rapid delivery inter-lending network, in which Princeton participates, comprised of Harvard, MIT, Dartmouth, Yale, Cornell, the University of Pennsylvania, Brown, Columbia, the University of Chicago, and Johns Hopkins. 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. School of Architecture faculty and, recently, all School of Architecture graduate students are eligible for the Library's Article Express service, another rapid delivery service aimed to electronically deliver content owned by Princeton and available elsewhere within a 24 to 48-hour timeframe.

Staff
The SoA Library is directed by a professional librarian who supervises 2.5 paraprofessional staff members and student employees. The SoA Librarian reports to the Deputy University Librarian. The librarian holds an M.L.S. with an advanced degree and subject specialization in architecture and related fields. 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. Most acquisitions, cataloging, and information technology functions are performed by centralized units of the Princeton University Library.

Facilities
The SoA Library is located in the School of Architecture Building, enclosing a 4,775 square foot area. The School of Engineering in the Friend Center is a short walking distance from all School of Architecture facilities. The Marquand Library for Art & Archaeology is located in McCormick Hall, which also houses the Princeton University Art Museum.

The much-needed facilities upgrade in 2012 transformed the library's historic but neglected postwar space into a valuable setting and showcase of mid-century design. Included in the upgrade was new carpeting, Saarinen and Herman Miller soft seating areas, Vitra study chairs, large study tables, new carrels, a book scanning station, display shelves for new books and current periodicals, and a complete overhaul of staff offices and the circulation desk area. Computer workstations and network access in the library and campus-wide wireless Internet connectivity meet demands for access to electronic resources and services. Library equipment includes scanners and printers, a photocopy machine, and reference workstations. Over the last few years, a review and aggressive transfer of library books to ReCAP has alleviated storage, and the library has been able to expand its collection as a result. All materials sent to ReCAP, an offsite storage facility shared with the New York Public Library and Columbia University, are available to the Princeton community via delivery, which typically is a 24-hour turnaround time.

The SoA students also enjoy their own reading room in the Marquand Art & Archaeology Library's A-Floor. In addition to two study tables, Ph.D. students may reserve one of the eight carrels available. The carrels are exclusive to SoA doctoral students who may use the carrels for the duration of their degree. Hold shelves are also available to all SoA students in this room. (Marquand is a non-circulating library but allows students to "charge" materials to their hold shelves.) The Architecture Reading Room has approximately 40 hold shelves. The carrel and hold shelf assignments are assigned by the SoA Librarian.

Collections
Princeton University Library strives to meet the increasing demand for access to information. Information resources are becoming increasingly competitive in an environment that encourages resource sharing, and plays to the University's technological strengths. PUL provides ever-expanding access to electronic information resources that are available at the library, in the design studio or office, and in the dormitory or the home. At the same time, PUL continues to grow its print collections, and is committed to providing information resources in whatever media are necessary and appropriate. For architecture and the arts in particular, active collecting in a variety of media will continue for the foreseeable future. Collection development activities in architecture are governed by written collection development policies for the SoA Library 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 PUL's Main Catalog or *Books+*, a fairly new discovery system.

School of Architecture Library: The SoA Library holds its collection onsite, in the PUL's Annex A offsite facility, and also in ReCAP, another offsite facility shared with the New York Public Library and Columbia University. The Library's total volume count is 85,811 with approximately 28,500 onsite. The collection focuses on architectural-related topics dating from the mid-19th century through the present, such as design, professional practice, architectural theory, landscape architecture, urban design, city planning, housing, architectural history, and interior design. The collection includes an increasing number of e-books, especially reference works and titles in the field of sustainable design.

Volumes: 85,111 (Total)
32,460 (onsite); 16,281 classed NA(…)
52,651 (offsite); 18,577 classed NA(…)

Videos: Film continues to play an important role in the SoA curricula and culture. Thus, the video collection has grown considerably. The collection's focus is a broad interpretation of the "built environment," which encompasses feature films, cult classics, documentaries, experimental video, interviews, and more. To date, the SoA Library holds approximately 250 videos available for rental.

Journals: The SoA Library currently subscribes to approximately 325 architecture-related journals and other serials, and maintains extensive back-runs of numerous additional titles. Current subscriptions include all periodicals listed in "A Core List of Periodical Titles for a First Professional Degree in Architecture" (revised 2009) developed by the Association of Architecture School Librarians (AASL). Journals are increasingly available electronically as e-journals, as independent subscriptions, or through aggregator databases and online collections. At the same time, smaller press journals have increased in number and are available, almost exclusively, in print.

Databases and Other Electronic Resources: The SoA Library subscribes to, or splits subscriptions for approximately 40 architecture and design related electronic resources including *Avery Index to Architectural Periodicals, Urban Studies Abstracts, Art & Architecture Archive, Pidgeon Digital, Applied Science and Technology Abstracts, and ArtBibliographies Modern.* Subscriptions to more specialized electronic tools include *CumInCad*, *BuildingGreen.com*, *MADCAD,* and *ULI Development Case Studies*. Increasingly, such databases and products provide online access to full-text articles and other documents.

Special Collections: The SoA Library has a growing collection of rare materials that are restricted to library-use only (~350 volumes). These materials range from rare back files of design publications to new, ephemeral-type books, pamphlets, and journals. Recently, the library has targeted the collecting of postwar Italian design journals, following Ph.D. interests and expertise. In a short time, the Library has catapulted to being the premier such collection in North America, thereby raising its profile. A notable addition was the recent acquisition of the Grady Clay Research Archive, which is currently being processed by library staff.

Marquand Art & Archaeology Library: As noted above, the Marquand is of special interest to the SoA students and faculty. This non-circulating library of approximately 450,000 volumes is considered a library of record for the fields of art and archaeology. Collections cover traditional, modern, and experimental media from antiquity to the present world, with the exception of the SoA Library's collection scope detailed above. Particular strengths are Classical, Medieval, Renaissance and Baroque art and architecture, East Asian art and archaeology, and photography. Marquand also has a substantial collection of rare books: approximately 5,000 volumes dating from the 15th through the 20th centuries.

School of Engineering Library: The School of Engineering Library (SOE) is another unit that directly supplements the research needs of SoA students and faculty. The library is located in Friend Center, and supports the research and education mission of the School of Engineering and Applied Science and its affiliated programs and centers, serving the needs of over 140 faculty, over 1,200 undergraduate students, and over 500 graduate students. The collection, consisting of approximately 300,000 volumes, covers material science, civil and environmental engineering, computer science, electrical engineering, chemical and biological engineering, operations research and financial engineering, and mechanical and aerospace engineering. Since the last APR, the SoE Librarian and SoA Librarian have worked to coordinate collection development with the SoE absorbing much of the architecture science-related topics.

Firestone Library: Firestone is the central library and the system's largest, with 65 miles of shelving and over four million volumes. For the last four years, it has been undergoing a comprehensive ten-year renovation plan. Located within Firestone are specialized collections on industrial relations, economics and finance, and public administration, along with 25,000 serial subscriptions, an extensive microform collection, and the University's collection of Rare Books and Special Collections, which includes rare books, manuscripts, maps, prints, coins, theatrical material, and other rare materials requiring special storage and handling.

Support for the mission, planning, curriculum, and research specialties of the program
The SoA Library's mission is to serve the curricular and research needs of the SoA faculty and students. The SoA Librarian is designated as liaison to the School of Architecture, 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. These efforts have resulted in a robust, though nascent, special collection in the SoA Library. The SoA Librarian compiles key information resources for architecture and urban studies in a suite of webpages that are continually updated and act as reference and instruction tools. Of particular note is the SoA Library's webpage, a site within the larger PUL website, which features new resources, trials, and general collection highlights. In addition, the SoA Librarian makes use of the School's various departmental, faculty, and student listservs to promote new resources and trials as well as make 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 SoA Library, 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 PUL home page, core research tools, and frequently a web-based course guide designed to support their specific course or class assignment. The Librarian also gives tours of the library as needed. Special sessions are developed for incoming Ph.D. students and, within the last few years, the ARC 403, *Topics in the History and Theory of Architecture,* a required course for all SoA undergraduate seniors.

Funding: Financial support for library operations is centralized. The SoA 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. The SoA Library's funds come from a general fund account, with few restrictions on how the money should be spent. Additional funding comes from a number of endowed funds with explicit restrictions as to how the funding should be spent. For example, the William H. Young '58 Book Fund is for materials relating to architecture and urban planning, and the Surdna Foundation Grant is specific to urban and environmental studies materials.

Significant Problems: The aforementioned SoA Library facilities upgrade did not include the book shelving, which is original to the building. The shelving was never upgraded to adhere to today's ADA standard for stack spacing, and therefore does not comply with standard ADA requirements. Moreover, the shelving itself is worn and Library Facilities is currently securing shelving that has collapsed or tipped out of its case.

Although some student groups receive library instruction in one form or another, the SoA Masters students would greatly benefit from a required or formal library orientation. These students typically do not take advantage of the library open houses or orientations offered, and consequently, go through their programs with very limited knowledge of the library collections, services, and resources. Princeton is one of the few Ivy League schools without such a requirement, and it is hoped that something more formalized can be piloted in fall 2014.

School of Architecture Archive and Audio-Visual Resources Collection

Institutional Context and Administrative Structure
The School of Architecture Archive and Audio-Visual Resources Collection (http://soa.princeton.edu/zone/archive and http://soa.princeton.edu/zone/vrc) are situated within the institutional context of the Architecture School. The Archives and Digital Initiatives Manager is a full-time staff member classified as administrative who reports to the Dean and School Administrator. To insure that archives and digital

resources develop alongside the curriculum, the Dean selects faculty to serve as advisory board members. Although separate from the library system, University Archives, and the Office of Information Technology, the Archives and Digital Initiatives Manager maintains active connections with on-campus units such as the New Media Center, Media Services, the Humanities Resources Center, the McGraw Center for Teaching and Learning, the Visual Resources Collection in the Department of Art and Archaeology, and the Lewis Center for the Arts IT department.

Core functions of the School of Architecture Archive and Audio-Visual Resources Collection include:

- Manage and provide reference support for the historic student and faculty work archive (c.1920s-present), including works on paper, 35mm slides, 16mm film, architectural models, and administrative records, plus about seven TB of digital files on a virtual server; identify and write grant proposals to fund archive preservation and development; develop collection databases.
- Preserve and provide access to the School's analog and digital images, sound, and video recordings cataloged in FileMaker Pro and EmbARK collection databases.
- Serve as Webmaster of http://soa.princeton.edu (2013), the School of Architecture's Drupal website; the Visual Resources Collection Roxen website www.princeton.edu/soa-vrc (2010), and create microsites as needed: http://cargocollective.com/princeton (2012), www.princeton.edu/arc-hum (2014).
- Assemble, edit, and format student and faculty work for exhibitions, publications, and the SoA website. Partner with M.Arch students to configure available technology resources in realizing their vision for studio and thesis exhibitions.
- Write proposals and budgets that justify and spec new multimedia equipment purchases, including computers, software, projectors, LCD screens, and related sound and video hardware for teaching, gallery, and auditorium spaces. Liaise with Media Services, the Broadcast Center, and the Office of Design and Construction regarding classroom issues, upgrades, and user support.
- Oversee photography and videography for events at the SoA. Archive, edit, and upload video to online sources such as Kaltura, Vimeo, and iTunes U.
- Coordinate the School's digital exhibition gallery.
- Manage two to four graduate and undergraduate VR Assistants each year for digitization and cataloging projects; spec, configure and maintain VRC hardware/software for multimedia production, studio photography, and networked database access.
- Coordinate with the Office of Communications and Legal Counsel concerning copyright questions and concerns related to image use and web publishing.

Collections, Facilities, and Equipment

Located on the ground floor of the Architecture Building (S-11), the SoA Archive and Audio-Visual Resources Collection (AAVRC) consists of three main collections—images, recordings, and student work—and the SoA Archive. Owing to digitization efforts and the collection of new digital video and images, the School's digital holdings have grown exponentially—from about 700 GB to 7 TB—since 2009.

The Image Collection includes approximately 64,000 35mm teaching slides covering American and western European architecture from the 19th and 20th centuries. Digital image holdings include slide scans, born digital teaching images, photography of exhibitions, and student work. This collection has no online catalog, so patrons visit the VRC or email for more information. To augment image collections, the SoA and the Department of Art and Archaeology jointly purchase architectural images from Archivision. At present, about 70,300 digital images are available to search and download for research and class presentations in Almagest, Princeton's online media catalog, and ARTstor, a digital archive containing over 1.6 million images.

The Audio-Visual Collection—about 1,300 analog cassette tapes, 35 mm slides, VHS, MiniDV and Hi-8 video tapes—includes recording of lectures, conferences, and public reviews held at the School of Architecture from 1975 to the present. Video recordings from events since 2009 are available on iTunes U, Vimeo, and the SoA website. Older recordings, on cassette tape, are digitized on request and as time

permits. A FileMaker Pro database is available so that patrons can search the catalog. This collection is highly relevant to the curriculum, so we are actively digitizing to preserve and provide access.

The Student Work Collection contains approximately 600 studio and thesis projects from c.1920s through c. 1969. Between the 1920s and 1980, undergraduate and graduate students documented studio and thesis projects by submitting hand-illustrated 30"x40" (or larger) boards to the School. These projects reflect the shifting pedagogical focus of Princeton Architecture faculty, including Jean Labatut, Neville Epstein, Robert Geddes, Alan Chimacoff, and Michael Graves. Most of these early MFA thesis and studio projects by students like Charles Moore, Hugh Hardy, and Robert Venturi are now digitized thanks to the generous support of the David A. Gardner '69 Fund in the Humanities Council. As part of that project, we built a FileMaker database to allow visitors to search the catalog and view digital images for work up to 1970. Later projects, documented on slide film and born-digital since the early 2000s, are slowly being catalogued, although the images are readily available. This archive serves as a reference tool for faculty and students. As we add new student work to the SoA website, we will also include archival projects to provide context and connect with alumni.

The SoA Archive is a repository of faculty collections, administrative records from 1930 to the present, syllabi, models, works on paper, and miscellaneous objects. At present, there is material related to two faculty members: Jean Labatut (1899-1986) and Martin L. Beck (1900-1989). The Labatut Collection includes papers, 35mm and lantern slides, films, blueprints, drawings, project files, and student works donated to the School by Professor Jean Labatut, Chief Design Critic and Director of Graduate Studies from 1928 to 1967. The Beck Collection consists of personal and professional files from 1925 to 1980. A 1928 graduate from Princeton's School of Architecture, Martin L. Beck taught at the School until the war effort pulled him away on government contracts in the 1940s. His papers include lecture notes, slides, sketchbooks, plans and photos, and correspondence. These faculty collections remain uncatalogued at this time, but substantial materials from the Labatut collection and the School are available in the Department of Rare Books and Special Collections' Manuscript Division (Firestone Library) and the Princeton University Archives and the Public Policy Papers (Seely G. Mudd Manuscript Library). The SoA object collection includes framed drawings by Frank Gehry, Robert Venturi, and Jean Labatut, as well as models used in Victor Olgyay's book *Design with Climate* (1963), and a pair of drawings Le Corbusier executed in chalk on 18-foot-long rolls of tracing paper while lecturing in Princeton in 1935.

In addition to managing these collections, the Archives and Digital Initiatives Manager also supports the creation, documentation, and exhibition of student projects with AV resources and expertise. Students can borrow cameras, digital audio recorders, LCD projectors, LCD screens and camcorders for project-based audiovisual work and studio/thesis presentations. The Audio-Visual Resources Collection also offers a photo studio with backdrops, tripods, ARRI lights, and soft boxes.

Services
To support a studio-based undergraduate and graduate curriculum as well as a Ph.D. program, the Archives and Digital Initiatives Manager (formerly Visual Resources Curator) has shifted focus in the last six years from supplying teaching images and providing classroom technology support, to leadership in a series of initiatives intended to preserve and provide access to the School's multimedia research collections via reference services, exhibitions, printed materials, web communications, and AV infrastructure.

Developments in AV infrastructure include the installation of room computers in classrooms, portable LCD screens available anywhere in the School, and a digital exhibition space. In 2010, the Archives and Digital Initiatives Manager and Assistant Professor Axel Kilian wrote a proposal to activate gallery and teaching spaces with HD screens. This project received funds from the Dean, and fabrication support from the School's senior laboratory technicians. Working collaboratively, we created six portable HD LCD screens with Mac Minis on custom-made steel stands that rotate for window display. Residing in gallery spaces, these always-available self-contained HD screen solutions transformed thesis and studio reviews and enabled flexible, impromptu exhibition opportunities. A seventh LCD mounted on the gallery wall outside of Betts Auditorium served as a digital sign broadcasting images from the School's archives. Two years

later, in fall 2012, when the Dean sought to replace this mounted LCD with a new multimedia exhibition space, the Archives and Digital Initiatives Manager led the effort to purchase and install four projectors and eight parabolic speakers driven by digital sign units. This immersive exhibition space has featured work by Liam Young, Andrés Jaque, the SoA Library, Giancarlo Mazzanti, and SoA graduate student seminars "Radical Pedagogies" and "Playboy & Architecture, 1953-1979." The digital exhibition space is also used for thesis reviews.

To enhance access to the School's archival collections, the Archives and Digital Initiatives Manager wrote a grant, *Reanimating an Archive: Preserving and Exhibiting Student Work in the Princeton School of Architecture, 1932-1981* in 2011 with Associate Professor Spyros Papapetros, Axel Kilian, and Architecture Librarian Hannah Bennett. This $20,000 grant from Princeton's Humanities Council involved a redesign of the Archive space to include new flat file cabinets and storage tables, reorganization, photography, and cataloging of over 3,000 30"x40" architectural drawings. This project led to a senior thesis by Ruth Chang utilizing Charles Moore's 1957 Ph.D. dissertation, titled, "The Artifice of Water: Fluidity and Fantasy in the Works of Charles Moore" (2012). Archive photographs were published in Joan Ockman, *Architecture School: Three Centuries of Educating Architects* (MIT Press, 2012), and a manuscript found during the renovation—a long lost transcription of Buckminster Fuller's 1966 lecture at Princeton—has been published as a book: Daniel López-Pérez (ed.), *Buckminster Fuller: World Man* (Princeton Architectural Press, 2013) (http://soa.princeton.edu/content/reanimating-archive).

In 2012, Dean Alejandro Zaera-Polo put the Archives and Digital Initiatives Manager Daniel Claro in charge of the SoA website redesign project. The previous site had been in place since 2002. Where the previous website design resembled a publication, the new site's grid layout, tagging system, and time-based sorting mechanism would be dynamic in nature, infinitely expandable, multimedia-rich, and egalitarian. By encouraging students and faculty to publish content, the website was intended to capture the School in motion. The School's new website, built as an archive, is a key part of this transition from "Visual Resources" to digital initiatives. Managing the creation of a new SoA website required close collaboration between Drupal developers in Spain, several designers, two professors who provided conceptual direction (Alejandro Zaera-Polo, Dean, and Axel Kilian, Assistant Professor), and the SoA administrative staff. To implement a demanding, database-heavy design with non-native speaking developers over email and Skype was a major undertaking. Yet, as soon as in launched in spring 2013 it began to visualize the School. One year later, in July 2014, version 2 was launched. This redesign (by M.Arch. student Phi Van Phan) had as its primary goal a faster, cleaner interface that supported mobile devices. With streamlined code, the new site behaves more naturally on different-sized screens by responding and scaling. Content cells can occupy the grid in several configurations, which enables editors to highlight and foreground content in varied ways (http://soa.princeton.edu).

In 2014, the Visual Resources Collection was emptied of its slides, light tables, and AV archives to create a dedicated equipment cage and a new program space for registered student groups such as *Pidgin* and *Attention*. As such, the School of Architecture Archive and Audio-Visual Resources Collection office will continue to be housed in two separate locations in the building, one containing analog archives, and the other housing staff, digital archives management, and reference materials.

Staff

The Archives and Digital Initiatives Manager (formerly Visual Resources Curator) administrates the SoA website, related microsites, and online media outlets, develops collections databases, initiates and manages digitization efforts, provides reference services for SoA analog and digital archives, writes grants to support archival projects, specifies educational technology in classrooms and galleries, collects student work, facilitates the photography and recording of events, loans AV equipment, maintains a photo studio, coordinates digital exhibitions, houses the School's registered student groups, and coordinates with the Offices of Communications and General Counsel concerning copyright questions and concerns related to image use and web publishing. Each semester, graduate assistant and undergraduate Federal Work Study positions are available to students interested in photography, video, databases, digital asset management, and websites. Students work on semester-long independent projects.

Support for the mission, planning, curriculum, and research specialties of the program
In 2008, the Visual Resources Collection's services were described as "primarily a teaching resource… integral to the School's curriculum." Since then, the Visual Resources Collection has been expanding, with direction from faculty, to meet changing demands. The paradigm shift to digital tools and exponential growth of online image resources means that our constituents find, create, and manage their own images. At the same time, students and faculty became more interested in utilizing the School's unique archives in teaching and research. The growing need for imaging and video expertise, digital asset management, instructional technology, access to archival materials, and websites has superseded traditional image-based services.

This transition has been part of a larger strategic plan to modernize visual and other information resources in the School. In 2009, with the support of the Dean, Faculty Committee members Ed Eigen, Jane Harrison, and Miles Ritter, the Director of Archives and Digital Initiatives (then Visual Resources Curator) wrote a three-year strategic plan outlining three goals: support, preservation, and access. The plan identified changes needed in the School's VR services and resources required to modernize the School's archives. Included was a history of the office (1981-2009) and rationales/budgets for resources needed, including server storage, equipment for digitization projects, and staff. It began:

> "Now in its 29th year as an in-house imaging center, the Visual Resources Collection offers a multimedia archive and production facility focused upon collecting, creating, organizing, and displaying analog and digital media content. Few seem to know this. As digital media became mainstream in recent years, the VRC has appeared increasingly archaic: a "Slide Library" defined by light tables, film, and cassette-based content, and on-site accessibility. Its curator works alone and functions as AV tech-support around the School. Faculty members and students build their own digital image collections and develop independent strategies for organizing their files. Many students (and faculty) visit the VRC when borrowing laptops, projectors, or cameras, and are surprised to discover its unique and historic collection of student work, teaching images, and recordings (audio, video).
>
> This digitization project is driven by the need to organize, preserve, and provide access to materials that celebrate the School's intellectual history. When faculty and students learn about the VRC – 64,000+ 35mm and lantern slides, 460 audio cassette tapes, 365+ video tapes, 600-700GB+ of digital files, and the Archive of faculty and student work going back to the 1920s – they want to know how to search and access that content. Researchers are accustomed to keyword searching and browsing multimedia content on their computers using online library catalogs and databases, Google, and iTunes. With no searchable catalog, and no digital access, scholars cannot see the VRC. In terms of accessibility, the VRC lags way behind similar collections.
>
> This strategic plan aims to rejuvenate the VRC in the following ways: by enhancing its capacity to support visual resources in the SoA, by cataloging and preserving the School's unique archival collections, and by enabling faculty, students, and staff (across Princeton University) to browse, keyword search, and experience SOA media collections using available and familiar online infrastructures such as ARTstor (images), iTunes (audio recordings), and Princeton's Webmedia server (video recordings). By digitizing SoA materials, acquiring more born-digital content and digital image collections, updating collection databases to synchronize with other collections on campus, and offering SOA resources online, this Plan embraces modern libraries' new digital paradigm."

Funding and Budget: The Archives and Digital Initiatives manager oversees a budget of about $6,000 per year which is used for three main areas: teaching/exhibition spaces, the archive and visual resources collection equipment loans, purchased image collections available to the Princeton University campus, registration and travel to the VRA conference, and equipment to outfit the VRC's documentation and digitization program. This budget is typically not sufficient, so the School must find funds elsewhere. Additionally, there has been funding for Archive Assistants. Typically, these are graduate students hired for 10 hours per week who help catalog and digitize collections.

Significant Problems: The most significant problems facing the School of Architecture Archive and Audio-Visual Resources Collection is identity. Over the past six years, the Archives and Digital Initiatives Manager's role in the School has expanded dramatically, requiring new and different skillsets, without a formal change in title, compensation, or recognition that the office does not have the staff required to meet the new responsibilities. Efforts to resolve this identity crisis include the recent name change from Visual Resources Curator to Archives and Digital Initiatives Manager. As a field, Visual Resources has been changing rapidly in recent years because of a decline in the need for traditional services based around the supply of and access to teaching images.

The second key issue is staffing. Between 2006 and 2008, the Visual Resources Collection had one full-time curator and two part-time employees. Since 2009, it has been a one-person shop, yet responsibilities have grown significantly. For example, although the 2011 archive grant permitted great strides in terms of access to archival collections, only about half of the collections have been processed. What remains critical is for collections information to be available online. An online catalog requires extensive cataloging and processing, a data port from existing databases to web-friendly xml, and a web-server. The VR curator has been working with OIT to implement this for the Student Work and Audio/Video collections. Critical to improving the School's growing archival resources, and its web resources (including its website and social media outlets) are dedicated people and grant funding for initiatives that promote digital preservation and online access.

I.3. Institutional Characteristics

I.3.1. Statistical Reports

Comparative Data for Students

I. Total Enrollment Compared to the Time of the Last Visit (full academic year)

	As Reported in the 2013 ARS									As reported for the academic year in which the last visit took place (2008)								
Ethnicity	**Full Time Male Total**	**Full Time Female Total**	**Full Time Total**	**Part Time Male Total**	**Part Time Female Total**	**Part Time Total**	**Male Total**	**Female Total**	**Grand Total**	**Full Time Male Total**	**Full Time Female Total**	**Full Time Total**	**Part Time Male Total**	**Part Time Female Total**	**Part Time Total**	**Male Total**	**Female Total**	**Grand Total**
American Indian or Alaska Native	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asian	3	1	4	0	0	0	3	1	4	6	6	12	0	0	0	6	6	12
Native Hawaiian or other Pacific Islander	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Black or African American	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1
Hispanic/Latino	1	2	3	0	0	0	1	2	3	2	2	4	0	0	0	2	2	4
White	9	7	16	0	0	0	9	7	16	8	12	20	0	0	0	8	12	20
Two or more races	1	1	2	0	0	0	1	1	2	4	2	6	0	0	0	4	2	6
Nonresident alien	9	7	16	0	0	0	9	7	16	0	0	0	0	0	0	0	0	0
Race and ethnicity unknown	4	1	5	0	0	0	4	1	5	0	3	3	0	0	0	0	3	3
TOTAL	27	19	46	0	0	0	9	19	46	21	25	46	0	0	0	21	25	46

	As reported in the 2013 ARS	As reported for the academic year in which the last visit took place (2008)	
II. Qualifications of Students Admitted			
SAT:			
Critical Reading			
25th percentile SAT score	700	Average*	690 *
75th percentile SAT score	790		790 +
Mathematics			
25th percentile SAT score	710		
75th percentile SAT score	800		
Writing			
25th percentile SAT score	710		
75th percentile SAT score	800		
ACT:			
25th percentile ACT score	31		30
75th percentile ACT score	35		34
Graduate Record Examination **			
Verbal (130–170)	158		724
Quantitative (130–170)	158		
Analytical (0.0-6.0)	4.3		

** GRE scores in 2013 reflect GRE revised General Test (tests taken on or after August 1, 2011)

NB: The 2008 ARS only requested the composite average for SAT and GRE.

	As reported in the 2013 ARS	As reported for the academic year in which the last visit took place (2008)
III. Time to Graduation		
Normal Time to Completion: (number of quarters or semesters in which students are expected to complete all requirements for the NAAB-accredited degree (pre-professional)	4	*
Normal Time to Completion: (non-pre-professional)	6	*
Percentage of students who completed in normal time (pre-professional)	100	*
Percentage of students who completed in normal time (non-pre-professional)	93	*
Percentage of students who completed in 150% of normal time.	*	*

* Data on percentage of students who completed in 150% of normal time was not reported in 2013 ARS. Time to graduation information was not includded in 2008 ARS.

I. Full-time Instructional Faculty Compared to the Time of the Last Visit (full academic year)

As reported in the 2013 ARS

Ethnicity	Professor - Male	Professor - Female	Professor - TOTAL	Assoc. Professor - Male	Assoc. Professor - Female	Assoc. Professor - TOTAL	Assis. Professor - Male	Assis. Professor - Female	Assis. Professor - TOTAL	Instructor - Male	Instructor - Female	Instructor - TOTAL	GRAND TOTAL
American Indian or Alaska Native	0	0	0	0	0	0	0	0	0	0	0	0	0
Asian	0	0	0	0	0	0	0	0	0	0	0	0	0
Native Hawaiian or other Pacific Islander	0	0	0	0	0	0	0	0	0	0	0	0	0
Black or African American	0	0	0	0	0	0	0	0	0	0	0	0	0
Hispanic/Latino	0	0	0	0	0	0	0	0	0	0	0	0	0
White	**5**	**3**	**8**	**2**	**0**	**2**	**2**	**1**	**3**	**0**	**0**	**0**	**13**
Two or more races	0	0	0	0	0	0	0	0	0	0	0	0	0
Nonresident alien	0	0	0	0	0	0	0	0	0	0	0	0	0
Race and ethnicity unknown	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**5**	**3**	**8**	**2**	**0**	**2**	**2**	**1**	**3**	**0**	**0**	**0**	**13**

As reported for the academic year in which the last visit took place (2008)

Ethnicity	Professor - Male	Professor - Female	Professor - TOTAL	Assoc. Professor - Male	Assoc. Professor - Female	Assoc. Professor - TOTAL	Assis. Professor - Male	Assis. Professor - Female	Assis. Professor - TOTAL	Instructor - Male	Instructor - Female	Instructor - TOTAL	GRAND TOTAL
American Indian or Alaska Native	0	0	0	0	0	0	0	0	0	0	0	0	0
Asian	0	0	0	0	0	0	0	0	0	0	0	0	0
Native Hawaiian or other Pacific Islander	0	0	0	0	0	0	0	0	0	0	0	0	0
Black or African American	0	0	0	0	0	0	0	0	0	0	0	0	0
Hispanic/Latino	0	0	0	0	0	0	0	0	0	0	0	0	0
White	**3**	**3**	**6**	**1**	0	**1**	**3**	**1**	**4**	0	0	0	**11**
Two or more races	0	0	0	0	0	0	0	0	0	0	0	0	0
Nonresident alien	0	0	0	0	0	0	0	0	0	0	0	0	0
Race and ethnicity unknown	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**3**	**3**	**6**	**1**	**0**	**1**	**3**	**1**	**4**	**0**	**0**	**0**	**11**

II. Faculty Promotions	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**
Faculty in the accredited program	11	12	11	12	13	14
Assistant to Associate Professor	0	0	0	0	2	0
Associate to Full Professor	0	0	0	1	0	0
Faculty in the institution	1071	1058	1070	1082	1098	1100
Assistant to Associate Professor	12	18	11	13	16	14
Associate to Full Professor	14	17	8	19	11	14

III. Faculty Receiving Tenure	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**
Faculty in the accredited program	0	0	0	1	2	0
Faculty in the institution	13	19	12	14	18	18

IV. Registration in U.S. Jurisdictions	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**
Faculty receiving 1st time licenses	1	0	0	0	1	0
Faculty receiving reciprocal licenses	2	1	1	1	1	2
Faculty renewing licenses	1	4	2	2	4	3
Faculty receiving NCARB Certificates	2	1	1	2	1	1
Foreign-educated	2	2	2	2	2	2
Foreign-licensed	1	1	1	1	1	1
Broadly Experienced Architects	6	6	6	6	6	6

I.3.2. Annual Reports

Princeton University School of Architecture
Princeton, New Jersey 08544-5264

October 8, 2014

To: The National Architectural Accrediting Board

From: Stan Allen, Acting Dean and the George Dutton '27 Professor of Architecture

Subject: Annual Reports

As an academic officer of Princeton University, I confirm that all statistical data submitted to the NAAB through its 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.

I.3.3. Faculty Credentials

Please see the faculty resumes in Part IV, Section 2. Please see the faculty matrix in Part I. Section 2.1 (I.2.1) for each faculty member's course assignments and brief description of the educational experience and recent scholarship and/or professional experience that supports their qualifications for ensuring the achievement of the student performance criteria (SPC).

I.4. Policy Review

The following policies and documents will be available in the Team Room for review by the visiting team:

- Studio Culture Policy
- Self-Assessment Policies and Objectives
- Personnel Policies including:
    - Position descriptions for all faculty and staff
    - Rank, Tenure, & Promotion
    - Reappointment
    - EEO/AA
    - Diversity (including special hiring initiatives)
    - Faculty Development, including but not limited to; research, scholarship, creative activity, or sabbatical.

- Student-to-Faculty ratios for all components of the curriculum (i.e., studio, classroom/lecture, seminar)
- Square feet per student for space designated for studio-based learning
- Square feet per faculty member for space designated for support of all faculty activities and responsibilities
- Admissions Requirements
- Advising Policies; including policies for evaluation of students admitted from preparatory or pre-professional programs where SPC are expected to have been met in educational experiences in non-accredited programs
- Policies on use and integration of digital media in architecture curriculum
- Policies on academic integrity for students (e.g., cheating and plagiarism)
- Policies on library and information resources collection development
- A description of the information literacy program and how it is integrated with the curriculum

Part Two (II). Educational Outcomes and Curriculum

II.1.1. Student Performance Criteria

Professional education in architecture at Princeton takes place in the context of a University dedicated to intellectual inquiry, critical thinking, and public service (Note the University's often cited informal motto: "Princeton in the nation's service and in the service of all nations."). The School of Architecture is not a freestanding professional school, but is instead fully integrated into the University. As a consequence, the School's mission is closely tied to the University's overall teaching and research orientation. A premium is placed on individualized instruction, and independent work is encouraged. Interdisciplinary exchange is actively promoted, and professional programs are presented in a broad cultural context. All students are expected to acquire a high level of expertise and technical competence while at the same time understanding the way in which their individual knowledge contributes to a wider social and cultural perspective.

The School of Architecture has embraced this synthetic approach, and developed a curriculum in which individual courses and areas of study complement and reinforce one another. The School, like the University, places a high value on self-directed learning, while at the same time maintaining low student/teacher ratios that assure every student ample opportunity to discuss and test his or her ideas in a challenging intellectual context. The curriculum has been structured to maintain a careful balance between required course sequences, and the flexibility necessary to permit individualized instruction. We work closely with every student to shape a program that fits his or her interests, while paying close attention to the requirements of a rigorous professional education. We maintain high standards and high expectations for every student. Our goal is to train the next generation of leaders in the field: architects who possess a highly developed expertise in their own field as well as a broad cultural and social perspective.

This is accomplished by a carefully structured curriculum in which required courses in Design, Building Technology, and Professional Practice are complemented by a wide range of offerings in the history and theory of architecture, a special focus on urbanism and the history of cities, and an interdisciplinary orientation that allows our students to take full advantage of the intellectual resources of a major University. Our small size permits us to meet individually with every student to monitor their progress, and to make adjustments as required, either to address areas that are lacking, or to point them to other areas for further exploration. Some courses are directed very specifically at one or more of the Performance Criteria; most however, address many requirements simultaneously, in keeping with the School's synthetic orientation. We believe that an architectural education today must give students both a strong foundation in the discipline as well as the broader perspective necessary to meet the challenges of the coming decades as technology and society inevitably change.

The school curriculum consists of the following Required Courses, Distribution and Electives:

	Required Courses	Distribution	Electives	Total
1. Design Studios/ Seminars	ARC 501 First Year Core Studio ARC 502 First Year Core Studio ARC 503 or ARC 504 Integrated Building Studio ARC 505 Vertical Studio ARC 506 Vertical Studio ARC 508 Thesis ARC 547 Formal Analysis			**7**
2. History and Theory	18/19th Century Architecture Course 20th Century Architecture Course Urbanism Course	3 additional H&T		**6**
3. Building Technology	ARC 509 Integrated Building Systems ARC 510 Structural Analysis	1 additional BT		**6**

	ARC 511 Structural Design ARC 514 Environmental Engineering 1 ARC 515 Environmental Engineering 2			
4. Legal and Business	ARC 562 Professional Practice			**1**
5. Master Thesis Preparation	ARC 530 Master Thesis Preparation			
6. Electives			3	**4**
Total	**17**	**4**	**3**	**24**

Integration of Student Performance Criteria in the Professional M.Arch. Curriculum

Realm A: Critical Thinking and Representation

A.1. Communication Skills
Ability to read, write, speak, and listen effectively.

The ability to speak and write effectively is fundamental to the professional program of the School of Architecture. Entering students are selected in large part on the basis of their communication skills as evidenced in their application essay. The School places a strong emphasis on written work, listening skills, and oral presentations in seminars, and refines students' verbal skills at public design reviews. All graduates will be able to research and write a coherent and well-argued essay, present this work along with visual media, and verbally demonstrate the relationship between a graphic presentation of their design work and their architectural ideas.

This criterion is covered in many of the SoA's courses, and in particular is a focus of the six required distribution courses in the History and Theory of Architecture, which include a required course in 18th/19th Century history and theory of architecture, a course in 20th Century history and theory of architecture and a course in urbanism. In addition to the history and theory seminars, the first semester design studio, ARC 501, is instrumental in teaching verbal skills in a sequence of design problem presentations.

Primary evidence of achievement:
ARC 501 Architecture Design Studio (Core)
ARC 549 History and Theories of Architecture: 20th Century

A.2. Design Thinking Skills
Ability to raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test them against relevant criteria and standards.

The ability to raise clear and precise questions, to debate issues, and to consider multiple points of view is basic to the culture of the School. Design thinking is synthetic thinking, and the SoA places high emphasis on the ability to define a problem, collect and interpret data, and reach an informed conclusion. In studio courses, propositions are debated and tested, context and precedent are discussed, and students are encouraged to explain their own design thinking and take responsibility for their ideas. Consistent with University-wide policy, all graduate level lecture courses at Princeton are taught as seminars. Hence, most courses in the accredited Master of Architecture program are taught in small groups, where students are expected to raise questions, make presentations, and contribute to the discussion.

This criterion is covered in many of the SoA's courses, including history/theory seminars and design seminars. The studio sequence is specifically formulated to develop design-thinking skills.

Primary evidence of achievement:
ARC 501 Architecture Design Studio (Core)
ARC 502 Architecture Design Studio (Core)

A.3. Visual Communication Skills
Ability to use appropriate representational media, such as traditional graphic and digital technology skills, to convey essential formal elements at each stage of the programming and design process.

The School of Architecture requires that each of its students demonstrate a sophisticated command of the full range of graphic media. This includes research work, where data must be synthesized and presented effectively, freehand sketching to quickly convey design ideas, or finished drawings, models and renderings to fully describe design ideas. At the School of Architecture, there is a long tradition of investigating the medium of representation alongside of design ideas in studio and design seminars. This begins with the required course in representation that is taught parallel to ARC 501, *Architecture Design Studio (Core)* in the first year. This course, ARC 547, *Introduction to Formal Analysis*, starts with freehand drawing and the basic principles of descriptive geometry, and moves on to computer drafting and modeling. The studio sequence itself introduces specific forms of representation through structured design exercises. By the end of the first year, all students have a basic command of graphic media. Upper level design studios utilize computer technology extensively, and this hands-on experience encourages students to sharpen their graphic skills in the context of specific design problems.

Primary evidence of achievement:
ARC 547 Introduction to Formal Analysis
ARC 501 Architecture Design Studio (Core)

A.4. Technical Documentation
Ability to make technically clear drawings, write outline specifications, and prepare models illustrating and identifying the assembly of materials, systems, and components appropriate for a building design.

The ability to make technically precise descriptions of a proposed design begins with strong graphic skills and a basic understanding of materials and construction techniques. These skills are an essential part of the teaching throughout the design studios. They are, however, specifically addressed in three interrelated areas. The required course ARC 547, *Introduction to Formal Analysis*, assures that all students have basic drawing skills and understand the principles of section and plan cuts, axonometric and perspective projection. Building on this skill base, the required Integrated Building Systems class (ARC 509) gives all students an opportunity to work directly with actual building materials so that they understand issues such as construction sequence and the behavior of materials. To reinforce that understanding, they are required to complete technical drawing exercises as part of this course. Finally, in the required *Integrated Building Studio* (ARC 503), students are required to make large-scale wall sections and detail models in order to better understand the relationship between design intention and detail. The Integrated Building Studios in particular stresses the use of models.

In addition to these directed courses, in ARC 511, *Structural Design,* students complete the schematic design of a complete structure, and in the two-semester Environmental Engineering sequence, questions of coordination and building services are addressed. The contractual and legal implications of technical documents and specifications are covered in J. Robert Hillier FAIA's required course in professional practice [ARC 562, *The Professional Practice of Architecture* (Required)].

Primary evidence of achievement:
ARC 509 Integrated Building Systems
ARC 503 Integrated Building Studio

A.5. Investigative Skills
Ability to gather, assess, record, and apply and comparatively evaluate relevant information within architectural coursework and design processes.

Within the broad, university context of the School's programs, and consistent with its emphasis on research and scholarship, the ability to collect, analyze, and evaluate data is central to the curriculum. History and theory courses require students to undertake extensive research, including primary sources and archival research in some cases. Building Technology and Professional Practice courses require in-class presentations that involve outside research. Given the rapid pace of change in the building industry, as well as in architecture's cultural context, the architect's responsibility to keep current with his or her knowledge is of paramount importance in design work today. In addition to research conducted in the traditional areas of history and theory, many design studios incorporate research as an integral component of design work. In the required thesis project, students initiate and formulate specific areas of design inquiry, and independent research is a necessary element of the thesis project.

Primary evidence of achievement:
ARC 508 Master of Architecture Thesis Studio

A.6. Fundamental Design Skills
Ability to effectively use basic architectural and environmental principles in design.

Although the School's curriculum places equal importance on each area of knowledge necessary for the complete education of an architect, the teaching of architectural design in the studio is the central activity of the professional program. The time devoted to the design studios in the curriculum and the spaces devoted to them in the SoA building reflect this centrality. All issues raised in other courses are synthesized here into design proposals intended to demonstrate students' understanding of the fundamental principles of architectural design.

For Three-year Master of Architecture students, basic organizational, spatial, environmental, and structural principles of architectural design are taught in the required two-semester *Core Design Studio* sequence. Selective admissions assure that no students are accepted into the program with Advanced Standing unless they have already demonstrated sufficient command of fundamental design skills to move directly into the *Vertical Studios*. This is based on a careful review of the student's portfolio of design work at the time of admission. Note that these students must have completed a minimum of four semesters of design studio prior to entering the program. However, the completion of four semesters of design studio does not automatically qualify a student for entry into the program with Advanced Standing. If the admissions committee has doubts about an individual student's fundamental design skills, that student will be required to complete the full three-year program. Princeton's rigorous sequence of design studios therefore assures that all graduates possess strong design skills.

Primary evidence of achievement:
ARC 501 Architecture Design Studio (Core)
ARC 502 Architecture Design Studio (Core)

A.7. Use of Precedents
Ability to examine and comprehend the fundamental principles present in relevant precedents and to make choices regarding the incorporation of such principles into architecture and urban design projects.

It is our belief at the School of Architecture that successful design work must advance on the basis of a deep understanding of the cultural context of previous work. In *Core Design Studios*, there are specific problem sets that incorporate precedents. In the *Vertical Studio* sequence, individual design teachers expose the students to a variety of precedents, and employ different strategies to utilize them in design work. Finally, in the Master of Architecture thesis work, all students are encouraged to research a full range of precedents as they develop their individual thesis proposals. While this criterion is fully covered in design studio, it is also central to the School's extensive history and theory offerings. This coursework familiarizes students with a wide range of precedents, and acquaints them with the ways in which precedent has been understood and utilized in the past. This interplay between studio work and history courses is fundamental to the Princeton education.

Primary evidence of achievement:
ARC 501 Architecture Design Studio (Core)
ARC 505 Architecture Design Studio (Vertical)

A.8. Ordering Systems Skills
Understanding of the fundamentals of both natural and formal ordering systems and the capacity of each to inform two- and three- dimensional design.

The School of Architecture emphasizes the understanding of formal ordering systems as a fundamental aspect of design study. Issues of visual perception and the principles of two- and three-dimensional design and architectural composition are covered in depth in the *Core Design Studios*, and reinforced in *Vertical Studios*. A required course, ARC 547, *Introduction to Formal Analysis*, addresses these questions directly. Formal analysis of ordering systems is further explored in ARC 492, *Topics in the Formal Analysis of the Urban Structure*, and ARC 520, *Questioning Post-Medium Specificity in Architecture*. Upper-level graduate seminars place formal ordering systems in a critical and historical intellectual context. Design Seminars present many opportunities for students to continue to explore questions of formal order in greater depth over the course of their education at Princeton.

Primary evidence of achievement:
ARC 501 Architecture Design Studio (Core)
ARC 547 Instruction to Formal Analysis

A.9. Historical Traditions and Global Culture
Understanding of parallel and divergent canons and traditions of architecture, landscape, and urban design including example of indigenous, vernacular, local, regional, national settings from Eastern, Western, Northern, and Southern hemispheres in terms of their climatic, ecological, technological, socioeconomic, public health, and cultural factors.

To assure that all students can effectively participate in this area of the curriculum, the School requires entering students to have completed, as a prerequisite for admission, a minimum of one full-year survey course on the history of art and architecture. An understanding of the traditions of global architecture, landscape, and urban design is further assured by required courses in the History and Theory Area of Distribution. These include the courses in the *History and Theories of Architecture: 18th and 19th Centuries*, *History and Theories of Architecture: 20th Century*, and *Urbanism*.

The practice of architecture unfolds on a global stage today, and a respect for, and knowledge of, the traditions of non-Western architecture is vital to architectural education. In the first instance, an active program of international exchanges assures that nearly every student at Princeton has first-hand exposure to non-Western architecture and cities. Since 2006, the SoA has offered an endowed studio with travel to Japan, giving students an opportunity to experience both the traditional architecture of Japan and its dynamic urban life. Other studios have traveled to China, Mexico, Dubai, and Singapore. The majority of professional Master of Architecture students have taken advantage of this opportunity to travel to experience non-Western culture first hand.

Architecture students' understanding of the diversity of art historical methods and traditions throughout the world is facilitated by the long-standing cooperative relationship between the SoA and the Department of Art and Archaeology. Students are able to take undergraduate survey courses in the history of art and architecture from antiquity to the present, and can study particular periods in the history of art in specialized graduate seminars. Within the History and Theory distribution requirements are a number of courses that cover non-Western traditions, including courses in Islamic Art and Architecture, Chinese Art and Architecture, and Byzantine Art and Architecture. This allows students to gain an awareness of the parallel and divergent traditions of architecture and urban design in the non-Western world. The distribution requirements encourage students to include these classes in their course of study.

Primary evidence of achievement:
ARC 506 Architecture Design Studio (Vertical) "Japan Studio"
ARC 549 History and Theories of Architecture: 20th Century

A.10. Cultural Diversity
Understanding of the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the implications of this diversity for the societal roles and responsibilities of architects.

At the School of Architecture, an awareness of cultural diversity is presented as a subject that cannot be viewed independently from historical and cultural factors. The School's focus on urbanism in particular emphasizes the city as a place where diverse cultures and ideas thrive. Lecture and seminar courses stress the contributions of multiple cultures to the modern city. History courses covering non-Western cultures (Islamic, Chinese, and Byzantine, for example) further increase awareness of the diversity of needs, values, behavioral norms and social and spatial patterns that characterize different cultures. These factors are also studied in design studios and seminars, both in their traditional dimensions and with the awareness of constant change. In particular, the diversity of human needs and behavioral patterns, and its impact on architecture, is effectively addressed in the international design studios. As noted above, the School of Architecture offers regular *Vertical Studios* that travel to China and Japan. These studios involve exchanges with local collaborators, and an intense, first-hand experience of another culture. Other studios or seminars have traveled to Mexico, Dubai, and Singapore. These traveling studios expose students to other cultures in the specific context of contemporary issues of urbanism or building design.

Beyond the learning opportunities available at the SoA, within the University (particularly in the Departments of Art and Archaeology, Anthropology, and Sociology) there are a substantial number of undergraduate and graduate courses that undertake to expand the awareness of cultural diversity. All courses at the University, including undergraduate and graduate courses, are open to the Master of Architecture students at the SoA, and may be taken either as free electives, or as replacements for the requirements within the Areas of Distribution of a particular program (with the permission of the Director of Graduate Studies, Master of Architecture Programs). Finally, the student body of the School of Architecture, which draws students from all over the world, is itself an effective means to call attention to the diverse needs, values, and norms of differing cultures and individuals.

Primary evidence of achievement:
ARC 505 Architecture Design Studio (Vertical)
ARC 506 Architecture Design Studio (Vertical) "Japan Studio"

A.11. Applied Research
Understanding the role of applied research in determining function, form, and systems and their impact on human conditions and behavior.

Under Dean Alejandro Zaera-Polo, a significant new focus on applied research was initiated at the School. That focus is understood in two ways: 1) new courses and research initiatives involving students that emphasize concrete, verifiable outcomes (energy use, structural performance, etc.); and 2) an emphasis in design studios and history and theory course work on a more concrete and verifiable relationship between data collected and its impact on the design process. Because the SoA maintains that human behavior is culturally dependent and historically conditioned, this criterion is addressed in a broad humanistic context in courses ranging throughout the curriculum. However, Applied Research is specifically addressed in the contest of a new semester long-required course ARC 530, *Master of Architecture Thesis Preparation Seminar*. In this class, research methodologies are examined in depth, and the potential to translate research work into concrete design proposals with an impact on human conditions and behavior is explored in depth. In addition to the theoretical approach offered in seminars and lecture courses offered by the School that address social and cultural issues, special note should be

taken of the focus on computation that allows for research results to be quantified, visualized, and become available for design applications concerned with all scales of the built environment.

Primary evidence of achievement:
ARC 530 Master of Architecture Thesis Preparation Seminar
ARC 508 Master of Architecture Thesis Studio

Realm B: Integrated Building Practices, Technical Skills, and Knowledge

B.1. Pre-design
Ability to prepare a comprehensive program for an architectural project, such as preparing an assessment of client and user needs, an inventory of space and equipment requirements, an analysis of site conditions (including existing buildings), a review of the relevant laws and standards and assessment of their implications for the project, and a definition of site selection and design assessment criteria.

The School recognizes that the architect's role in program preparation is expanding today. An active role in initiating and preparing building programs enables architects to work more effectively, and to catch conflicts early on in the design process. Program preparation is addressed in the context of design studios as an integral part of the design process. Design faculty members present to the students a variety of graphic and written means to collect and organize data concerning client and user needs, site conditions, codes, zoning and economic constraints, and strategies to actively utilize that data in the design work. The use of diagrams and other means to graphically translate program data has become a common strategy in *Vertical Design Studios*. Site analysis and site selection are an integral part of design work at the School of Architecture.

For their final thesis project, all Master of Architecture students are required to prepare a program as part of the thesis proposal. A required seminar addressing the conceptual background to pre-design, ARC 530*, Master of Architecture Thesis Preparation Seminar*, has recently been added to the curriculum. That conceptual framework is developed the following semester into specific projects in ARC 508, *Master of Architecture: Thesis Studio*. The architect's responsibility for program preparation is covered in a required course, ARC 562, *The Professional Practice of Architecture*, taught by J. Robert Hillier, FAIA.

Primary evidence of achievement:
ARC 508 Master of Architecture: Thesis Studio
ARC 562 The Professional Practice of Architecture

B.2. Accessibility
Ability to design both site, facilities, and systems to provide independent and integrated use by individuals with physical (including mobility), sensory, and cognitive disabilities.

The design studios, building technology courses, and the required professional practice courses all emphasize the architect's responsibility to provide for safety and accessibility. The ability to incorporate accessibility into design work is emphasized throughout the studio sequence. In introductory design studios, it is considered to be part of the basic functional program of all building projects that they be fully accessible. While certain *Vertical Studios* or thesis projects cover specialized areas of research, in those studios where accessibility issues are present, the same criteria apply. The School's emphasis on urbanism and site design means that the student's ability to incorporate accessibility concerns in design work extends to site design. The legal and ethical implications of accessibility issues are covered in the required course in professional practice, ARC 562, *The Professional Practice of Architecture*, taught by J. Robert Hillier, FAIA.

Primary evidence of achievement:
ARC 503 Integrated Building Studio
ARC 562 The Professional Practice of Architecture

B.3. Sustainability
Ability to design projects that optimize, conserve, or reuse natural and built resources, provide healthful environments for occupants/users, and reduce the environmental impacts of building construction and operations on future generations through means such as carbon-neutral design, bioclimatic design, and energy efficiency.

It is the School's belief that environmental and ecological concerns must be addressed as a core issue of architectural thinking today. Recent faculty hires and collaborative initiatives have reinforced our emphasis on sustainability. At the SoA, all students gain an understanding of the basic principles of sustainability in the two-semester required course sequence in Environmental Technology and Building Systems, which begins with a discussion of basic principles of ecology, the conservation of natural resources, and their impact on architectural design. In the required *Integrated Building Studio*, students apply their understanding to specific design problems, working directly with environmental consultants. Students are encouraged to extend their understanding by selecting from several elective courses: ARC 521, *Elemental Building Function,* taught by Forrest Meggers, a SoA faculty member with a specialization in energy use and sustainability (jointly appointed to the Andlinger Center for Energy and Environment), offers students an opportunity to explore sustainability issues in depth. ARC 492, *Topics in the Formal Analysis of the Urban Structure,* and ARC 535, *Architecture Cities and Nature,* address issues such as urban sprawl and resource conservation in the urban context. Reflecting strong student interest in ecological principles, a number of students have taken up sustainability and energy issues as a subject for thesis projects.

Primary evidence of achievement:
ARC 514 Environmental Engineering of Buildings, Part I
ARC 515 Environmental Engineering of Buildings, Part II

B.4. Site Design
Ability to respond to site characteristics such as soil, topography, vegetation, and watershed in the development of a project design.

The SoA approaches architecture from the standpoint that the design and construction of buildings, cities, and landscapes are inseparable from their physical context, which includes their climatic, geographical, natural, and man-made environments. The ability of a design project to respond to its natural and built site conditions figures in many areas of the design studio, beginning with the *Core Design Studios*, and continuing with the *Vertical Studios*, including a specific focus in the *Integrated Building Studios*. Faculty present students with a variety of techniques to understand and analyze site conditions, and to incorporate the results of that analysis into design projects. During design studios and project reviews, the relationship between the manmade and natural worlds is a recurrent and fundamental theme of debate and discourse. The School strives to make students aware of an architect's role in creating forms that are responsive to physical phenomena, while understanding that these forms are also dependent on cultural traditions and conventions. In ARC 515, *Environmental Engineering of Buildings, Part II,* students design a net-zero building with careful attention to site forces, including sun, wind, and water. These issues are further explored in ARC 492, *Topics in the Formal Analysis of the Urban Structure*, and ARC 536, *Architecture Cities and Nature.* The School's emphasis on urbanism and landscape underscores the importance of natural and built site conditions in architectural design. This is reflected in a number of thesis projects that take as their point of departure unusual or difficult site conditions.

Primary evidence of achievement:
ARC 503 Integrated Building Studio
ARC 515 Environmental Engineering of Buildings, Part II

B.5. Life Safety
Ability to apply the basic principles of life-safety systems with an emphasis on egress.

The design studios and the building technology courses emphasize the architect's responsibility to provide for life-safety in building design. An understanding of the principles of life-safety systems, and a particular emphasis on egress, is understood to be a fundamental consideration in architectural design. It is part of the basic design skills taught in the *Core Design Studios*, and, as students engage more complex building problems in upper-level studios, the issues of egress, materials, and systems that relate to life-safety also become more complex. In ARC 509, *Integrated Building Systems*, students are exposed to materials and assemblies, and the life-safety issues of material selection. Questions of life-safety as they relate to vertical transportation, electrical, plumbing, and communications are presented as part of a comprehensive understanding of environmental systems design in ARC 514 and 515, *Environmental Engineering of Buildings, Parts I and II*. The architect's responsibilities to life-safety issues are covered in J. Robert Hillier, FAIA's required course in professional practice (ARC 562, *The Professional Practice of Architecture*).

Primary evidence of achievement:
ARC 509 Integrated Building Systems
ARC 562 The Professional Practice of Architecture

B.6. Comprehensive Design
Ability to produce a comprehensive architectural project that demonstrates each student's capacity to make design decisions across scales while integrating the following *SPC:* A2, A3, A4, A5, A8, B1, B2, B3, B4, B5, B6, B7, B8, B9, and C4.

The teaching of architectural design is central to the mission of the professional programs of the School of Architecture. Design teaching takes place primarily, although not exclusively, in the sequence of required design studios. Studio projects, in conjunction with required building systems, structural design, and environmental engineering courses expose the students to a full range of design issues, including programming, environmental systems, life-safety, and building assemblies. Detailed design development is an integral part of the School of Architecture studio culture, and is addressed directly in ARC 509, *Integrated Building Systems*, where students construct details and build mock-ups at full-scale.

Launched in the academic year 2003-04, the required *Integrated Building Studios* courses are intended to assure that all students meet the requirements for Comprehensive Design. Since that time, the course has evolved to become a mainstay of the SoA education. While some sections take on larger programs, and focus on programming, site design, sustainability, and landscape, the usual approach is to take on a relatively small and manageable building program. Students are required to develop the project to a high level of program resolution and technical detail. Considerations of structure, building materials, and systems, environmental technology, building envelope, and site design are integrated directly into studio work through the active participation of School of Architecture Building Technology faculty. A premium is placed on energy performance and sustainable solutions. Students are encouraged to view technical constraints as generating design solutions, rather than as problems to be solved by a consultant after the fact. Large-scale wall-sections and/or detail models are required of all students.

All professional Master of Architecture students are required to take at least one *Integrated Building Studio* (ARC 503 or ARC 504) during their sequence of *Vertical Studios*. One *Integrated Building Studio* is offered every semester, which is sufficient to accommodate all the presently enrolled professional Master of Architecture students. *Integrated Building Studios* are led by full-time and visiting faculty, and in every case the architect leading the studio will co-teach with a minimum of two technical consultants, usually drawn from our own Building Technology faculty.

Primary evidence of achievement:
ARC 503/504 Integrated Building Studio

B.7. Financial Considerations
Understanding of the fundamentals of building costs, such as acquisition costs, project financing and funding, financial feasibility, operational costs, and construction estimating with an emphasis on life-cycle cost accounting.

An understanding of the financial considerations involved in professional practice is covered in our required professional practice course, ARC 562, *The Professional Practice of Architecture*. Professor Hillier covers basic issues such as the architect's roles and responsibilities in construction cost estimating, the different methods of cost estimating and construction cost control, and the principles of life cycle cost. Additional information is available in his elective course, ARC 563, *Business and Legal Issues in Architectural Practice.* Students are also expected to expand their fundamental knowledge of issues of construction economics in a variety of courses in urbanism and design, where issues of economic and development are played out. For students who want to further expand their awareness of this subject beyond the base of knowledge presented at the SoA, there are specific courses available through the Urban Planning Program at the Woodrow Wilson School of Public and International Affairs, and through the Departments of Civil and Environmental Engineering and Operations Research and Financial Engineering. These courses introduce students to economic systems and policies as they help shape the physical environment and focus on issues of relevance to architectural practice.

Primary evidence of achievement:
ARC 562 The Professional Practice of Architecture
ARC 563 Business and Legal Issues in Architectural Practice

B.8. Environmental Systems
Understanding the principles of environmental systems' design such as embodied energy, active and passive heating and cooling, indoor air quality, solar orientation, daylighting and artificial illumination, and acoustics; including the use of appropriate performance assessment tools.

Informed by the most up-to-date principles of sustainability and current environmental technologies, the two semester sequence of required courses (ARC 514 and 515, *Environmental Engineering of Buildings, Parts I and II*) is taught by Mahadev Raman, a partner at Arup in New York. This course leads students through the fundamentals of heating, cooling, and ventilating building structures. The courses build a comprehensive technical understanding of the basics of environmental science, such as U-values, heating and cooling loads, and mechanical systems design, in the context of sustainability and resource conservation. In the required *Integrated Building Studio*, all students are required to address the design implications of the building's energy use and environmental performance. ARC 513, *Contemporary Façade Design, Procurement and Execution*, an elective course on the building envelope, is a consistent part the curriculum. Further electives are available through the School of Architecture and the School of Engineering and Applied Science.

Primary evidence of achievement:
ARC 514: Environmental Engineering of Buildings, Part I
ARC 515 Environmental Engineering of Buildings, Part II

B.9. Structural Systems
Understanding of the basic principles of structural behavior in withstanding gravity and lateral forces and the evolution, range, and appropriate application of contemporary structural systems.

The building technology courses offered in the SoA's curriculum teach elementary engineering design and analysis through a rigorous course of theory (mechanics, dynamics, and thermodynamics), an analysis and evaluation of key building types and examples, and an understanding of the methods, practices, and legal and economic structures of the building industry. The specific understanding of the principles of structural behavior is assured by a required sequence of courses in the area of Building Sciences taught by Nat Oppenheimer, PE, and Professor Guy Nordenson, PE, a full-time faculty member with an active professional practice recognized for its innovative work with prominent architects. ARC 510,

Structural Analysis for Architecture, covers structural analysis and ARC 511, *Structural Design*, covers structural design. These courses fully explore the theory and practice of structural design, including gravity loads and lateral loads in steel, concrete, and wood. The range of structural systems and their application is covered through analysis and design exercises. Application of these principles is encouraged in design studio, which is facilitated by the availability of Professor Nordenson as a design critic, and our close relationship with the School of Engineering and Applied Science.

In the required *Integrated Building Studio*, the role of structural systems in design work is addressed directly, and Professors Nordenson and Oppenheimer are actively involved. Students wishing to deepen their knowledge of structural technology may do so by taking courses cross-listed with the School of Engineering in Civil Engineering, such as large scale structures (CEE 461, *Design of Large Scale Structures: Buildings*; and CEE 462, *Design of Large Scale Structures: Bridges)*. Professor Nordenson also offers a seminar course in the interpretation and meaning of structural technology in architecture: ARC 518, *Construction and Interpretation*, that utilizes advanced computer technology for structural analysis.

Primary evidence of achievement:
ARC 510 Structural Analysis
ARC 511 Structural Design

B.10. Building Envelope Systems
Understanding of the basic principles involved in the appropriate application of building envelope systems and associated assemblies relative to fundamental performance, aesthetics, moisture transfer, durability, and energy and material resources.

An understanding of the behavior of building enclosures and their architectural implications is increasingly important in contemporary architectural practice. This is an area characterized simultaneously by technical innovation, changing code requirements, and high expectations of environmental performance. The School seeks to assure that all students understand the principles of building envelopes, and their application in the context of design studio work. Basic issues of envelope design are introduced in the required course ARC 509, *Integrated Building Systems.* In the context of a comprehensive introduction to building technology, this course introduces students to issues of building orientation and form, glazing performance, insulation values, problems of water penetration, and other envelope related questions. (Students entering the Master of Architecture program with Advanced Standing are required to show the successful completion of a similar course or courses at another institution).

The issues of building envelope are studied in greater depth in the required two-semester environmental technology sequence, where the performance of the building envelope is examined as a crucial component in an overall strategy of environmental control. Finally, in the *Integrated Building Studio*, students put this knowledge to work, designing and detailing building façades and typical wall sections. In recognition of the importance of this area in contemporary practice, the School has for the past eight years offered an elective course, ARC 513, *Contemporary Façade Design, Procurement, and Execution,* as a key part of the curriculum. In this advanced course, students are introduced to the full range of design, detail, performance, sourcing, and fabrication issues as they relate to contemporary building envelopes. This course has always been taught by the leaders of the New York based firm Front, which is at the forefront of building envelop innovation and implementation.

Greatest evidence of achievement:
ARC 509 Integrated Building Systems
ARC 513 Contemporary Façade Design

B.11. Building Service Systems
Understanding of the basic principles and appropriate application and performance of building service systems such as plumbing, electrical, vertical transportation, security, and fire protection systems.

Basic building services and their implications for design work are introduced in ARC 509, *Integrated Building Systems*. A more in-depth approach is found in the context of the School's comprehensive Building Technology sequence, which includes structural, environmental technology, and building systems. ARC 514, *Environmental Engineering of Buildings, Part I* covers general issues including the integration of electrical and telecommunications systems. Specific issues concerning air-conditioning, plumbing, electrical, vertical transportation, and telecommunications are taken up in greater detail in ARC 515, *Environmental Engineering of Buildings, Part II.* In both courses, building service systems are presented in the wider context of structural and architectural design and energy conservation. Students gain an understanding of the principals that guide the engineer's decisions in the selection and design of building service systems, so that they can function as informed collaborators in design teams in their future practice.

ARC 514 and ARC 515 both emphasize the integration of environmental technology using case studies and field trips. Throughout the curriculum of the Master of Architecture programs, the development of analytical skills enables the student to understand the complex, inner workings of a building and understand the necessity to integrate various structural, environmental, life-safety, and building service systems into a coherent building design. A synthetic approach to the integration of building systems is specifically addressed in the required *Integrated Building Studio*, where these technical constraints are explored for their design potential.

Primary evidence of achievement:
ARC 515 Environmental Engineering of Buildings, Part I
ARC 515 Environmental Engineering of Buildings, Part II

B.12. Building Materials and Assemblies
Understanding of the basic principles utilized in the appropriate selection of construction materials, products, components, and assemblies, based on their inherent characteristics and performance, including their environmental impact and reuse.

While the design studios place importance on the choice and application of building materials and their tectonic expression, the building technology courses provide a complementary exploration of the principles and appropriate applications associated with the formation, manufacture, and performance of construction materials. Because the environmental consequences arising from the choice and use of materials are considerable, and because of the life-cycle costs associated with particular choices of assemblies and materials, this area of knowledge is of increasing importance.

Building materials and assemblies are introduced in the context of the required course, ARC 509, *Integrated Building Systems*. This course takes advantage of the School's unique facility for hands-on learning in the area of building technology. The Princeton Architecture Laboratory is a 4,600 square foot facility, fully equipped and staffed by technical experts in building construction. The Laboratory facilities enable students to develop a deeper understanding of the pragmatic and technical aspects of architecture in relationship to materials and assemblies. In addition to its day-to-day employment for the construction of architectural models, the Laboratory is used for work related to building systems and construction, and the testing and analysis of materials and structural models. It provides a unique teaching space allowing the students to collaborate on the construction of a full-scale building project. The studio sequence ARC 503, *Integrated Building Studio,* emphasizes the generative role material assemblies and their performance plays in the development of a building. Students are required to develop detailed wall section drawings and models that explore the impacts of material components on the overall architectural project.

Primary evidence of achievement:
ARC 509 Integrated Building Systems
ARC 503 Integrated Building Studio

Realm C: Leadership and Practice

C.1. Collaboration

Ability to work in collaboration with others and in multi-disciplinary teams to successfully complete design projects.

The School of Architecture recognizes that contemporary practice requires working in interdisciplinary teams that not only include other designers, but also a wide network of consultants and collaborators. The ability to work collaboratively is basic to practice today, and is integrated into the curriculum in a number of ways. Although most design work is individual, a number of *Vertical Studios* have consistently worked in teams of two, three, and four, giving students an opportunity to work as a member of a design team. Program research, site documentation, and base models are often team efforts. This criterion is covered specifically in the required course ARC 509, *Integrated Building Systems*, where students collaborate on the construction of a full-scale building project, and in ARC 503/504, *Integrated Building Studio,* where students work in teams of two or three to complete a detailed design project in discussion with structural, mechanical, or environmental consultants

Another particularly effective example of collaborative work occurs in the context of the Master of Architecture Thesis work. In the period following the “pass/fail” review (scheduled at the end of term, when other students have finished their studio work), all students pitch in to complete the thesis projects. The entire School is active and energized, as recent graduates return to the School to “return the favor” for those who assisted them in years past. A positive atmosphere of collaboration and camaraderie permeates the entire design studio.

The School of Architecture is fortunate to exist in a University context that actively encourages interdisciplinary work. The SoA maintains good relations with the Woodrow Wilson School of Public and International Affairs, the School of Engineering and Applied Science, and a number of departments in the Humanities and Social Sciences. This exposure to students and coursework from other fields encourages a respect for the expertise of allied fields. Specific roles and responsibilities of all members of the design team are covered in the required course in professional practice, ARC 562, *The Professional Practice of Architecture*. The School promotes the recognition of and respect for these divergent roles in design, and actively explores new collaborative models of practice. Finally, a number of student-organized initiatives, such as the journal *Pidgin*, encourage teamwork and collaboration among students. By the end of their time at Princeton, all students will have been exposed to collaborative work in one form or another.

Primary evidence of achievement:
ARC 504 Integrated Building Studio
ARC 509 Integrated Building Systems

C.2. Human Behavior

Understanding of the relationship between human behavior, the natural environment and the design of the built environment.

Students gain a basic understanding of human behavior and its relationship to the physical environment in design studios and in seminar and lecture courses concerned with architecture and its relation to social factors. Because the SoA maintains that human behavior is culturally dependent and historically conditioned, it is taught in a broad humanistic context in courses ranging throughout the curriculum. Therefore, the performance criterion for the awareness of human behavior is not isolated in the professional curriculum as a separate area of study but is incorporated into several of the Areas of Distribution: design, history and theory, and professional practice. Theories and methods of inquiry in the sciences of human behavior are explicitly covered in urbanism courses taught by Professor Boyer (ARC 304, *The Historical Development of Urban Form* and ARC 525, *Mapping the City*). The area where the complex issues of human behavior are most explicitly addressed is through thesis work, where each student must formulate an architectural project that engages the discipline and the built environment.

Primary evidence of achievement:
ARC 508 Master of Architecture Thesis Studio

C.3. Client Role in Architecture
Understanding of the responsibility of the architect to elicit, understand, and reconcile the needs of the client, owner, user groups, and the public and community domains.

The role of the client and the architect's responsibility to elicit, understand, and reconcile the needs of the client, owner, user groups, and the public and community domains is specifically covered in J. Robert Hillier FAIA's required course in professional practice (ARC 562, *The Professional Practice of Architecture*). Professor Hiller places great emphasis on the role of the client, and can supplement his teaching with many years of successful practice and client relationships. As part of the course, he has brought a variety of clients into the class as visiting speakers to discuss the process of design, issues of communication, and the role and expectations of the client. He places the needs of the clients in a larger context of community responsibility and the public domain. An optional elective course (ARC 563, *Business and Legal Issues in Architectural Practice*) is also offered, in which issues of the client's role and the architect's responsibilities are examined in greater depth.

Apart from these courses, design studios often involve site visits and meetings with organizations or individuals acting as "clients," in the sense that they have particular interest in the subject of the design studio. Recent examples of collaborations with "client" groups invested in the work include the contribution of the New Museum of New York in response to a studio project dedicated to re-imagining the Bowery in New York City, and the Judd Foundation and Ballroom Marfa in a studio with a focus in Marfa, Texas. The introduction of "client" models in the form of institutional directors or local experts that communicate their aspirations from these projects renders the needs and responsibilities of the client, institution, and architect explicit to the students.

Primary evidence of achievement:
ARC 562 The Professional Practice of Architecture
ARC 563 Business and Legal Issues in Architectural Practice

C.4. Project Management
Understanding of the methods for competing for commissions, selecting consultants and assembling teams, and recommending project delivery methods.

In general, the School's emphasis on communication skills prepares students well to become effective project managers. Students gain a specific and directed understanding of the different methods of project delivery, office management, contracts, and the role of consultants in Professor J. Robert Hillier's required professional practice course, ARC 562, *The Professional Practice of Architecture*. Professor Hillier, who headed one of the country's most successful architectural practices, is particularly strong in the areas of office organization, business planning, and marketing. The challenge of assembling collaborative design teams is explicitly addressed. The subject is examined in greater depth in his advanced elective course (ARC 563, *Business and Legal Issues in Architectural Practice)*. Building systems and environmental technology courses, such as ARC 513, *Contemporary Façade Design, Procurement and Execution,* touch on such areas as coordination between trades, project administration, and implementation.

Primary evidence of achievement:
ARC 562 The Professional Practice of Architecture
ARC 563 Business and Legal Issues in Architectural Practice

C.5. Practice Management
Understanding of the basic principles of architectural practice management such as financial management and business planning, time management, risk management, mediation and arbitration, and recognizing trends that affect practice.

The primary source for students' awareness of the conventions and standards of practice management remains J. Robert Hillier FAIA's required course in professional practice (ARC 562, *The Professional Practice of Architecture*), which covers this material in the context of a comprehensive examination of the day-to-day concerns of an architectural practice, including the ethical and legal responsibilities, time management, project delivery, and documentation. Further information is available in his advanced elective course (ARC 563, *Business and Legal Issues in Architectural Practice*), which specially addresses business planning and marketing. The School of Architecture is also committed to exposing students to innovative practices that respond to new trends such as globalization, new forms of project delivery, and expanded practice options. These include some of our own faculty, many of who practice aboard, as well as visiting faculty from Asia and Europe. Courses available through the Woodrow Wilson School of Public and International Affairs allow students to study issues of development, leadership, management, and negotiation that affect the practices of architecture and urban planning.

Primary evidence of achievement:
ARC 562 The Professional Practice of Architecture
ARC 563 Business and Legal Issues in Architectural Practice

C.6. Leadership
Understanding of the techniques and skills architects use to work collaboratively in the building design and construction process and on environmental, social, and aesthetic issues in their communities.

The School of Architecture prides itself on training architects who are effective collaborators, capable of communicating with and steering all of the many stakeholders involved in the design process. To do so, it relies in the first instance upon the example of the distinguished practitioners on its own faculty to provide role models and mentoring. The design studio instructors maintain active and highly visible professional practices, and are encouraged to develop and present case studies of their own projects in order to effectively illustrate ideas of professional leadership in practice. For Building Technology courses, the School relies upon teachers who maintain leadership roles in successful practices, and an active lecture series brings students in regular contact with outstanding figures in the field.

The values of innovation, experimentation, critical thinking, and intellectual inquiry on which our program is based also serve to prepare students for leadership roles. Students are encouraged to think for themselves, and to be prepared to take responsibility for their ideas and actions. Central to this process is the required Master of Architecture Thesis project. In the final thesis semester, every student is required to formulate an original project, complete all design work, and defend the proposal in a public jury. A required workshop in the previous semester prepares the students to address these issues, and during the final thesis semester they work closely with an advisor and under the general guidance of the Thesis Coordinator. In this way, the thesis provides a controlled transition from the protected world of the academy to independent work and leadership roles in the profession. Note that in the period following the "pass/fail" review, students are allowed to engage teams of other students and recent graduates to assist them in completing their projects. This means that they gain direct, hands-on experience leading and managing a small collaborative design team as part of their thesis work.

Primary evidence of achievement:
ARC 508 Master of Architecture: Thesis Studio

C.7. Legal Responsibilities
Understanding of the architect's responsibility to the public and the client as determined by registration law, building codes and regulations, professional service contracts, zoning and subdivision ordinances, environmental regulation, and historic preservation and accessibility laws.

The competence and professionalism of the architect depends on an understanding of the conventional legal systems and the regulatory agencies that architects must work within. An architect needs to understand the process of approvals and development, and the role that other disciplines play within the process. Effective practice requires an understanding of economics and business, and should address

the ethical issues faced by an architect. In the last 20 years, these systems and procedures have become increasingly complex. The SoA presents this material, not only in its historical context, but also, and more practically, as knowledge essential to an effective practice of architecture. It is imperative that all students understand the implications of the legal aspects of practice. J. Robert Hillier, FAIA's required course in professional practice (ARC 562, *The Professional Practice of Architecture*) covers this material in depth. For students who wish to expand their knowledge beyond the material covered in the required course, the SoA offers ARC 563, *Business and Legal Issues in Architectural Practice*, which explores several areas of practice in more detail. Both courses trace the evolution of professional conventions and building practices in order to develop a student's awareness of the constantly changing role of the architect.

There are many opportunities, through elective courses, for students in the professional programs to study areas of government and law and recent social and policy changes that impinge upon architecture and architectural practice, in particular through the School's focus on urban issues, and the policy offerings of the Woodrow Wilson School.

Primary evidence of achievement:
ARC 562 The Professional Practice of Architecture ARC 563 Business and Legal Issues in Architectural Practice

C.8. Ethics and Professional Judgment
Understanding of the ethical issues involved in the formation of professional judgment regarding social, political and cultural issues in architectural design and practice.

The School works to instill in all students the highest standards of ethical behavior. In order for architects to contribute to their culture, they must be profoundly aware of the values, needs, and ethics of the dominant culture in which they work, but they also must have an understanding of other cultures. More generally, the School views architecture as a form of cultural expression, and the faculty undertakes to teach future architects methods for analyzing cultural expressions, values, needs, and ethics. In addition, the School of Architecture provides its students with the means to design projects from a critical perspective regarding present and future issues of architecture, society, and ethics. This understanding is assured through a range of courses that address ethical issues in their historical and cultural framework as well as advanced seminars that consider many aspects of architecture and urbanism in a broad cultural context. Specifically with regard to issues of professional judgment in architecture and design, we rely upon J. Robert Hillier, FAIA's required course in professional practice (ARC 562, *The Professional Practice of Architecture*) to assure that all graduating students have a basic understanding of the ethical principles involved.

Primary evidence of achievement:
ARC 562 The Professional Practice of Architecture

C.9. Community and Social Responsibility
Understanding of the architect's responsibility to work in the public interest, to respect historic resources, and to improve the quality of life for local and global neighbors.

Architecture is a public art form, and the programs of the School are structured to reinforce this fundamental principle from multiple perspectives. Many of the *Vertical Studios* work with existing urban sites and involve contact with local communities around issues of public space, community values, and respect for the existing fabric of the city. Professor Reiser's studios in Japan have worked with historic sites in the international context. In a similar way, many thesis projects take on issues of social justice and public interest. History and Theory courses address the changing expectations of the architect's role in society, and the Urbanism distribution requirement speaks to historic resources, urban fabric, and civic space. Above all, this is a matter of School culture and philosophical orientation; in order to be communicated effectively it needs to be reinforced in multiple courses and situations. That said, the specific responsibilities of the architect to act responsibly and work in the public interest are covered in ARC 562, *The Professional Practice of Architecture.*

Primary evidence of achievement:
ARC 508 Master of Architecture: Thesis Studio
ARC 562 The Professional Practice of Architecture

Student Performance Criteria

SPC			A.1 Communication	A.2 Design Thinking	A.3 Visual Communication	A.4 Technical Documentation	A.5 Investigative	A.6 Fundamental Design	A.7 Use of Precedents	A.8 Ordering Systems	A.9 Historical Traditions & Global Culture	A.10 Cultural Diversity	A.11 Applied Research	B.1 Pre-Design	B.2 Accessibility	B.3 Sustainability	B.4 Site Design	B.5 Life Safety	B.6 Comprehensive Design	B.7 Financial Considerations	B.8 Environmental Systems	B.9 Structural Systems	B.10 Building Envelope Systems	B.11 Building Service Systems	B.12 Building Materials & Assemblies	C.1 Collaboration	C.2 Human Behavior	C.3 Client Role in Architecture	C.4 Project Management	C.5 Practice Management	C.6 Leadership	C.7 Legal Responsibilities	C.8 Ethics & Professional Judgment	C.9 Community & Social Responsibility
SPC expected to have been met in preparatory or pre-professional eduction, if applicable.																																		
			Realm A: Critical Thinking and Representation											Realm B: Integrated Building Practices, Technical Skills and Knowledge												Realm C: Leadership and Practice								
SPC met by Advanced Standing Students				○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○	○	○	○			○	○			○
SPC Met in NAAB-Accredited Program																																		
			Realm A: Critical Thinking and Representation											Realm B: Integrated Building Practices, Technical Skills and Knowledge												Realm C: Leadership and Practice								
Courses	**Title**	**Faculty**																																
ARC 302	Architecture and the Visual Arts	Papapetros	○	○			○		○	○	○	○														○								
ARC 308	History of Architectural Theory	Allais	○	○			○		○		○	○														○								
ARC 401	Theories of Housing and Urbanism	Laing	○	○			○		○		○	○	○	○													○	○	○			○	○	○
ARC 411	Building Envelope: Technology and Architecture	Fernandez				○			○		○												○		○									
ARC 425	The Ordinary	Walker	○						○			○															○							○
ARC 489	Selected Works of 20th Century Architects	Kipnis	○	○					○	○	○		○														○							
ARC 492	Topics in the Formal Analysis of Urban Structure	Gandelsonas			○				○	○	○						○									○	○					○		
ARC 501	**Architecture Design Studio**	**Meredith**	●	●	●		○	●	●	●				○	○	○	○	○	○		○	○	○	○	○	○								
ARC 502	**Architecture Design Studio**	**Kilian**	○	●	○		○	●	○	○				○	○	○	○	○	○		○	○	○	○	○	○								○
ARC 503	**Integrated Building Studio**	**Lewis**	○	○	○	●	○	○	○	○			○	○	●	○	●	○	●		○	○	○	○	●	○		○						○
ARC 504	**Integrated Building Studio**	**Zaera-Polo, Jaque**	○	○	○	○	○	○		○	○	○	○	○	○		○		●		○	○	○	○	○	●	○	○						○
ARC 505	**Architecture Design Studio**	**L.Young, Poupyrev, Allen**	○	○	○		○	○	●	○	○	●	○	○	○		○		○		○	○			○	○		○						○
ARC 506	**Architecture Design Studio**	**Reiser**	○	○	○		○	○	○	○	●	●	○	○	○		○		○		○	○	○		○	○		○						○

SPC			A.1 Communication	A.2 Design Thinking	A.3 Visual Communication	A.4 Technical Documentation	A.5 Investigative	A.6 Fundamental Design	A.7 Use of Precedents	A.8 Ordering Systems	A.9 Historical Traditions & Global Culture	A.10 Cultural Diversity	A.11 Applied Research	B.1 Pre-Design	B.2 Accessibility	B.3 Sustainability	B.4 Site Design	B.5 Life Safety	B.6 Comprehensive Design	B.7 Financial Considerations	B.8 Environmental Systems	B.9 Structural Systems	B.10 Building Envelope Systems	B.11 Building Service Systems	B.12 Building Materials & Assemblies	C.1 Collaboration	C.2 Human Behavior	C.3 Client Role in Architecture	C.4 Project Management	C.5 Practice Management	C.6 Leadership	C.7 Legal Responsibilities	C.8 Ethics & Professional Judgment	C.9 Community & Social Responsibility
SPC expected to have been met in preparatory or pre-professional eduction, if applicable.																																		
			Realm A: Critical Thinking and Representation											Realm B: Integrated Building Practices, Technical												Realm C: Leadership and Practice								
SPC met by Advanced Standing Students				○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○	○	○	○			○	○			○
SPC Met in NAAB-Accredited Program																																		
			Realm A: Critical Thinking and Representation											Realm B: Integrated Building Practices, Technical												Realm C: Leadership and Practice								
Courses	**Title**	**Faculty**																																
ARC 507/508	**Master of Architecture: Thesis Studio**	**Diller, Zaera-Polo, Meredith**	○	○	○	○	●	○	○	○	○		●	●	○	○	○	○	○	○	○	○			○	○	○	●	○	○		●	○	○	●
ARC 509	**Integrated Building Systems**	**Pelsinski**			○	●		○			○						○	●	○	○	○	○	○	●	○	●	●		○		○		○			○
ARC 510	**Structural Analysis for Architecture**	**Nordenson**				○	○	○										○				●				○									
ARC 511	**Structural Design**	**Oppenheimer**				○	○	○										○	○		○	●	○	○		○									
ARC 513	Contemporary Façade Design	Nichols				○	○	○					○			○			○		○	○	●	○	○	○				○					
ARC 514	**Environmental Engineering of Buildings – Part I**	**Raman**				○	○	○					○			●	○	○			●		○	●	○	○									
ARC 515	**Environmental Engineering of Buildings – Part II**	**Raman**				○	○	○					○			●	●	○	○		●		○	●	○	○				○					
ARC 518	Construction and Interpretation	Nordenson	○	○		○	○	○									○		○		○	○			○	○					○	○	○	○
ARC 519	Climate Adaptation Design	Nordenson				○	○	○					○			○	○				○					○	○							○
ARC 520	Questioning Post-Medium Specificity in Architecture	Meredith	○		○		○			○																	○							
ARC 521	Elemental Building Function	Meggers				○	○	○					○			○	○		○	○	○	○	○		○	○	○							○
ARC 525	Mapping the City	Boyer	○	○	○		○		○	○	○	○	○														○	○	○					
ARC 528	The Digital Turn: A Cultural History	Carpo	○								○																							
ARC 530	**Master Thesis Preparation Seminar**	Kipnis, Lavin	○				○		○				○	○														○			○			
ARC 536	Architecture, Cities and Nature	Allen	○							○	○	○	○			○												○						

SPC			A.1 Communication	A.2 Design Thinking	A.3 Visual Communication	A.4 Technical Documentation	A.5 Investigative	A.6 Fundamental Design	A.7 Use of Precedents	A.8 Ordering Systems	A.9 Historical Traditions & Global Culture	A.10 Cultural Diversity	A.11 Applied Research	B.1 Pre-Design	B.2 Accessibility	B.3 Sustainability	B.4 Site Design	B.5 Life Safety	B.6 Comprehensive Design	B.7 Financial Considerations	B.8 Environmental Systems	B.9 Structural Systems	B.10 Building Envelope Systems	B.11 Building Service Systems	B.12 Building Materials & Assemblies	C.1 Collaboration	C.2 Human Behavior	C.3 Client Role in Architecture	C.4 Project Management	C.5 Practice Management	C.6 Leadership	C.7 Legal Responsibilities	C.8 Ethics & Professional Judgment	C.9 Community & Social Responsibility
SPC expected to have been met in preparatory or pre-professional eduction, if applicable.																																		
			Realm A: Critical Thinking and Representation											Realm B: Integrated Building Practices, Technical												Realm C: Leadership and Practice								
SPC met by Advanced Standing Students				○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○	○	○	○			○	○			○
SPC Met in NAAB-Accredited Program																																		
			Realm A: Critical Thinking and Representation											Realm B: Integrated Building Practices, Technical												Realm C: Leadership and Practice								
Courses	**Title**	**Faculty**																																
ARC 543	Ecologies of Practice	Yaneva	○								○		○													○	○							○
ARC 545	The Philosophy of Urban History	DeLanda	○								○	○	○														○							
ARC 546	Ohms, Environments: Arch, Resistance and Media Tech	Wasiuta	○								○		○														○							
ARC 547	**Introduction to Formal Analysis**	**M.Young**	○		●	○	○	○	○	●																								
ARC 549	History and Theories of Architecture: 20th Century	Papapetros	●				○		○		●	○																					○	○
ARC 557	The Modeling Complex	Boyer	○		○					○	○		○																					
ARC 562	**The Professional Practice of Architecture**	**Hillier**				○			○					●	○			●		●						○	○	●	●	●	○	●	●	●
ARC 563	Business and Legal Issues in Architectural Practice	Hillier							○					○	○					●							○	●	●	●	○	●	○	○
ARC 574	Computing and Imaging in Architecture	Fornes			○	○	○	○		○																								
ARC 575	Advanced Topics in Modern Arch: Building a new New World: Amerikanizm in Russian Architecture	Cohen	○								○	○																						
ARC 576	Advanced Topics in Modern Architecture	Colomina	○	○			○				○	○	○																					
ARC 577	Topics in Contemporary Architectural Theory: Anonymity	Lavin	○	○			○				○																							
ARC 579	Los Angeles: Architecture, Mobility and Motion Pictures	Cohen	○								○																							
ARC 588	Dynamical Logics in Architecture	Reiser			○		○	○		○										○	○													
ARC 596	Topics in Architecture and Information/Embodied Computation	Kilian			○	○	○	○		○			○														○							

II.2. Curricular Framework

II.2.1. Regional Accreditation

The following is the most recent letter from the regional accrediting commission/agency regarding Princeton University's term of accreditation.

CHE MSA Middle States Commission on Higher Education
3624 Market Street, Philadelphia, PA 19104-2680. Tel: 267-284-5000. Fax: 215-662-5501
www.msche.org

June 27, 2014

RECEIVED
JUL 01 2014
President's Office

Mr. Christopher L. Eisgruber, JD
President
Princeton University
One Nassau Hall
Princeton, NJ 08544-0015

Dear President Eisgruber:

At its session on June 26, 2014, the Middle States Commission on Higher Education acted:

> 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.

Enclosed for your information is a copy of the Statement of Accreditation Status for your institution. The Statement of Accreditation Status (SAS) provides important basic information about the institution and its affiliation with the Commission, and it is made available to the public in the Directory of Members and Candidates on the Commission's website at www.msche.org. Accreditation applies to the institution as detailed in the SAS; institutional information is derived from data provided by the institution through annual reporting and from Commission actions. If any of the institutional information is incorrect, please contact the Commission as soon as possible.

Please check to ensure that published references to your institution's accredited status (catalog, other publications, web page) include the full name, address, and telephone number of the accrediting agency. Further guidance is provided in the Commission's policy statement *Advertising, Student Recruitment, and Representation of Accredited Status*. If the action for your institution includes preparation of a progress report, monitoring report or supplemental report, please see our policy statement on *Follow-up Reports and Visits*. Both policies can be obtained from our website.

Please be assured of the continuing interest of the Commission on Higher Education in the well-being of Princeton University. If any further clarification is needed regarding the SAS or other items in this letter, please feel free to contact Dr. Robert A. Schneider, Senior Vice President.

Sincerely,

Gary L. Wirt, Ed.D.
Vice Chair

The Middle States Commission on Higher Education accredits institutions of higher education in Delaware, the District of Columbia, Maryland, New Jersey, New York, Pennsylvania, Puerto Rico, the U.S. Virgin Islands, and other locations abroad.

II.2.2. Professional Degrees and Curriculum

Professional studies in architecture at Princeton occur within an internationally recognized center for teaching and research. All of the programs housed in the School of Architecture are taught by a single, unified faculty. They share an administrative structure, and they serve to support and enhance one another. In addition to the NAAB accredited Master of Architecture program, there are three other programs and one joint degree program at the School of Architecture: an undergraduate concentration in architecture (A.B.); a Ph.D. in the history and theory of architecture; a post-professional two-year Master of Architecture degree (not accredited by the NAAB, and whose title is in the process of being changed); and a joint architecture/civil engineering degree at the undergraduate level. A limited number of students are accepted each year into the accredited Master of Architecture program with Advanced Standing; they typically complete the program in a two-year sequence of study.

As required by NAAB Conditions, the Master of Architecture program covers the traditional areas of knowledge necessary to practice architecture. The curriculum covers building design, urban design site planning, interior design, and landscape design. The accredited program also covers the full range of topics that are necessary to architectural practice, such as building technology, professional practice, and the history and theory of architecture. In addition, several areas integral to current architectural practice have become increasingly important within the curriculum: computer-aided design and imaging; international aspects of practice; environmental and sustainability considerations; and new building methods and materials.

The three-year professional Master of Architecture program, which includes a two-year Advanced Standing sequence, is accredited by the NAAB. The three-year Master of Architecture program leads to a first professional degree and is designed for students holding an undergraduate degree with a major in a field other than architecture, or for those students holding an undergraduate degree in architecture with insufficient course work to qualify for Advanced Standing (students with Advanced Standing are admitted to a two-year sequence in the Master of Architecture program). A minimum of 96 semester credit hours is required for admission. Additional prerequisites for admission consist of one year of college-level course work in the history of art and architecture, and one year of college-level course work in both physics and calculus.

The Advanced Standing Master of Architecture sequence is intended for students holding an undergraduate degree in architecture who have completed sufficient course work to qualify for Advanced Standing in pursuit of their first professional degree. Students entering this sequence must hold an undergraduate nonprofessional degree in architecture or its equivalent (from college-level studies at a foreign university, for example), and must have completed a minimum of 120 semester credit hours including a minimum of four semesters of design studio prior to entering the program. Whether a student's overall qualifications entitle him or her to enter the Advanced Standing sequence is determined solely by the Admissions Committee. In addition, the student must have completed one year of college-level course work in the history of art and architecture, and one year of college-level course work in both physics and calculus.

The two-year Master of Architecture program (not accredited) leads to a second professional degree, and is designed for students already holding an undergraduate professional degree in architecture (B.Arch.), or students who have an equivalent professional degree in architecture from a foreign university. The prerequisite for admission is the first professional degree in architecture. Students spend four semesters in the program. Program requirements for the post-professional program have recently been modified; generally, in the first three semesters these students must complete three design studios, and may choose any of the School's regularly offered *Vertical Design Studios* to fulfill this requirement. In their final semester they must complete the independent design thesis. Although not accredited by the NAAB, the Master of Architecture Two-year Program shares faculty, classes, and space with the accredited degree programs.

The SoA offers the degree of Doctor of Philosophy in Architecture. The Doctoral Program in Architecture is guided by the Ph.D. Program Committee, composed of the Dean of the School of Architecture and members of the faculty teaching history and theory. The Committee is supported by visiting faculty and faculty with pertinent interests and expertise from other departments within the University.

The interdisciplinary nature of the program stresses the relationship of architecture, urbanism, landscape, and building technologies to their cultural, social, and political milieus. Supported by strong affiliations with other departments in the humanities, sciences, and social sciences, the program has developed a comprehensive approach to the study of the field. Students interact with their peers to sustain their individual projects in a context of collective research. Although not subject to NAAB review, the presence of the Ph.D. program within the School of Architecture has been decisive in shaping the character of the professional programs at Princeton. History and theory of architecture faculty teach in both programs, and the demands of the Ph.D. program assure high academic standards in lecture and seminar classes. Students from both programs benefit from the exchange of ideas and viewpoints. Ph.D. students holding a Master of Architecture degree often act as teaching assistants, increasing the interaction between programs. The Ph.D. students are very active in organizing lectures, symposia, and seminars, many of which are attended by the Master of Architecture students.

Princeton is unique among major research universities in its attention to undergraduate teaching. All of its faculty teach undergraduate as well as graduate students. Consistent with this philosophy, the School of Architecture has developed a close and productive relationship with graduate and undergraduate curricula. Faculty, facilities, and administration are common to both programs. Master of Architecture students gain valuable teaching experience assisting faculty with undergraduate teaching. Both graduate and undergraduate students benefit from exposure to a wider range of backgrounds and ideas. Finally, the undergraduate curriculum is marked by Princeton’s rich interdisciplinary tradition.

Students interested in pursuing studies both in architecture and civil engineering may participate in the joint Program in Architecture and Engineering offered through the Department of Civil and Environmental Engineering in the School of Engineering and Applied Science and leading to the B.S.E. degree. Engineering analysis, particularly for the siting of buildings and the design of their structural and environmental systems, is a vital component of contemporary architecture. This program, offered jointly by the Department of Civil and Environmental Engineering and the School of Architecture, presents a unique opportunity to integrate engineering and architectural design by combining the curricula of the two schools. It is designed particularly for students planning to do graduate work in architecture or to practice engineering in collaboration with architects and planners.

The School of Architecture has carefully structured its curriculum to include general studies, professional studies, and electives. Students receive personal academic advising, and are free to pursue their own interests within the constraints of the curriculum. The School is committed to assuring that its graduates receive a liberal education in architecture that balances technical competence, critical thought, and innovative practice.

The School of Architecture achieves this balance by the use of six Areas of the Curriculum, most of which have Core Required courses and Distribution courses. The Areas of the Curriculum are: Design Studios/Seminars; History and Theory; Building Technology; Legal and Business; Master Thesis Preparation; and Electives.

Most entering students in our graduate programs will have fulfilled the general studies requirement in undergraduate study. Students accepted into the three-year program come from a variety of backgrounds and, due to the competitive nature of our admissions process, represent some of the highest ranked universities in the U.S. and abroad. Many of these students are liberal arts or science majors, and in general, their academic preparation is very strong. A minimum of 96 semester credit hours is required for admissions to the three-year program, with a minimum of 40 semester credit hours in general studies.

Students entering the two-year Advanced Standing sequence come from undergraduate pre-professional architecture majors. In this case, we are dependent upon the distribution requirements of the undergraduate institutions, as well as our own admissions process. A minimum of 120 semester credit hours is required for admissions with Advanced Standing, with a minimum of 40 semester credit hours in general studies. A crucial part of the admissions procedure is to ensure that these entering students have adequate general studies preparation. For those students requiring additional general studies, many of the classes in the School of Architecture have a strong generalist orientation, for example, those in History and Theory and the Department of Art and Archaeology. Princeton's strong interdepartmental affiliations offer ample opportunity for students to take additional general studies classes.

Professional studies are the core of the School of Architecture curriculum, and the curriculum is centered on the design studio. Here the skills and knowledge of the professional architect are taught in a synthetic and comprehensive manner. The entering students enrolled in the accredited Master's Degree Program form a single design studio, ARC 501 in the fall, and ARC 502 in the spring. This Core Studio sequence allows all students to develop design, representation, and time management skills. In ARC 502, they are introduced to principles of computational design and the integration of technical constraints and site issues. As some entering students have limited architectural design experience, the exercises in the Core Studio sequence are specifically tailored to bring all students up to similar level. Those with less background are challenged to form a new skill set, while those with more experience are introduced to new ways of working and thinking. The mix of levels encourages the exchange of information between students, as the more advanced students help those with less experience.

After the Core Studio sequence, all M.Arch. students are well prepared for the *Vertical Studios*, which take place in both semesters of the second year, and in the fall semester of the third year. Post-Professional and Advanced Standing students are integrated into the *Vertical Studios*, so that the mix of levels and distinct backgrounds, where students learn from one another, is enhanced. In the *Vertical Studios*, students are presented with a range of program types, from large-scale urban and infrastructural projects, to small-scale building projects, to studios that deal with new media and technology. Some studios have a specific research agenda, and are organized into teams of students that work collaboratively.

In order to address the Criterion of "Comprehensive Design," the School has developed a number of *Integrated Building Studios (IBS)*. *Integrated Building Studios* are taught jointly by both design and building technology faculty to foster an interdisciplinary approach to problem solving and the integration of technical constraints in design. By introducing issues of site design, environmental technology, or structural design into the design problem at the outset, students are encouraged to take these constraints as the basis for design, rather than overlaying technical solutions on an already elaborated design proposal. The Design faculty member takes the lead, but consulting faculty (who may come from the SoA or outside) provide input and consultation throughout the process, participating in desk critiques, workshops, and interim reviews. Each student is required to take at least one IBS as part of their *Vertical Studio* sequence.

For their final semester studio, each student is required to develop an independent thesis project. Thesis is an essential and unique part of the studio culture at the SoA. Students are required to research site and program, propose an original approach, and test their proposition through a well-developed design proposal. Here, students are able to pursue a diverse range of projects, exploring their own approaches to the fundamental values of optimism, engagement, and innovation within architecture. Thesis is framed as a transition from a student's formal education to their life outside academia. This individual research project is guided by a faculty advisor but organized into a collective discussion group by a thesis coordinator drawn from the core faculty.

Required courses in formal analysis (ARC 547) assure that all students acquire graphic and computing skills. Courses in the Building Technology group are tailored to the individual student's background, but include a sequence of two required courses in structures (ARC 510, 511), materials and methods (ARC 509) and environmental technology (ARC 514, 515). Professional Practice is covered as a required

course in Legal and Business (ARC 562). Finally, there are extensive requirements in History and Theory, consistent with the School's emphasis on a broad liberal approach to architectural education. All students are required to take six courses in History and Theory of Architecture, one focused on architectural history and theory prior to the 20th Century, one covering 20th-Century architectural history and theory, one course on the history and theory of urbanism, and three electives in architectural history and theory.

In order to allow students to pursue their own special interests and to expand their educational opportunities, the SoA builds in electives as one of the areas of the curriculum. The SoA requires three elective courses for three-year students, and two for Advanced Standing students. All University courses (subject to departmental prerequisites) are open to our students, giving them a wide variety of possible electives to choose from. The School actively encourages students to develop and pursue individual interests in the course of their study at Princeton. The system of Curriculum Groups, divided into required core courses and distribution courses, is specifically designed to allow students to pursue special interests while still covering all of the essential skills and knowledge necessary for the professional degree. These requirements allow students to use distribution courses–i.e. those outside the mandatory required sequence of professional courses–to fulfill requirements in each of the different areas. This gives students the scope necessary to construct an individual program of study within the loose confines of a directed curriculum in architecture. The wide range of offerings in the area of History and Theory facilitates this individual work. Cross-listing of courses with Engineering and Applied Science, Art and Archaeology, Germanic Language and Literatures, and Comparative Literature gives students additional opportunity to fulfill departmental requirements with courses that, in another context, might be considered electives. The range of offerings in the vertical studios offers another opportunity for students to explore individual perspectives by choosing among studio programs that most closely reflect their own interests. Finally, the thesis project, in which the student is responsible for the choice of building program and site, is a further opportunity to incorporate research into the curriculum. Through these mechanisms, the SoA is convinced that its students have ample opportunity to pursue individual interests within the structure of the curriculum.

In order to graduate, students enrolled in the three-year Master of Architecture program must take a minimum of 24 courses equal to 108 semester credit hours and fulfill the distribution requirements. Each Design Studio is equal to six semester credit hours, all other courses are four semester credit hours. Each student takes four courses per semester, including one design studio and the independent design thesis in the final semester. This course load is equal to18 semester credit hours per semester. A minimum of 15 semester credit hours is required each semester. Students must take seven courses in Design Studios/Seminars (Group 1), six in History and Theory (Group 2), six in Building Technology (Group 3), one in Legal and Business (Group 4), one in Master Thesis Preparation (Group 5), and three electives (Group 6). Additionally, within each Group students must complete certain mandatory required courses (see the list of distribution and course requirements below).

Students in the advanced standing sequence are required to take a minimum of 16 courses, equal to 72 semester credit hours, within the distribution requirements of the three-year program. Each student takes four courses per semester, including one design studio and the independent design thesis in the final semester. This course load is equal to18 semester credit hours per semester. A minimum of 15 semester credit hours is required each semester. Because of the differences in the educational backgrounds of students entering the program with Advanced Standing, the required number of courses in the Areas of the Curriculum for two-year students are determined by the Director of Graduate Studies of the Master of Architecture Program, who reviews each student's transcript and experience prior to the first week of classes. Generally, Advanced Standing students are required to take four courses in Design Studios/ Seminars (Group 1), five in History and Theory (Group 2), three in Building Technology (Group 3), one in Legal and Business (Group 4), one in Master Thesis Preparations (Group 5), and two electives (Group 6).

All work involving independent design thesis projects is run by a Thesis Coordinator who is member of the Core Faculty. Students must consult with, and gain the approval of, the Director of Graduate Studies regarding their individual programs of study. The purpose of the flexibility described above is to enable

each student to formulate a design sequence that best suits individual needs and preferences within the constraints of the curriculum.

Program of Study:
Master of Architecture [non-pre-professional degree + 108 graduate credit hours]: 3-Year Program

I. Design Studios and Seminars		
A. ARC 501	Architecture Design Studio	6 hours
B. ARC 502	Architecture Design Studio	6
C. ARC 503 or 504	Integrated Building Studio	6
D. ARC 505a-c and/or ARC 506a-c	Two Vertical Studios	12
E. ARC 508	M.Arch. Thesis Studio	6
F. ARC 547	Introduction to Formal Analysis	4
II. History and Theory		
A. One course with a focus in 18th/19th century architectural history		4
B. One course with a focus in 20th century architectural history		4
C. One course with a focus in urbanism and landscape architecture		4
D. Three additional elective History and Theory courses		12
III. Building Technology		
A. ARC 509	Integrated Building Systems	4
B. ARC 510	Structural Analysis for Architecture	4
C. ARC 511	Structural Design	4
D. ARC 514	Environmental Engineering of Buildings, Part I	4
E. ARC 515	Environmental Engineering of Buildings, Part II	4
F. One additional elective Building Technology course		4
IV. Legal and Business		
ARC 562	The Professional Practice of Architecture	4
V. Master Thesis Preparation		
ARC 530	Master Thesis Preparation	4*
VI. General Electives: Three courses (any department)		12**

*New requirement as of fall 2013. Prior to fall 2013 students had four general elective courses for a total of 16 hours. The addition of the Master Thesis Preparation course reflects the School's increased focus on the thesis and involving students in independent research.

**It is assumed that the remaining 33 credits of general education will be fulfilled by the undergraduate education. While this is rarely an issue for students from U.S. institutions, students from international schools sometimes do not satisfy the requirements in this area. In countries such as the United Kingdom, for example, general education requirements are typically fulfilled by A-Levels attained before entering an undergraduate degree program. It has been the policy of the School to accept the educational conventions of the student's country in fulfilling general education requirements.

Master of Architecture [pre-professional degree + 72 graduate credit hours]: Advanced Standing
The undergraduate education of students admitted to the advanced standing program is scrutinized to insure that they have satisfied requirements at least equivalent to the first year of study in the three-year professional program. At minimum this includes four semesters of studio, and at least eight semesters of building technology, history, theory, and design seminar courses.

I. Design Studios and Seminars		
A. ARC 503 or 504	Integrated Building Studio	6 hours
B. ARC 505a-c and/or ARC 506a-c	Two Vertical Studios	12
C. ARC 508	M.Arch, Thesis Studio	6
II. History and Theory		
A. One course with a focus in 18th/19th century architectural history		4
B. One course with a focus in 20th century architectural history		4
C. One course with a focus in urbanism and landscape architecture		4
D. Two additional elective History and Theory courses		8
III. Building Technology		
A. ARC 511	Structural Design	4
B. ARC 515	Environmental Engineering of Buildings, Part II	4
C. One additional elective Building Technology course		4
IV. Legal and Business		
ARC 562	The Professional Practice of Architecture	4
V. Master Thesis Preparation		
ARC 530	Master Thesis Preparation	4*
VI. General Electives: Two courses (any department)		8**

*New requirement as of fall 2013. Prior to fall 2013 students had three general elective courses for a total of 12 hours. The addition of the Thesis Prep course reflects the School's increased focus on the thesis and involving students in independent research.

**It is assumed that the remaining 37 credits of general education will be fulfilled by the undergraduate education. While this is rarely an issue for students from U.S. institutions, students from international schools sometimes do not satisfy the requirements in this area. In countries such as the United Kingdom, for example, general education requirements are typically fulfilled by A-Levels attained before entering an undergraduate degree program. It has been the policy of the School to accept the educational conventions of the student's country in fulfilling general education requirements.

Sample Schedules:

Master of Architecture [non-pre-professional degree + 108 graduate credit hours]: 3-Year Program

Fall (Year 1)		**Spring (Year 1)**	
ARC 501	6 hours	ARC 502	6 hours
ARC 547	4 hours	ARC 509	4 hours
ARC 510	4 hours	ARC 511	4 hours
History Theory Seminar	4 hours	History Theory Seminar	4 hours
Total	18 hours	Total	18 hours
Fall (Year 2)		**Spring (Year 2)**	
ARC 505	6 hours	ARC 506	6 hours
ARC 514	4 hours	ARC 515	4 hours
ARC 562	4 hours	History Theory Seminar	4 hours
History Theory Seminar	4 hours	Elective	4 hours
Total	18 hours	Total	18 hours

Fall (Year 3)		**Spring (Year 3)**	
ARC 503	6 hours	ARC 508	6 hours
ARC 530	4 hours	History Theory Seminar	4 hours
Building Tech Elective	4 hours	Elective	4 hours
History Theory Seminar	4 hours	Elective	4 hours
Total	18 hours	Total	18 hours

Examples of minors or concentrations
The system of distribution and electives in the curriculum, the Graduate Certificate in Media and Modernity, and The Center for Architecture, Urbanism, and Infrastructure at the School of Architecture allow students to pursue special interests, and to develop specific areas of concentration within the program, or in affiliation with other departments on campus. This effort is consistent with Princeton University's emphasis on interdisciplinary study, and supported by the wide range of offerings in the School of Architecture itself, and the cross listing of courses with the School Engineering and Applied Science and the Department of Art and Archaeology. In particular, the School's close relationship with the School of Engineering and Applied Science and the Department of Art and Archaeology facilitates work in these immediately related areas. Students have taken advantage of this to pursue concentrations in areas as ranging from infrastructure design to contemporary art. Students have received credit for Urban Planning and Policy courses at the Woodrow Wilson School, and for courses in the Germanic Languages, Comparative Literature, and English departments, reflecting specific concentrations of interest in these areas.

The Program in Media and Modernity promotes the inter-disciplinary study of the unique cultural formations that came to prominence during the last century, with special attention paid to the interplay between culture and technology. The program centers on architecture, art, film, photography, literature, philosophy, music, history, and media from radio to information technology. The program draws on the rich human and material resources that exist at Princeton, and provides a focus and forum for research and teaching in the spaces, texts, media, and modernities of the 20th century. The program offers a graduate certificate and, more broadly, collaborative teaching, learning, and research opportunities centered on team-taught seminars and cross-disciplinary colloquia. The Graduate Program in Media and Modernity offers students from a wide range of fields—architecture to computer science, visual arts to anthropology, literature to political theory—the opportunity to enrich and broaden their study through participation in the interdisciplinary activities of the program. Students obtain the certificate by fulfilling the following requirements: (1) participation in one of the program's team-taught seminars; (2) enrollment in at least two further seminars in 20th-century culture outside the student's home department.

The Center for Architecture, Urbanism, and Infrastructure (CAUI) at the School of Architecture was established as a research center to provide a collective site for an increasingly important area of interdisciplinary research across the University. As reflected in the University's course offerings, Princeton has long recognized that cities (including metropolitan regions and the suburban landscape) offer a critical, cohesive tableau for researching anthropology, archaeology, architecture, art, civil engineering, economics, history, literature, politics, religion, sociology, and the environment. The Center offers a focused venue for sharing existing collective research, while also providing a platform for expanding it. It enables the School to enhance its teaching, research, and public programs dedicated to urban issues. The Center hosts a coordinated series of symposia, conferences, publications, working sessions, and public dialogues, as well as supports collective research.

Special note should be taken of the thesis project, in which students are encouraged to choose a topic of individual interest, which is often related to areas of concentration that have been pursued in elective courses. Students then conduct independent research on the topic in preparation for the design thesis. For SoA students, the thesis is an opportunity to identify and explore an area of special interest, which may anticipate the direction that their own practice or research interests may take in the future. The effort to relate this area of special interest back to the central architectural issues of the curriculum has proven to be invaluable.

II.2.3. Curriculum Review and Development

Because of the SoA's small scale, the entire faculty usually contribute to all discussions of Curriculum review and development; there are no specific committees. Hence, membership includes the 14 full-time faculty (six are licensed architects active in practice) and often the three core faculty members, who are long-standing part-time faculty members. The Dean may use the faculty or core faculty meetings as the venue to discuss curricular matters. As the need arises, the Dean may also convene ad hoc meetings on the curriculum. For 2014-15, there is the plan to establish a more focused SoA Committee on Curriculum, comprised of a sub-set of the full-time and core faculty that will meet more regularly throughout the academic year to address specific changes.

Curricular issues are regular topics at faculty and student representative meetings, and faculty and students are encouraged to raise these issues to the Dean for consideration at any time. If an issue or proposal deserves further attention, a meeting with the 14 full-time faculty members, and occasionally the core faculty, will be convened. As needed, the Dean may form an ad hoc committee or consult with outside experts to address the issues and present the findings to the faculty for a final decision. After a change has been approved, faculty will monitor the implementation and recommend further changes and adjustments as necessary. Since several members of the full-time faculty are licensed and practicing architects, all curricular decisions are made with their oversight.

In order to keep the curriculum current and representative of the state of the field, it is standard practice for the School to invite visiting faculty who are prominent in the field to teach seminars and studios. This ensures that students are exposed to a variety of the latest views and advancements in architecture. This past year, Andres Jaque, recipient of the Silver Lion at the Venice Biennale, was a visiting studio instructor. Through the curriculum development process outlined above, the SoA has put an increased emphasis on independent student research by expanding the scope of the thesis. The addition of the thesis prep course has extended the thesis process to a full year, and provides students the opportunity to learn about advancements in the field and be innovators themselves.

The curriculum review process has also been instrumental in both identifying areas that need to be addressed in the School's long range planning and achieving our long-range goals. It was in part curricular review that brought attention to the need for greater engagement with computation, technology, energy, environment, and innovation. This need was partially addressed by new tenure-track faculty Axel Kilian and Forrest Meggers, and the addition of visiting faculty Mahadev Raman and Bruce Nichols, who have contributed courses to the curriculum such as "ARC 514 and 515, Environmental Engineering of Buildings," "ARC 513, Contemporary Façade Design," ARC 596, Embodied Computation" and "ARC 521, Elemental Building Function." Input from faculty will continue to play a key role as the School strives to keep the curriculum forward looking and focused on the advancement of the discipline.

II.3. Evaluation of Preparatory/Pre-professional Education

Although Princeton University's School of Architecture states that students with "extensive and sophisticated undergraduate architectural education or who may be transferring with adequate credits may be granted advanced standing in the (accredited) Professional M.Arch. program" at the discretion of the Admissions Committee, the School has an established process to evaluate the preparatory or pre-professional education of students admitted with advanced standing status.

Applicants with advanced standing have the same general application requirements and undergo the same evaluation process for admission as the non-pre-professional M.Arch. applicants. The requirements are an undergraduate degree from an accredited college or university with a minimum of 120 credit hours, a statement of academic purpose, resume, transcripts, recommendation letters, GRE general test scores, TOEFL or IELTS scores (international applicants only), and a design portfolio. Eligible advanced standing applicants should have the additional component of extensive undergraduate architecture education from recognized schools with a rigorous curriculum. This entails the completion of approximately six semesters

of undergraduate design studio (or its equivalent) and a minimum of 120 semester hour credits. Furthermore, the School accepts applicants who may be transferring from another master's program with adequate credits. For transfer applicants who are currently enrolled, mid-year grades are required. It is strongly recommended that students have a year of college-level advanced mathematics (preferably calculus), physics, and survey courses in the history of art and architecture. Although not required for application to the Program, these courses should be completed before the start of the M.Arch. program.

The School's Admissions Committee, comprised of full-time SoA faculty, evaluates the advanced standing applicants with the professional M.Arch. pool. After the Dean of the School of Architecture and the Director of Graduate Studies (DGS) for the M.Arch. programs conduct the initial review and confirm that all the applicants are correctly separated into the categories of professional M.Arch., M.Arch. with advanced standing, and post-professional programs, the Admissions Committee begins the evaluation process. Each application is assessed by two different faculty members, who evaluate the merits of the design portfolio, academic record, references, statement of aims, and standardized test scores. The Committee ranks the applicants in terms of overall academic achievement and design aptitude and achievement. If the Advanced Standing applicant's design work is not up to the level of two semesters of graduate design studio work, the Admission Committee may recommend that the applicant be accepted in the three-year professional program.

If all of the criteria are met, the student is then offered advanced standing and placed in the two-year M.Arch. program with Advanced Standing (pre-professional degree + 72 credits). Students admitted with this standing are expected to have met the following SPC in their preparatory/pre-professional education**:**

Studios and Design Seminars: It is expected that students admitted into the advanced standing program will have completed more than four semesters of studio, and display design work, as evidenced by their portfolio, that shows that they have mastered the basic organizational, spatial, and structural principles of architectural design. Studios completed in a pre-professional program are expected to have at least touched upon most, if not all, of the following criteria: A.2-8 as well all criteria from Realm B. However, it is not expected that students granted advanced standing will have mastered all of these criteria, as additional required courses in the Princeton curriculum will further cover these areas.

Building Technology Courses: Pre-professional coursework for students admitted to the advanced standing program must have at least covered the material presented in ARC 509 and ARC 510. As such, the coursework should have addressed criteria A.4-6, A.9, B.4-12, C.1, C.5-6, and C.9. It is also preferred that advanced standing students have completed an environmental engineering or building technology course analogous to ARC 514, which would reinforce many of the criteria listed above, as well as addressed A.11, B.3 and C.2. Understanding that each school will approach its curriculum differently, each of these criteria is addressed in additional coursework that students will take at Princeton to insure that there are no gaps in their professional education.

In the week prior to the beginning of the first semester, the Director of Graduate Studies meets with all M.Arch students individually, including the Advanced Standing students. At this point, a further review takes place of the specifics of each Advanced Standing student's past curriculum, assessing the particulars of their past courses' syllabi and the student's performance/grades in those courses. If there is an ambiguity about how an undergraduate curriculum is structured and how it fits into Princeton's sequence, for example, how an undergraduate school's structural sequence meshes with Arc510 and Aarc511, the specific professor for the course(s) at Princeton will review the Advanced Standing student's syllabi and performance to determine if their course material has been sufficiently covered.

II.4. Public Information

II.4.1. Statement on NAAB-Accredited Degrees

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted a 6-year, 3-year, or 2-year term of accreditation, depending on the extent of its conformance with established educational standards.

Doctor of Architecture and Master of Architecture degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

Princeton University, School of Architecture offers the following NAAB-accredited degree programs:

Master of Architecture (non-pre-professional degree + 108 graduate credit hours; advanced standing status: pre-professional degree + 72 graduate credit hours)

Next accreditation visit for all programs: 2015

This statement appears on the School of Architecture's website at: http://soa.princeton.edu/content/naab-statement.

This text is also incorporated into the Graduate Catalog: http://gradschool.princeton.edu/academics/fields-study/architecture

This text is also included in print and promotional materials distributed for recruitment of students.

II.4.2. Access to NAAB Conditions and Procedures

Copies of the NAAB Conditions and Procedures can be found on the SoA website:

- 2009 Conditions for Accreditation: http://soa.princeton.edu/content/naab-statement.
- 2012 Procedures for Accreditation: http://soa.princeton.edu/content/naab-statement.

II.4.3. Access to Career Development Information

The School of Architecture makes available the following resources to all students, parents, staff, and faculty on its website: http://soa.princeton.edu/content/career-development-information.

www.ARCHCareers.org

The NCARB Handbook for Interns and Architects (http://www.ncarb.org/~/media/Files/PDF/Special-Paper/handbook.pdf)

Toward an Evolution of Studio Culture (http://www.aias.org/website/download.asp?id=312)

The Emerging Professional's Companion (http://www.aia.org/aiaucmp/groups/aia/documents/pdf/aiab097759.pdf)

National Council of Architectural Registration Boards (NCARB) (http://www.ncarb.org)

American Institute of Architects (AIA) (http://www.aia.org/)

American Institute of Architecture Students (AIAS) (http://www.aias.org/)

Association of Collegiate Schools of Architecture (ACSA) (http://www.acsa-arch.org/)

II.4.4. Public Access to APRs and VTRs

In order to promote transparency in the process of accreditation in architecture education, the following documents are available to the public in the Dean's Office, located at S-110 Architecture Building:

- *Annual Reports*, including the narrative;
- All NAAB responses to the *Annual Report;*
- The final decision letter from the NAAB;
- The most recent *APR (2008);* and
- The final edition of the 2009 *Visiting Team Report*, including attachments and addenda.

II.4.5. ARE Pass Rates

ARE pass rates on the NCARB site is available on the SoA website at the following link: http://soa.princeton.edu/zone?keys=naab&year%5Bvalue%5D%5Byear%5D=2015#841.

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Part Three. Progress Since Last Site Visit

1. Summary of Responses to the Team Findings [2009]

The Team Findings from the last visit in 2009 were very positive, and stated:

"The Team found the Master of Architecture program at Princeton University to be vibrant and dedicated to a tradition of excellence in architectural education. The strengths of the program include the following:

- The program is well grounded in history and theory, media, technology, environmental and sustainable theory, and urbanism
- The University's administration is highly supportive of the School of Architecture's professional degree program and reinforces the scholarly focus of the educational process in a liberal arts setting.
- The current School of Architecture leadership has a clear and well-articulated mission that is positively embraced by faculty and students.
- The small size of the school's student body engenders close collaboration among students, faculty and school administration."

A. Responses to Conditions Not Met

The Visiting Team found no conditions not met in 2009. The following were Conditions Well Met:

- Financial Resources
- 13.1 Speaking and Writing Skills
- 13.2 Critical Thinking Skills
- 13.11 Use of Precedent
- 13.15 Sustainable Design

B. Responses to Causes of Concern

Social Equity (Condition 4)

Comment from previous VTR [2009] (quote in full): This condition is met with some concerns expressed.

We note with concern the absence of a permanent African-American faculty member and the presence of relatively few African-American students in the school. Such a faculty member is crucial to the mentoring of African-American students and for as serving as a role model for the school.

The University president's initiative as quoted in the school's APR, states that "Diversifying our community continues to be of critical importance to the University. If we are to remain a pre-eminent institution, we must call upon the talents of gifted individuals from all backgrounds in our staff and faculty as well as in our student body." Princeton University also has a program for "targeted opportunities" for minority recruitment. A diversity work group is also under operation at the University level. We laud the University's commitment to diversity.

Equity and diversity remain one of the school's highest priorities. The school has clearly enunciated criteria and procedures to achieve equity and diversity in faculty "appointments, reappointments, compensation, and promotions" and for student "admissions, advancement, retention, and graduation."

The APR (3.4d), identifies "...concern about the number of women in the faculty." Admittedly, the presence of only one woman faculty at the junior level is a long term concern; the absence of an African American faculty is of more immediate concern.

The team is confident that the school will do everything in its power to rectify this situation.

Response from Program [2014]: The SoA continues to address diversity and equity issues as they relate to faculty and student recruitment and retention. They remain top priorities of the School and correspond to a campus-wide initiative on diversity and equity. The SoA and other academic departments are charged to develop strategies on diversity and equity for recruitment and retention of, and outreach to, faculty and graduate students.

The absence of a fulltime African American faculty member and the modest number of African American students in the accredited program have remained significant concerns and challenges to be addressed. Similarly, there is the presence of only one tenure-track female faculty at the School. Since the last visit, the SoA has conducted searches for four faculty members. In each search, considerable efforts were made to ensure that throughout the process, a high priority was placed on foregrounding minority and women candidates. For three of the four positions, a higher percentage of women were among the finalists than percentage of applicants received. The 2008-9 digital design search, which selected Axel Kilian, had 61 applicants with one minority, no African-Americans and 16 females. Of the four finalists, two were female. In the 2009-10 history and theory search, there were 104 applicants, with three African-American, and 33 females. Lucia Allais was the only female among the four finalists, and was awarded the position. In the design search from 2011, there were 159 total candidates, of which five were African-American, and 37 female. The short-list of 12 consisted of five, females and the four finalists were one-half female. Michael Meredith was selected in that search. The most recent search from 2012 for a joint appointment between the SoA and the Andlinger Center for Energy and the Environment had 105 candidates, of which one was African-American, and 28 were female. Women comprised two of six finalists, and the position was awarded to Forrest Meggers. In each search, the search committee, itself comprised of a balance of female and male faculty members, actively pursued candidates who would diversify the faculty, and would be the very top candidate in their field. In each search, the committee was unanimous in its selection of the candidate, candidates who have now proven to be instrumental in the school and emerging as leaders in their respective areas of expertise.

The SoA is very aware that in selecting these top young faculty in these four areas, with one women but no African-Americas, the diversification of the faculty of the School has not been advanced as well as it could. Although the school is limited in the frequency and quantity of its searches, this is a weakness that the School has to continue to address.

Physical Resources (Condition 8)

Comment from previous VTR [2009] (quote in full): *The team found the facilities now to be in compliance with the accessibility and life safety issues addressed in the previous Visiting Team Report, and acknowledged improvements in the quality and quantity of the additional space. The relocation of the wood shop to the building, the computer modeling facilities, and the much-appreciated additional student community space has enhanced the program tremendously. The space available for student workstations provided in the studios is applauded.*

Students, when questioned, expressed no concern about the physical facilities, and feel fortunate to be in a very secure environment, free of noise and ventilation problems with adequate pin-up spaces, small seminar rooms, and a great auditorium facility.

Even though the addition and renovation project has greatly improved the school's physical resources the visiting team identified several causes of concern.

- *The environment of the architecture library does not match the quality of that in Marquand Library on campus or the rest of the School building*
- *The faculty also expressed a need for secured gallery space.*
- *The architecture laboratory provides a significant learning environment for delivery of the technology curriculum and its continuation is essential.*

Response from Program [2014]: The SoA continues its efforts to address needs associated with the physical resources and facilities at the School and to keep them accessible, functioning, and current. Since the last site visit the School of Architecture Library has undergone a much-needed renovation, and has updated its interior and furnishings to ensure that the location is a comfortable and inviting place for its users. The renovations that have taken place have ensured that the Library is at the same level as or higher in quality than Marquand Library and the rest of the School.

The ability for the School to have a secure gallery space is an ongoing question. Discussions continue as to where that might occur, given the constraints of the existing building, and the fact that the current gallery needs to remain open for egress and accessibility to the rest of the school. Recognizing that architecture exhibitions less frequently involve the display of originals, the school has reconfigured a sizable portion of its gallery space as a permanent video gallery, complete with high-end projectors and parabolic speakers. This allows exhibitions of images, animations, and sound to occur easily, and to change rapidly. This 21st Century exhibition space sidesteps the physical limitation of the School, and to present new work more aligned to the mediums in which they were produced.

The plans on transforming the Architecture Laboratory into a significant learning and research environment for the technology curriculum are moving forward, with the Center for Embodied Computation. Although not adjacent to the architecture building, the Center will be located near Princeton's "science" neighborhood and will offer a flexible research and teaching space which will house the ABB robotic arm and be the site for more technologically oriented research and experimentation. This will be an important resource for the school, which will allow more research that hinges between the physical and the computation, as well as being a place where the SoA can develop collaborative projects with other departments across the University.

Information Resources (Condition 9)

Comment from previous VTR [2009] (quote in full*: The school is privileged to have access to extensive information resources through the Princeton Library system, and enjoys the benefit of the architecture library within the school setting.*

The team is concerned that the Architecture faculty do not have equal access to the arts library materials needed for their teaching and research, due to the current faculty borrowing policy.

The necessary appointment of a new architecture librarian should serve to better define the relationship between various repositories of information (visual resource center, collection, etc.) and support their growth.

Response from Program [2014]: Since September 2009 with the appointment of the new architecture librarian, the library informational resources have shown marked improvement. There is greater access to materials, and stronger, collaborative ties with other repositories of information at the School, such as the visual resource center, or the SoA Archives and Audio-Visual Resources Collection.

2. Summary of Responses to Changes in the NAAB Conditions

The Princeton University School of Architecture's Architecture Program Report conforms to the 2009 Conditions for Accreditation, and respects all procedures outlined in the 2012 edition of the NAAB Procedures for Accreditation. We have made a series of specific changes to the program (and report) in response to the new Conditions.

I.1.1. History and Mission: One of the defining characteristics of the School of Architecture is its integral relationship to the University as a whole. The history and mission of the school are integrally tied to the University and the emphasis on liberal arts. The changes in the NAAB Conditions now better align with the strengths and definition of the SoA.

I.1.4. Long-Range Planning: Critical self-assessment and long range planning are an essential part of the SoA. The means by which the SoA's curriculum is evaluated and how modifications are enacted are articulated within the APR.

I.2.2. Administrative Structure & Governance: There is an organizational chart to help clarify the structure of the school.

I.2.4. Financial Resources: The SoA has included a more detailed account of its revenue and expenditures, including details of its endowed and invested funds.

I.3.1. Statistical Reports: The SoA has worked with various Princeton University central offices to report consistent information about Princeton students and faculty. Some historical student data remain absent, since they were not requested. Also, faculty licensure information is not tracked by the University, but is gathered directly from the faculty.

I.3.2. Annual Reports: The SoA has provided the annual reports for years 2008, 2009, 2010, 2011, 2012, and 2013, as well as the NAAB responses to these annual reports. Both components are made available as public information that the SoA maintains physically at the School's main office. Also included in this section is a signed memo from the Acting Dean of the School of Architecture on Princeton University letterhead validating that all the data submitted to the NAAB since the last visit is accurate and consistent with reports sent to other national and regional agencies.

PART TWO (II): SECTION 3 – EVALUATION OF PREPARATORY/PREPROFESSIONAL EDUCATION:

II.1.1. Student Performance – Educational Realms & Student Performance Criteria
Consistent with the increased emphasis on research and on sustainability in the NAAB Conditions, the School of Architecture has continued to advance a curriculum wherein these two issues play an important role. ARC 503 Integrated Building Studio, which was relatively new in the last report, is now fundamental to the curriculum. This studio draws from the expertise of both design and building technology faculty, and addresses sustainable design as a critical part of design innovation. The Master Thesis, which is one of the defining components of the School and which foregrounds innovation and research in the discipline, has been expanded to include a semester-long course, ARC 530, *Master Thesis Preparation Seminar*.

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Part Four: Supplemental Information

1. Course Descriptions

   Course descriptions are found on pages XXX - XXX.

   NB: Princeton University does not use credits for each course.

Number & Title of Course: ARC 302 / ART 347 Architecture and the Visual Arts

Course Description: This course will explore the relationships between architectural discourse and the visual arts from the historical avant-garde to the present.

Course Goals & Objectives:
- Students will explore architectural discourse, considered here as the intersection of diverse systems of representation: buildings, projects, and drawings, but also architectural theory and criticism, exhibitions, photographs, professional magazines, and the popular press.
- Students will explore the exact syntactical relations between art and architecture by studying a number of concepts, such as transparency, form, figure, and frame, spatial movements that are intrinsic to all of these areas and have historically informed art and architectural design.
- Students will learn about the work of major modern architects, including Le Corbusier and Mies van Rohe, whose work engages the visual arts, or artists of the twentieth century avant-gardes, such as Malevich and Mondrian, who explored architectonic issues in their artistic practices.

Student Performance Criteria addressed:
A.1 Communication Skills, A.2 Design Thinking Skills, A.5 Investigative Skills, A.7 Use of Precedents, A.8 Ordering Systems, A.9 Historical Traditions and Global Culture, A.10 Cultural Diversity, C.2 Human Behavior

Topical Outline:
Class/Precept participation (25%);Paper(s) (25%); Term Paper(s) (50%)
Each week, required readings include at least one interview or an original text written by the artist or architect combined with a text of criticism on his or her work by an art or architectural historian. Requirements: Participation in the precepts, a preliminary exercise, one small midterm paper (3-5 pp) and one final paper (12 pp) in which students are asked to perform a close reading of one or two artworks, buildings, films, or artifacts. Students are expected to read 80 pages per week.

Prerequisites: None

Textbooks/Learning Resources:
Adolphe Appia, *The Work of Living Art*
Moholy Nagy, *Painting - Photography - Film*
Oskar Schlemmer, *Triadic Ballet*
Fernand Leger, *Color in Architecture*
Carola Giedion, *Contemporary Sculpture*
Vito Acconci, *Public Space*

Offered: Spring only, annually

Faculty assigned: Spyridon Papapetros, Associate Professor (F/T)

Number & Title of Course: ARC 308 / ART 328 History of Architectural Theory

Course Description: Offers a history of theory and criticism from the Renaissance to the present, emphasizing texts, institutions, and media that architects used to claim architecture's modernity.

Course Goals & Objectives:
- Students explore architectural thought and writing in its social and cultural context as it relates both to the Western philosophical tradition and to design history.
- They learn to approach all forms of architectural argumentation, no matter its medium, and to engage with it in writing.

Student Performance Criteria addressed:
A.1 Communication Skills, A.2 Design Thinking Skills, A.5 Investigative Skills, A.7 Use of Precedents, A.9 Historical Traditions and Global Culture, A.10 Cultural Diversity, C.2 Human Behavior

Topical Outline:
1) One weekly reading response (one paragraph to be posted online before lecture) (5% of grade)
2) One in-class presentation analyzing and presenting one of the readings to the precept (10% of grade)
3) Two short writing assignments responding to a given question (25% of grade)
4) One in-class midterm exam includes multiple-choice and essay questions (20% of grade)
5) One take-home final Exam, essay questions only (30% of grade)
6) In-class participation (10% of grade)

Prerequisites: No prerequisites, but HIS 211, ART 333 and ART 322 are strongly recommended as background

Textbooks/Learning Resources:
Vitruvius**,** *The Ten Books on Architecture*
Leon Battista Alberti**,** *On the Art of Building in Ten Books*
Claude Perrault, *Ordonnance for the Five Orders*
John Ruskin, *The Seven Lamps of Architecture*
Le Corbusier, *Towards an Architecture*
Rem Koolhaas, *Delirious New York*
Anthony Vidler, *Histories of the Immediate Present*

Offered: Fall only, annually

Faculty assigned: Lucia Allais, Assistant Professor (F/T)

Number & Title of Course: ARC 401 Theories of Housing and Urbanism

Course Description: The seminar explores theories of urbanism and housing from canonical writers from the nineteenth century to the present.

Course Goals & Objectives:
- Students will gain a critical understanding of several major theoretical perspectives and will learn how to explore their key features and major differences.
- Students will gain a historical perspective on the relationships between the theories.
- Students will gain the ability to confidently write about and discuss the theories.
- Students will be encouraged to form their own opinions on the theories through writing an individual paper.
- Students will also learn together through working collaboratively in small groups to create their manifesto of urbanism, which is presented to the class.

Student Performance Criteria addressed:
A.1 Communication Skills, A.2 Design Thinking Skills, A.5 Investigative Skills, A.7 Use of Precedents, A.9 Historical Traditions and Global Culture, A.10 Cultural Diversity, A.11 Applied Research, B.1 Pre-design, C.2 Human Behavior, C.3 Client Role in Architecture, C.4 Project Management, C.5 Practice Management, C.8 Ethics and Professional Judgment, C.9 Community and Social Responsibility

Topical Outline:
Paper in lieu of mid term (50%); Oral Presentation(s) and class discussion (25%); Preparation of a manifesto (25%)

Every student is expected to keep up with readings on a weekly basis, which form about 25% of the time. In addition to a general discussion and active exploration of the assigned readings at the weekly meetings, there will be oral reports on topics selected by students for their individual papers in outline and draft form. Students are expected to be active participants in the class. Students will write a short outline, a draft, and a final term paper of approximately 4,000 words on a topic approved by the instructor, which will take about 50% of the time. Students will also submit a manifesto, which will account for 25% of the grade during the last few weeks of the semester.

Prerequisites: None

Textbooks/Learning Resources:
Ebenezer Howard, *Garden Cities of Tomorrow*
Frank Duffy, *Work and the City*
Le Corbusier, *The City of Tomorrow and its Planning*
Jane Jacobs, *The Death and Life of Great American Cities*
Frank Lloyd Wright, *The Living City*
Rem Koolhaas, *Delirious New York*

Offered: Fall only, annually

Faculty assigned: Andrew Laing, Visiting Lecturer

Number & Title of Course: ARC 411 Building Envelope: Technology and Architecture

Course Description: Explores the intersection between building technology and architectural history through building envelopes. Building enclosures are described as an embodiment of cultural, social, and technological processes.

Course Goals & Objectives:
- Students will develop an integrated critical view, a balance between technology and culture.
- Students will explore three façade types in detail: curtain walls, rain screen façades, and panel façades.

Student Performance Criteria addressed:
A.4 Technical Documentation, A.7 Use of Precedents, A.9 Historical Traditions and Global Culture, B.10 Building Envelope Systems, B. 12 Building Materials and Assemblies

Topical Outline:
Presentation on the three façade types (60%). Technical topics will be introduced during a weekly two-hour lecture; the last hour will be devoted to the discussion of case studies and team work.

Research and design activities (50% of grading): Students will complete four research-design works during the semester. For each case, teams will select an existing building, analyze the façade, and suggest design alternatives.
Written communication and presentations (30% of grading): Teams will turn in a written report and present their conclusions in the classroom.
Team work (20% of grading): Based on peer review, observation of group meetings, and team performance in presentations.

Prerequisites: ARC 311 or permission of instructor

Textbooks/Learning Resources:
Ford, Edward R.**,** *The Architectural Detail*
Pfammatter, Ulrich, *Building the Future: Building Technology & Cultural History*
Deplazes, Andrea**,** *Constructing Architecture: Materials, Processes, Structures*
Frampton, Kenneth**,** *Studies in Tectonic Culture*
Banham, Reyner**,** *Architecture of the Well-Tempered Environment*
Fitch, James Marston**,** *American Building*

Offered: Spring 2013-2014

Faculty assigned: Ignacio Fernandez Solla, Visiting Lecturer

Number & Title of Course: ARC 425 The Ordinary

Course Description: Course examines the notion of the "ordinary," and the ways it has been exploited in the architectural debate from the mid-1950s to the present.

Course Goals & Objectives:
- Students will explore a series of projects dealing with the scrutiny of so-called existing conditions—from Alison and Peter Smithson to Aldo van Eyck, Reyner Banham to Robert Venturi and Denise Scott Brown, Rem Koolhaas to Atelier Bow-Wow.
- Students will learn the ways in which architecture has dealt with emergent and seemingly irreducible urban phenomena, and how it has constructed a peculiar practice of architectural theory.

Student Performance Criteria addressed:
A.1 Communication Skills, A.7 Use of Precedents, A.10 Cultural Diversity, C.2 Human Behavior, C.9 Community and Social Responsibility

Topical Outline:
Each student is expected to attend all seminar sessions, to complete the assigned readings, to take part in the seminar discussions, to deliver one presentation on a subject agreed upon with the professor, and to complete one essay (3,000 words maximum), also on a subject agreed upon with the professor. Paper in lieu of Final (30%); Oral Presentation(s) (40%); Other (30%).

Prerequisites: None

Textbooks/Learning Resources:
Alison and Peter Smithson, *But Today We Collect Ads*
Aldo van Eyck, *The Fake Client and the Great Word 'No'*
Reyner Banham, *The Great Gizmo*
Denise Scott Brown, *Learning from Pop*
Rem Koolhaas, *Bigness, or the Problem of Large*
Toyo Ito, *A Garden of Microchips*

Offered: Fall only, annually

Faculty assigned: Enrique Walker, Visiting Associate Professor

Number & Title of Course: ARC 489 Post-Formal Analysis of Key Architectural Works and Tendencies 1980-2010

Course Description: Identify novel similarities in select cases that elude traditional analyses. Explore multi-media analytic techniques that better reveal, generalize, and mobilize these for the discipline.

Course Goals & Objectives:
- Students learn to distinguish different analytic regimes applied to buildings and architectural projects and their respective uses in the profession and academia, including the construction type, the building type, and the formal type.
- Students read key selections from post-war literature and study exemplary cases to identify and make elementary use of four prevalent modes of formal analysis: phenomenological/tectonic formalism (Frampton), typological formalism (Rowe), diagrammatic formalism (the Linguistic school: Greys & Whites), and Post-structuralist and Digital formalism
- Using current journals, websites, competitions, and other resources, each student gathers a personal selection of work and proceeds according to the according to the course description.

Student Performance Criteria addressed:
A.1 Communication Skills, A.2 Design Thinking Skills, A.7 Use of Precedents, A.8 Ordering Systems, A.9 Historical Traditions and Global Culture, A.11 Applied Research, C.2 Human Behavior

Topical Outline:
Recitation on readings (25%), Analytic techniques, including presentations and response to representations and writings (60%), Discussion (15%)

Prerequisites: None

Textbooks/Learning Resources:
Numerous assigned readings are provided by the instructor. Examples include excerpts from:
Ken Frampton, *The Glass House Revisited*
Douglas Graf, *Diagramming*
Peter Eisenman, *10 Canonic Buildings*
Jeffrey Kipnis, *On Criticism*
Sylvia Lavin, *Kissing Architecture*

Offered: Spring only, annually

Faculty assigned: Jeff Kipnis, Visiting Professor

Number & Title of Course: ARC 492 Topics in the Formal Analysis of the Urban Structure: American Urbanism

Course Description The seminar focuses on the transformation and restructuring of the American City since colonial times, taking the State of New Jersey as a case study.

Course Goals & Objectives:
- Students will investigate the concept of urban infrastructure with an emphasis on mobility infrastructure and its representation with the latest mapping techniques.

Student Performance Criteria addressed:
A.3 Visual Communication Skills, A.7 Use of Precedents, A.8 Ordering Systems, A.9 Historical Traditions and Global Culture, B.4 Site Design, C.1 Collaboration, C.2 Human Behavior, C.7 Legal Responsibilities

Topical Outline:
GIS skills for mapping and representation of Census Data (30%)
Drawing techniques (30%)
Presentation skills including PowerPoint presentations (40%)

Prerequisites: None

Textbooks/Learning Resources:
D. Agrest**,** *Architecture from Without*
J.B. Alberti**,** *On the Art of Building in Ten Books*
M. Gandelsonas, *X-Urbanism*
Le Corbusier**,** *The City of Tomorrow and its Planning*
M. Gandelsonas**,** *The Urban Text*
J. Garreau**,** *Edge Cities*

Offered: Spring only, annually

Faculty assigned: Mario I. Gandelsonas, Professor (F/T)

Number & Title of Course: ARC 501 Architecture Design Studio

Course Description: This introductory design course presents the discipline of architecture through a series of interrelated discrete exercises leading to a final project.

Course Goals & Objectives:
- Students will be introduced to design thinking and develop the ability to construct a critical framework specific to their projects to be used throughout their academic careers.
- Students will become well acquainted with design software and develop representational and verbal communication skills.
- Students will develop a range of design skills as they relate to function, form, and performance.
- Students will learn how to respond to the pragmatic challenges of building, including accessibility, sustainability, site design, environmental systems, and structural systems.
- Students will explore material performance and assemblies through large scale model experimentation.
- Students will understand issues of introducing a building into a site and the impact on its surroundings.
- Students will work on collaborative projects and learn to function in teams.

Student Performance Criteria addressed:
A.1 Communication Skills, A.2 Design Thinking Skills, A.3 Visual Communication Skills, A.5 Investigative Skills, **A.6 Fundamental Design Skills, A.7 Use of Precedents, A.8 Ordering Systems**, B.1 Pre-design, B.2 Accessibility, B.3 Sustainability, B.4 Site Design, B.5 Life Safety, B.6 Comprehensive Design, B.8 Environmental Systems, B.9 Structural Systems, B.10 Building Envelope Systems, B.11 Building Service Systems, B.12. Building Materials and Assemblies; C.1 Collaboration

Topical Outline:
Drawing and other representational techniques (60%), Presentation skills (40%)

Prerequisites: None

Textbooks/Learning Resources:
Allen, Stan, "From Object to Field." *AD Profile 127* (1997)
Bois, Yves-Alain, "Metamorphosis of Axonomety." *Daidalos*, no. 1 (1981)
Deplazes, Andrea, *Constructing Architecture: Materials, Processes, Structures (*Birkhäuser, 2008)
Günther Pfeifer and others, eds., *Masonry Construction Manual* (Birkhäuser, 2001)
Wittkower, Rudolf, *Architectural Principles in the Age of Humanism* (W. W. Norton & Company, 1949)
Gyorgy Kepes, "Thing, Structure, Pattern, Process," and "Transformation, Physical, Perceptual, Symbolic," in *The New Landscape in Art and Science* (Chicago: Paul Thebold, 1956),
Smith, Cyril Stanley, *A Search for Structure: Selected Essays on Science, Art, and History (*MIT, 1981)
Banham, Rayner, *Architecture of the Well-Tempered Environment* (University of Chicago Press, 1969)
Otto, Frei, *IL10 Grid Shells*, Institute for Lightweight Structures (University Stuttgart, 1974)
Rowe, Colin, "*Transparency: Literal and Phenomenal"* (Part II, *Perspecta* 13/14 1971)

Offered: Fall, annually

Faculty assigned: Michael Meredith, Assistant Professor (F/T)

Number & Title of Course: ARC 502 Architecture Design Studio - Models of Design

Course Description: Part two of sequence in which fundamental design skills are taught in the context of the architect's wider responsibilities to society, culture, and the environment.

Course Goals & Objectives:
- Students will critically explore the increasing importance of Models of Design as a combination of thought construct, physical construct, computational construct, and generative framework in contemporary design.
- Students will undertake a series of exercises of escalating scale and complexity, each building upon the findings of the previous one. The first exercise relates to a fabricated device at body scale, either as a wearable or a physical contraption to interact with or through. This design will be developed in response to a self-chosen design focus that will evolve with each exercise, and the further development of the associated model of design, integrating computational experiments and different implementation studies.
- The challenge in the studio is to establish a level of fluency in a project-specific area of computational design through a critical approach to modeling of the design process by extending existing models but also authoring novel models of design. The definition of a design topic is as much part of this model formulation as is its design development, hence the staggered design exercises aimed at having each student take an initial modeling stance and refining it in response to designing for it, and adding more specifics to the design definition throughout the term while experimenting with computational implementations of the design proposal to further understand and refine the project.

Student Performance Criteria addressed:
A.1 Communication Skills, **A.2 Design Thinking Skills,** A.3 Visual Communication Skills, A.5 Investigative Skills, **A.6 Fundamental Design Skills,** A.7 Use of Precedents, A.8 Ordering Systems, B.1 Pre-design, B.2 Accessibility, B.3 Sustainability, B.4 Site Design, B.5 Life Safety, B.6 Comprehensive Design, B.8 Environmental Systems, B.9 Structural Systems, B.10 Building Envelope Systems, B.11 Building Service Systems, B.12. Building Materials and Assemblies; C.1 Collaboration, C.9 Community& Social Responsibility

Topical Outline:
Model translations (30%): Students develop a design theme and motivation through an initial 1-1 scale design intervention, practicing the translation of ideas into design concepts and their realization. From Model to Program (30%): Expansion of the initial design motivation into a programmatic idea and a corresponding architectural design. In parallel, computational strategies to externalize the design process in parametric and algorithmic sketches are developed.
Systematizing Models in Context (30%): Systematization of the core concept into a model of design. Selection of a context to place the design concept and connect its design model to a wider set of constraints. Development of selective prototypes for more detailed physical studies of design aspects.

Prerequisites: Graduate Standing

Textbooks/Learning Resources:
Burry, M., *Scripting Cultures - Architectural Design and Programming* (Wiley, 2011)
Reas, C., Fry, B*., Processing: A Programming Handbook for Visual Designers and Artists* (MIT 2007)
Abruzzo, E., Ellingsen, E., Solomon, J., editors, *Models,* (*306090 Books*, Volume 11, 2007)
Balmond, C., with Smith, J., *Informal* / (Prestel, 2001)
Balmond, Cecil*, Crossover* / (Prestel 2013)
Pottmann, H., Asperl, A., Hofer, M., Kilian, A., *Architectural Geometry* (Bentley Institute Press, 2007)

Offered: Fall only, annually

Faculty assigned: Axel Kilian, Assistant Professor (F/T)

Number & Title of Course: ARC 503 Integrated Building Studio

Course Description: The Studio approaches architecture from a synthetic perspective; considerations of structure, environmental technology, building materials and systems, envelope, and site design are integrated into the design process.

Course Goals & Objectives:
- The studio emphasizes site organization, the development of building plans, and the accompanying expression of architectural character in three dimensions, with direct input from technical faculty, typically mechanical and structural engineers.
- The typical program assignment addresses an institutional building type, such as a museum, a library, a study center, a school, or a dormitory, which allows differentiation between public and private space.
- Actual sites are chosen for students to visit to increase their understanding of the context and constraints of the site as they may influence the architectural composition.
- Students will acquire a command of the techniques of design and representation through a series of specific architectural problems of increasing complexity.
- Students will explore a broad range of problem types, including individual buildings, groups of buildings, urban districts, and landscapes.

Student Performance Criteria addressed:
A.1 Communication Skills, A.2 Design Thinking Skills, A.3 Visual Communication Skills, **A.4 Technical Documentation**, A.5 Investigative Skills, A.6 Fundamental Design Skills, A.7 Use Of Precedents, A.8 Ordering Systems, A.11 Applied Research, B.1 Pre-Design, **B.2 Accessibility,** B.3 Sustainability, **B.4 Site Design**, B.5 Life Safety, **B.6 Comprehensive Design**, B.8 Environmental Systems, B.9 Structural Systems, B.10 Building Envelope Systems, B.11 Building Service Systems, **B.12 Building Materials and Assemblies**, C.1 Collaboration, C.3 Client Role in Architecture, C.9 Community and Social Responsibility

Topical Outline:
Students are assigned design problems of varying scope. Amount of time spent in each subject area varies from critic to critic; typically 20-25% of the time is spent on research and analysis, while the remaining time is spent on design. Completed projects are reviewed by faculty and invited critics, and clarity of public presentation is stressed.

Prerequisites: ARC 501, ARC 502, or Advanced Standing. At least one course (ARC 503 or 504) is required for professional Master of Architecture students.

Textbooks/Learning Resources:
Kwok, Alison and Grondzik, Walter. *The Green Studio Handbook* (Architectural Press, 2006)
Brown and Dekay. *Sun, Wind and Light: Architectural Design Strategies* (Wiley, 2001)
Olgyay, Victor. *Design with Climate* (Princeton, 1963)
Olgyay, Adalar and Victor Olgyay. *Solar Control and Shading Devices* (Princeton, 1957)
McMorrough, Julia. *Materials, Structures, Standards* (Rockport 2006)
Deplazes, Andrea ed. *Constructing Architecture: Materials Process, Structure, A Handbook* (DArch ETH, 2009).
Moe, Kiel. *Thermally Active Surfaces in Architecture* (PAP, 2010)
Engel, Heino. *Structural Systems* (Verlag Gerd Hetje, 1977)
Allen, Edward. *Fundamentals of Building Construction: Materials and Methods* (Wiley, 2003)
Allen, Edward and Iano, Joseph. *The Architect's Studio Companion* (Wiley, 2006)

Offered: Fall only, annually

Faculty assigned: Paul Lewis, Associate Professor (F/T)

Number & Title of Course: ARC 504 Integrated Building Studios

Course Description: Integrated Building studios approach architecture from a synthetic perspective, with considerations of structure, environmental technology, building materials and systems, exterior envelope, and site design.

Course Goals & Objectives:
- Students will acquire a command of the techniques of design and representation through a series of specific architectural problems of increasing complexity.
- Students will explore a broad range of problem types, including individual buildings, groups of buildings, urban districts, and landscapes.
- Students will undertake short-term detailed studies in order to understand the range of the architectural enterprise from large-scale planning through the articulation of interiors.

Student Performance Criteria addressed:
A.1 Communication Skills, A.2 Design Thinking Skills, A.3 Visual Communication Skills, A.4 Technical Documentation, A.5 Investigative Skills, A.6 Fundamental Design Skills, A.8 Ordering Systems, A.9 Historical Traditions and Global Culture, A.10 Cultural Diversity, A.11 Applied Research, B.1 Pre-Design, B.2 Accessibility, B.4 Site Design, **B.6 Comprehensive Design**, B.8 Environmental Systems, B.9 Structural Systems, B.10 Building Envelope Systems, B.11 Building Service Systems, B.12 Building Materials and Assemblies, **C.1 Collaboration**, C.2 Human Behavior, C.3 Client Role in Architecture, C.9 Community and Social Responsibility

Topical Outline:
Students are assigned design problems of varying scope. Amount of time spent in each subject area varies from critic to critic; typically 20 – 25% of the time is spent on research and analysis, while the remaining 75-80% of the time is spent on design. Completed projects are reviewed by faculty and invited critics, and clarity of public presentation is stressed.

Prerequisites: Graduate Standing; ARC 501, ARC 502, or Advanced Standing. At least one course (ARC 503 or 504) is required for professional Master of Architecture students.

Textbooks/Learning Resources: This is a studio-based course. Individual faculty may assign background readings, invite outside consultants, or provide specialized software as appropriate to the course objective.

Offered: Spring only, annually

Faculty assigned: Alejandro Zaera-Polo, Professor, Spring 2012-13 (F/T); Andrés Jaque, Visiting Lecturer, Spring 2013-14

Number & Title of Course: ARC 505 Architecture Design Studio

Course Description: In general, the vertical design studio emphasizes site organization, the development of building plans, and the accompanying expression of architectural character in three dimensions.

Course Goals & Objectives:
- Vertical Design Studios are intended to sharpen and refine the full range of students' design skills, including research, analysis, and program definition.
- Students are expected to be able to produce a convincing design response to the complex challenges of site and program.
- The Vertical Design Studios examine architecture as cultural production, taking into account its capacity to structure both physical environments and social organizations.
- Through exposure to a range of building types and sites, students learn how to respond to a variety of constraints, and gain experience in different design techniques appropriate to differing scales and contexts.
- Projects include a broad range of project types, including individual buildings, prototypes, urban districts, and landscapes.
- Students are exposed to a broad range of presentation and communication techniques, including film, animation, and full-scale prototypes in addition to conventional drawings and renderings.
- Upon completion of the sequence of Vertical Design Studios, students are prepared to undertake independent design thesis work.

Student Performance Criteria addressed:
A.1 Communication Skills, A.2 Design Thinking Skills, A.3 Visual Communication Skills, A.5 Investigative Skills, A.6 Fundamental Design Skills, **A.7 Use of Precedents,** A.8 Ordering Systems, A.9 Historical Traditions and Global Culture, **A.10 Cultural Diversity**, A.11 Applied Research, B.1 Pre-Design, B.2 Accessibility, B.4 Site Design, B.6 Comprehensive Design, B.8 Environmental Systems, B.9 Structural Systems, B.12 Building Materials and Assemblies, C.1 Collaboration, C.3 Client Role in Architecture, C.9 Community & Social Responsibility

Topical Outline: Students are assigned design problems of varying scope. Amount of time spent in each subject area varies from critic to critic; typically 20-25% of the time is spent on research and analysis, while the remaining 75-80% of the time is spent on design. Completed projects are reviewed by faculty and invited critics, and clarity of public presentation is stressed.

Prerequisites: ARC 501, ARC 502, or Advanced Standing. Two Vertical Studio courses are required for all Master of Architecture students.

Textbooks/Learning Resources: This is a studio-based course. Individual faculty may assign background readings, invite outside consultants, or provide specialized software as appropriate to the course objective.

Offered: Fall Semester, annually

Faculty assigned: Liam Young, Visiting Lecturer, 2012-13 and 2013-14; Yusuke Obuchi, Visiting Associate Professor, 2012-13; Gian Carlo Mazzanti Sierra, Visiting Lecturer, 2012-13; Stan Allen, Professor, 2013-14 (F/T)

Number & Title of Course: ARC 506 Architecture Design Studio

Course Description: This vertical design studio takes as its starting point Japan's Metabolist and post-Metabolist programs to synthesize architecture, urbanism, landscape and infrastructure.

Course Goals & Objectives:
- The studio is organized around regimented analysis of historical precedents from the 60's onward, along with a concurrent semester-long design project with an urban focus that is represented in the form of drawings, diagrams, digital, and physical models.
- Students will explore the interplay between environmental, social, political, and aesthetic agendas, and how these can be manifest in concrete form.
- Students will develop specific architectural proposals that operate across varied scales and programs.
- Students will examine urban morphologies as three-dimensional constructs.
- Students will engage advanced environmental logics integral to their designs.
- A mid-semester trip to Japan enables students to explore traditional and modern Japanese architecture first hand, as well as to share their design and design research with students and professors engaged in the same program at Tokyo University.
- Students will strengthen presentation skills.
- Final Presentations at Princeton include a SuperJury with professors and students from Tokyo University, Tsinghua University, and Nagoya Institute of Technology.

Student Performance Criteria addressed:
A.1 Communication, A.2 Design Thinking Skills, A.3 Visual Communication Skills, A.5 Investigative Skills, A.6 Fundamental Design Skills, A.7 Use of Precedents, A.8 Ordering Systems, **A.9 Historical Traditions and Global Culture, A.10 Cultural Diversity**, A.11 Applied Research, B.1 Pre-Design, B.2 Accessibility, B.4 Site Design, B.6 Comprehensive Design, B.8 Environmental Systems, B.9 Structural Systems, B.10 Building Envelope Systems, B.12 Building Materials and Assemblies, C.1 Collaboration, C.3 Client Role in Architecture, C.9 Community & Social Responsibility

Topical Outline: Students are assigned design problems of varying scope. Amount of time spent in each subject area varies from critic to critic; typically 20-25% of the time is spent on research and analysis, while the remaining 75-80% of the time is spent on design. Completed projects are reviewed by faculty and invited critics, and clarity of public presentation is stressed.

Prerequisites: Graduate Standing

Textbooks/Learning Resources: This is a studio-based course. Individual faculty may assign background readings, invite outside consultants, or provide specialized software as appropriate to the course objective.

Offered: Spring only, annually

Faculty assigned: Jesse Reiser, Professor (F/T)

Number & Title of Course: ARC 507/ARC 508, Thesis Studio

Course Description: The Master of Architecture Thesis is an independent design project on a theme selected by the student, incorporating research, programming, and site definition.

Course Goals & Objectives:
- The learning objectives are set in consultation with the thesis advisor. The objectives vary from student to student.
- Students will develop a thesis statement outlining an area of study or a problem that has consequences for contemporary architectural production.
- Students will define an individual position with regard to a specific aspect of architectural practice.
- Students will develop their design process integrating research, program, and site definition.

Student Performance Criteria addressed:
A.1 Communication Skills, A.2 Design Thinking Skills, A.3 Visual Communication Skills, A.4 Technical Documentation, **A.5 Investigative Skills,** A.6 Fundamental Design Skills, A.7 Use Of Precedents, A.8 Ordering Systems, A.9 Historical Traditions and Global Culture, **A.11 Applied Research, B.1 Pre-Design**, B.2 Accessibility, B.3 Sustainability, B.4 Site Design, B.5 Life Safety, B.6 Comprehensive Design, B.7 Financial Considerations., B.8 Environmental Systems, B.9 Structural Systems, , B.12 Building Materials and Assemblies, C.1 Collaboration**, C.2 Human Behavior,** C.3 Client Role In Architecture, **C.6 Leadership**, C.7 Legal Responsibilities, C.8 Ethics & Professional Judgment, **C.9 Community & Social Responsibility**

Topical Outline: Typically 20-25% of the time is spent on research and analysis, while the remaining time is spent on design. Completed projects are reviewed by faculty and invited critics, and clarity of public presentation is stressed.

Prerequisites: Graduate Standing; Completion of studio sequence ARC 501-ARC 506; One course is required for all Master of Architecture students.

Offered: Fall only, annually

Faculty assigned: Elizabeth Diller, Professor (F/T), 2012-13 and Fall 2013-14, Michael Meredith, Assistant Professor (F/T), and Alejandro Zaera-Polo, Professor (F/T), Spring 2013-14

Number & Title of Course: ARC 509 Integrated Building Systems

Course Description: An introduction to building systems and the methods of construction used to realize design in built form.

Course Goals & Objectives:
- Students will learn about the primary systems, materials, and principles used in the construction of buildings and the fabrication of elements through lectures and accompanying “hands on” lab sessions
- Students will learn the means by which information is communicated from designers to fabricators, current standards in the practice of architecture, and practice's relation to changes in methods of fabrication and project delivery.
- Students participate in a group design/build, focusing on the design of a small tectonically innovative structure, its drawing and detailing, resourcing of materials and systems, and finally, its fabrication by students.

Student Performance Criteria addressed:
A.3 Visual Communication, **A.4 Technical Documentation,** A.6 Fundamental Design Skills, A.9 Historical Traditions and Global Culture, B.4 Site Design, **B.5 Life Safety**, B.6 Comprehensive Design, B.7 Financial Considerations, B.8 Environmental Systems, B.9 Structural Systems, **B.10 Building Envelope Systems**, B.11 Building Service Systems, **B.12 Building Materials and Assemblies, C.1 Collaboration**, C.3 client Role in Architecture, C.5 Practice Management, C.6 Leadership, C.9 Community and Social Responsibility

Topical Outline:
Overview of the primary systems through lectures (50%)
Lab sessions, group project (40%)
Drawing exercise (10%)

Prerequisites: None

Textbooks/Learning Resources:
Deplazes, Andrea, *Constructing Architecture: Materials, Processes, Structures* (Birkhauser)
Edward Allen, *Fundamentals of Building Construction, Materials and Methods,* (Wiley)
Ramsey, Charles and Sleeper, *Architectural Graphic Standards, 10th Edition*
Kind-Barkaskas, et al., *Concrete Construction Manual*
Kind-Barkaskas, et al., *Glass Construction Manual*
Edward Ford, *The Details of Modern Construction, Vol. 1*

Offered: Spring only, annually

Faculty assigned: Peter Pelsinski, Visiting Lecturer

Number & Title of Course: ARC 510 Structural Analysis for Architecture

Course Description: Elementary structural analysis for architecture students covering statics, strength of materials, and approximate methods of analysis, including historical examples.

Course Goals & Objectives:
- Students will gain a basic understanding of structures, the relationship between structure and form, and the static behavior of structures.
- Students are presented with the history of modern structures and explore ideas about the aesthetics of structure and the relationship between structures and architecture.

Student Performance Criteria addressed:
A.4 Technical Documentation, A.5 Investigative Skills, A.6 Fundamental Design Skills, B.5 Life Safety, **B.9 Structural Systems**, C.1 Collaboration

Topical Outline:
1) Equilibrium
2) Strength and Stiffness
3) Ties, Struts and Stability
4) Trusses
5) Beams
6) Frames
7) Cables and Arches
8) Grids and Plates
9) Membrane and Shell Structures
10) Design for Wind and Earthquakes
11) Tall Buildings and Structural Design Theory

The requirements include homework assignments (20%), four short take-home exams (40%), a take-home final (20%), and a final paper and presentation (20%).

Prerequisites: None

Textbooks/Learning Resources:
J.E. Gordon *The New Science of Strong Materials (*Princeton University Press, 2006)
B.N. Sandaker, A.R. Eggen and M.R. Cruvellier, *The Structural Basis of Architecture* (Routledge, 2011)
D.L. Schodek and M. Bechthold, *Structures* 6th Ed. (Prentice Hall)

Offered: Fall only, annually

Faculty assigned: Guy Nordenson, Professor (F/T)

Number & Title of Course: ARC 511 Structural Design

Course Description: A continuation of ARC 510, covering the design of beams, columns, trusses, frames, shear walls, plates, and shells in steel, reinforced concrete, timber, masonry, and glass.

Course Goals & Objectives:
- The course follows the development of each material through history and links the evolution of the science of engineering from material to material, giving the students a framework to work within.
- Students should understand the principles upon which material design is based and be able to design basic structural elements by the end of the course.

Student Performance Criteria addressed:
A.4 Technical Documentation, A.5 Investigative Skills, A.6 Fundamental Design Skills, B.5 Life Safety, B.6 Comprehensive Design, B.8 Environmental Systems, **B.9 Structural Systems,** B.10 Building Envelope Systems, B.11 Building Service Systems, C.1 Collaboration

Topical Outline:
Basic Principles (20%); Steel Design (10%); Concrete Design (10%); Wood Design (10%); Stone Design (10%); Glass Design (10%); Frame Design (10%); Shells (10%); Façade Design (10%)

Assigned work includes: Exams (4) 40%; Homework (8 assignments) 24%; Final Project 25%; Group Projects (2) 5%; Attendance 6%

Prerequisites: ARC 510

Textbooks/Learning Resources:
D. Schodek, *Structures 3rd Edition* (Prentice Hall, 1998)
D. Berlinski, *A Tour of the Calculus* (Vintage, 1997)

Offered: Spring only, annually

Faculty assigned: Nat Oppenheimer, Visiting Lecturer

Number & Title of Course: ARC 513 Contemporary Facade Design, Procurement, and Execution

Course Description: The course will introduce students to the current state of facade design and engineering as an emerging integrated discipline.

Course Goals & Objectives:
- This course is based on practice. It conveys the full range of issues, circumstances, and opportunities prevalent in architecture and engineering. It is about empowering the architect to act as a catalyst and critically lead the complex process of design and construction.
- The course is structured as a series of case studies and themed lectures. Several lectures will focus on single building presentations; others will address a specific set of ideas through building case studies. The remainder will be illustrated discussions of specific industry topics.
- There will be two field trips: one involving a lecture at the offices of Front, and a building review at what will be the design project site; and the other a Manhattan building tour. Each will be conducted on a Wednesday morning in lieu of school, and will supplement the course work.

Student Performance Criteria addressed:
A.4 Technical Documentation, A.5 Investigative Skills, A.6 Fundamental Design Skills, A.11 Applied Research, B.3 Sustainability, B.6 Comprehensive Design, B.8 Environmental Systems, B.9 Structural Systems, **B.10 Building Envelope Systems,** B.11 Building Service Systems, B.12 Building Materials and Assemblies, C.1 Collaboration, C.5 Practice Management

Topical Outline:
1) Research Paper: Submission of a 3,000-word, illustrated research paper that is part critique and part technical assessment. The subject shall be a phenomenon, a technology, or an idea that is specifically related to issues of building enclosure (30%).
2) Design Project: The class will design a temporary pavilion in a park in New York City. The brief is to design a covered enclosure that can be used as a space to exhibit art, and as a forum for learning, debate, and entertainment by day and at night. The pavilion, though an isolated structure, should deal with the complexities of the park, resonate with its location, respond to its varying program, and be dismantled and relocated at the end of the summer season. The project shall be modeled in 3-dimensions, with a focus on structure and facades, and shall be accompanied by 2-dimensional details and assembly drawings at 1:5 and 1:1 scales. The pavilion design will deploy concepts and technologies that are the specific subject of the research paper, and shall critically demonstrate their use (40%).
3) Attendance and participation in field trips: (30%).

Prerequisites: None

Textbooks/Learning Resources:
E. Allen and J. Iano, *Fundamentals of Building Construction: Materials & Methods* 6th Ed. (Wiley, 2013)
Francis DK Ching, Cassandra Adam, *Building Construction Illustrated* (Wiley, 2000)
N. Lechner, *Heating, Cooling, Lighting: Sustainable Design Methods for Architects* (Wiley, 2009)
Knaack, Klein, Bilow, Auer, *Facades - Principles of Construction* (Birkhauser, 2007)
Sophia and Stefan Behling, *Glass Structure and Technology in Architecture* (London, 1999)
Andrea Compagno, *Intelligent Glass* Facades (Birkhauser, 1999)
Peter Rice, *An Engineer Imagines* (Ellipsis London Pr Ltd, 1998)
Ed Ford, *The Architectural Detail* (Princeton Architectural Press, 2011)
Kieran Timberlake, *Refabricating Architecture* (McGraw-Hill Professional, 2003)
Reyner Banham, *The Architecture of the Well-Tempered Environment* (University of Chicago Press,1984)

Offered: Fall only, annually

Faculty assigned: Bruce Nichol, Visiting Lecturer

Number & Title of Course: ARC 514 The Environmental Engineering of Buildings, Part I

Course Description: First of two-part sequence providing a broad introduction to environmentally responsible design practices focusing on Building Systems, Environmental Control, Energy Conservation, and Sustainable Design.

Course Goals & Objectives:
- Students are introduced to fundamental concepts of Building Physics as well as Mechanical, Electrical, Plumbing, Lighting, Acoustical, and Life Safety systems.
- Students explore the integration of these systems into building designs by means of case studies, field trips, and exercises carried out in teams of two to four.
- The course is intended as a foundation for ARC 515 and also to allow students to integrate engineering and environmental concepts into their subsequent studio work.

Student Performance Criteria addressed:
A.4 Technical Documentation, A.5 Investigative Skills, A.6 Fundamental Design Skills, A.11 Applied Research, **B.3 Sustainability**, B.4 Site Design, B.5 Life Safety, **B.8 Environmental Systems**, B.10 Building Envelope Systems, **B.11 Building Service Systems,** B.12 Building Materials and Assemblies, C.1 Collaboration, C.2 Human Behavior

Topical Outline:
Lectures (50%); Project work in teams (40%); Presentation (10%)
Students are graded on the quality of their group assignments with roughly equal emphasis on creativity, technical performance, and presentation.

Prerequisites: None

Textbooks/Learning Resources:
ASHRAE, *Handbook of Fundamentals*
Givoni, B., *Man, Climate, Architecture*
Keider & Kreith, *Solar Energy Handbook*
Lechner, Norbert, *Heating, Cooling, Lighting, 3rd Edition*
Olgyay, Victor, *Design with Climate*
Stein Reynolds, *Mechanical/Electrical Equipment for Buildings, 8th ed*.

Offered: Fall only, annually

Faculty assigned: Mahadev Raman, Visiting Lecturer

Number & Title of Course: ARC 515 The Environmental Engineering of Buildings, Part II

Course Description: Second of two-part sequence taking students through the design, performance analysis, and documentation of a net-zero energy building.

Course Goals & Objectives:
- Students work in groups of three or four to develop a net-zero energy building in a climatic zone of their choice.
- A detailed program is provided for the building, but students are permitted to develop alternative, equally challenging, programs, if they wish.
- Students are expected to design a building that integrates the various building systems with architecture and structure. The projects explore the opportunities provided by climatic conditions and building systems to inform and enrich architectural design, ultimately resulting in a net-zero energy building.
- The energy performance is validated using a highly flexible and customizable building energy calculation tool. Students are required to present their designs, including the analysis and validation, on six 24 x 36 boards.

Student Performance Criteria addressed:
A.4 Technical Documentation, A.5 Investigative Skills, A.6 Fundamental Design Skills, A.11 Applied Research, **B.3 Sustainability, B.4 Site Design,** B.5 Life Safety, B.6 Comprehensive Design, **B.8 Environmental Systems**, B.10 Building Envelope Systems**, B.11 Building Service Systems,** B.12 Building Materials and Assemblies, C.1 Collaboration, C.2 Human Behavior, C.5 Practice Management

Topical Outline:
Lectures (10%); Individual group design sessions facilitated by the instructor (60%); Energy Analysis (15%); Presentation materials (15%).
Group projects are assessed on the quality of the architectural design, the effectiveness of system integration, the overall energy performance, and the quality of the final presentation.

Prerequisites: ARC 514 The Environmental Engineering of Buildings, Part I

Textbooks/Learning Resources:
Lechner, Norbert, *Heating, Cooling, Lighting, 3rd Edition*
Givoni, B., *Man, Climate, Architecture*
Keider & Kreith, *Solar Energy Handbook*
ASHRAE, *Handbook of Fundamentals*
Olgyay, Victor, *Design with Climate*
Stein Reynolds**,** *Mechanical/Electrical Equipment for Buildings, 8th ed.*

Offered: Spring only, annually

Faculty assigned: Mahadev Raman, Visiting Lecturer

Number & Title of Course: ARC 518, Construction and Interpretation

Course Description: Seminar examines the relation of construction, structure, and building services to the production of meaning through a series of case studies of buildings and bridges.

Course Goals & Objectives:
- Students will study a number of key modern works of architecture to assess how their systems construct the observed effects and meanings. These will include the World Trade Center towers of Minoru Yamasaki and Leslie Robertson, the Kimbell Art Museum of Louis Kahn and August Kommendant, Crown Hall at IIT of Mies van de Rohe and Fred Kornacker, the Menil Collection of Renzo Piano and Peter Rice.
- Students will make use of published writings and photographs, construction documents and photographs, and when possible, visit to collect information. We will work with the Syracuse University Breuer Digital Archive and the Gordon Bunshaft papers at Columbia University Avery Library.
- Students will be expected to study archives and construction documents where possible, research primary and secondary sources, and develop digital or physical models, drawings or structural and other computer models to aid in their analysis.

Student Performance Criteria addressed:
A.1 Communication Skills, A.2 Design Thinking Skills, A.4 Technical Documentation, A.5 Investigative Skills, A.6 Fundamental Design Skills, B.4 Site Design, B.6 Comprehensive Design, B.8 Environmental Systems, B.9 Structural Systems, B.12 Building Materials and Assemblies, C.1 Collaboration, C.6 Leadership, C.7 Legal Responsibilities, C.8 Ethics and Professional Judgment, C.9 Community and Social Responsibility

Topical Outline:
Construction and Interpretation - Tall Buildings (8%)
IIT Crown Hall - Mies van der Rohe and Fred Kornacker (8%)
Sydney Opera House - Jorn Utzon and Ove Arup (8%)
World Trade Center Towers - Minoru Yamasaki and Leslie Robertson (8%)
Kimbell Art Museum - Louis Kahn and August Kommendant (8%)
Centre Beaubourg - Richard Rogers, Renzo Piano, Peter Rice, and Tom Barker (8%)
Menil Collection - Renzo Piano, Peter Rice, and Tom Barker (8%)
Marcel Breuer and Pier Luigi Nervi - UNESCO Building (8%)
Gordon Bunshaft and Weiskopf and Pickworth - Lever House (8%)
Marcel Breuer and Paul Weidlinger - Whitney Museum (8%)
Gordon Bunshaft and Paul Weidlinger - Beinecke Library (8%)
Construction and Interpretation - Conclusions (8%)

Prerequisites: None

Textbooks/Learning Resources:
W. Empson, *Seven Types of Ambiguity* (New Directions, 1947 and 1966)
R. Mainstone, *Developments in Structural Form* (MIT Press, 1975 and Routledge, 2001)
Peter Rice, *An Engineer Imagines* (Artemis, 1994 and Ellipsis, 1998)

Offered: Spring only, annually

Faculty assigned: Guy Nordenson, Professor (F/T)

Number & Title of Course: ARC 519, Climate Adaptation Design

Course Description: This seminar reviews the general state of science and practice of climate change and adaptation with a primary focus on the United States.

Course Goals & Objectives:
- Climate change adaptation is a pressing and difficult challenge to urban design, ecological and engineering planning theory and practice. Students will explore the role that architects, planners, engineers, and designers have to help cities contend with climate adaptation.
- Students will explore the work of Frederick Law Olmsted for some of the theoretical basis of developing an approach to climate adaptation that is democratic and progressive, and evaluate the impediments that restrict change.

Student Performance Criteria addressed:
A.4 Technical Documentation, A.5 Investigative Skills, A.6 Fundamental Design Skills, A.11 Applied Research, B.3 Sustainability, B.4 Site Design, B.8 Environmental Systems, C.1 Collaboration, C.2 Human Behavior, C.9 Community and Social Responsibility

Topical Outline:
1) Introduction: Climate Change (9%)
2) Climate Adaptation – New York City pre-Sandy (9%)
3) Climate Adaptation – New York City post-Sandy (9%)
4) Coastal Storms, Urban Flooding, and Climate Change (9%)
5) Carbon Mitigation Initiatives and Climate Adaptation (9%)
6) Ethics of Ecological Restoration and Adaptation (9%)
7) Communicating Uncertainty and Risk of Climate Change (9%)
8) Effects of Climate Change and Adaptation on Biodiversity and Animal Migration (9%)
9) Climate Change and Adaptation Case Study – Miami (9%)
10) Climate Change and Adaptation Case Study – Houston (9%)
11) Climate Change and Adaptation Case Study – Seattle (9%)

Reading/Writing Assignments:
Students will produce a midterm paper, and in the second half of the term will work in groups of two or three to study the existing climate change and adaptation situation and plans in one of four U.S. cities: Seattle, WA, Houston, TX, Miami, FL and Providence, RI. Each team will lead class discussions and presentations on their research, including provision of readings in advance of their class. Each student will also be responsible for an individual final paper based on their group's research.

Prerequisites: None

Textbooks/Learning Resources:
K. Emanuel, *What we know about climate change*
E. Kolbert, *Field notes from a catastrophe*

Offered: Fall 2013-14

Faculty assigned: Guy Nordenson, Professor (F/T)

Number & Title of Course: ARC 520 Questioning Post-Medium Specificity in Architecture: Replacing the Urban with the Social and Problems of Architectural Medium.

Course Description: This design seminar explores contemporary issues of post-medium specificity and the potential consequences for architecture and urbanism.

Course Goals & Objectives:
- Students will investigate a lineage of mutating dialectics between architecture and the city via the lens of human behavior.
- Students will expand their interdisciplinary knowledge by studying the complex intersection of art and architecture.
- Students will rethink physical and graphic space through studies on the representation of space and the conception of space through representation.
- Students will explore means of speculative thinking of architectural representation across media with an emphasis on problems of temporality.
- Students will study the limitations and possibilities of ordering systems, and develop proposals for new aesthetic paradigms, or potential subjectivities/audiences that architecture could engender.
- Students will develop their visual communication skills.

Student Performance Criteria addressed:
A.1 Communication Skills, A.3 Visual Communication Skills, A.5 Investigative Skills, A.8 Ordering Systems Skills; C.2 Human Behavior

Topical Outline:
Participation in class and guest discussions (20%); Midterm assignment (30%); Final Project (50%)

Prerequisites: None

Textbooks/Learning Resources:
Adorno, Theodor**.** *On Popular Music*
Allen, Stan**.** *Project vs. Practice*
Bishop, Claire. “The Digital Divide.” *Artforum* (September 2012)
Colomina, Beatriz**.** *Enclosed by Images: The Eameses' Multimedia Architecture*
Dick, Philip K. *How to Build a Universe That Doesn't Fall Apart Two Days Later*
Joselit, David. “What to do with Pictures?” (October 138, Fall 2011)
Koolhaas, Rem. “The Generic City,” In S, M, L, XL. 1239-1994. (The Monacelli Press, 1985/1989)
Lavin, Sylvia**.** *Kissing Architecture*
Rossi, Aldo. The Architecture of the City (IAUS/ The MIT Press, 1982)
Rowe, Colin and Fred Koetter. Excerpt from Collage City (MIT Press, 1998)
Wallace, David F. *E Unibus Pluram: Television and U.S. Fiction*

Offered: Spring, 2013-14

Faculty assigned: Michael Meredith, Assistant Professor (F/T)

Number & Title of Course: ARC 521 Elemental Building Function

Course Description: This course will build a discourse encompassing the many aspects of building function to try to rediscover the best role of the architect.

Course Goals & Objectives:
- Students will understand the spatial interrelations of building ventilation and air movement.
- Students will understand the energy impact of building operation planning and construction.
- Students will learn the life cycle of materials and construction processes in buildings.
- Students will explore the flow of systems and components in a fully integrated building design process.

Student Performance Criteria addressed:
A.4 Technical Documentation, A.5 Investigative Skills, A.6 Fundamental Design Skills, A.11 Applied Research, B.3 Sustainability, B.4 Site Design, B.6 Comprehensive Design, B7 Financial Considerations, B.8 Environmental Systems, B.9 Structural Systems, B.10 Building Envelope Systems, B.12 Building Materials and Assemblies, C.1 Collaboration, C.2 Human Behavior, C.9 Community and Social Responsibility

Topical Outline (25% / three-weeks each):
1) Air: space and comfort
2) Fire: energy and operation
3) Earth: materials and construction
4) Water: flow and systems

Prerequisites: Graduate Standing

Textbooks/Learning Resources:
Saint, Thomas, *Architect and Engineer: A Study in Sibling Rivalry*
Addis, Bill, *3,000 Years of Design, Engineering and Construction*

Offered: Fall 2013-14

Faculty assigned: Forrest Meggers, Assistant Professor (F/T)

Number & Title of Course: ARC 525 Mapping the City

Course Description: This course examines relationships between the cinema and the city, and between cinematic representation of urban space and architectural representation of urban form.

Course Goals & Objectives:
- Students will explore the shifts in urban form and plans for development or reconstruction that give rise to cinematic representations.
- Students will learn how film has captured the dynamic force of mutations and disruptions in cities.
- Students will ask the same questions of each film under analysis: 1) How does the cinema represent the city, and how has this representation and mapping been reflected in architectural and urban theories? and 2) What does cinematic representation reveal about the central problems of cities in the 20th and 21st centuries? Each film will be read against a set of urban texts and background information about cinema and mapping.

Student Performance Criteria addressed:
A.1 Communication Skills, A.2 Design Thinking Skills, A.3 Visual Communication Skills, A.5 Investigative Skills, A.7 Use of Precedents, A.8 Ordering Systems, A.9 Historical Traditions and Global Culture, A.10 Cultural Diversity, A.11 Applied Research, C.2 Human Behavior, C.3 Client Role in Architecture, C.4 Project Management

Topical Outline:
Part I: The Modern City and Cinematic Form (25%)
Mapping the City via the History of Cinema; Mapping the Metropolis via City Symphonies; The Expressionist vs. The Modernist City; Orientalist Maps: The Casbah of Algiers in French Cinema and the Modernization of Algeria and Morocco
Part II: The Postwar City and Any-Space-Whatever (25%)
Cities of Rubble and Reconstruction: Empty Zones on City Maps; The Whiteness of the Noir City: Dark Holes on City Maps; Postwar London: Maps of Alienation; Destruction of the Center of Paris and the Banlieus: Situationist's Maps

Part III: Without a Map: Navigating Urban Terrains (25%)
Cities of China: Mapping Time and Memory; Mapping Cities of Time

Part IV: Screen Memories (25%)
Cities of Memories; Peter Greenaway and Jean-Luc Godard: Postmodern Maps and Boxes of Memory

Requirements: Viewing of required films every week; Formulation of questions for discussion on required readings and films each week; Responsible for organizing questions and directing discussion for a week's presentation; Project on the general theme of mapping the city through cinema.

Prerequisites: Graduate Standing

Textbooks/Learning Resources:
Antonioni, *Blow-Up (Cinema)*
Conley, *Cartographic Cinema*
Deleuze, *Cinema 1: The Movement-Image and Cinema 2: The Time-Image*
Jameson, *The Geographical Aethetic*
Virilio, *War and Cinema: The Logistics of Perception*
Godard, *Two or Three Things I Know about Her (Cinema)*

Offered: Fall 2013-14

Faculty assigned: M. Christine Boyer, Professor (F/T)

Number & Title of Course: ARC 528 The Digital Turn: A Cultural History

Course Description: Assesses the present state of computer-based design by situating today's digital turn within the long duration of the history of cultural technologies.

Course Goals & Objectives:
- Students will explore the recent history of digitally intelligent architecture, as well as its technical and cultural premises as evidenced by the history of architectural notations from the Renaissance to today.
- Student will learn to situate today's tools for digital design and fabrication in the long history of architectural design, and to assess the formal, cultural, technical, and economical implications of today's digital style.

Student Performance Criteria addressed:
A.1 Communication Skills, A.9 Historical Traditions and Global Culture

Topical Outline:
1) Technical logics of hand-making, mechanical reproduction, and digital making, highlighting the differences between digital variability, manual and artisanal variations, and the mechanical mass-production of identical copies (30%)
2) Brief history of the digital turn and of its theoretical and technological premises: from Post-Modernism, Deconstructivism, and the invention of the Deleuzian "Fold" to the spline-dominated environment of the 1990s; from system theory to early theories of digital "non-linearity" and digital phenomenology in the 1990s; from free-form, topology, and digital formalism to mass-customization, non-standard seriality, and later developments in digital interactivity, participatory making, and building information modeling (BIM) (40%)
3) The present state of digital design theory, and particularly the issue of digital indeterminacy and its consequences for the making of form (self-organizing systems, form-finding, material computation, digital simulation and "design by making") (30%)

Prerequisites: None

Textbooks/Learning Resources:
Mario Carpo, *The Alphabet and the Algorithm*
Mario Carpo, “Digital Style,” (*Log* 23, 2011)
Mario Carpo, “Digital Darwinism,” (*Log* 26, 2012)
Mario Carpo, *Architecture in the Age of Printing* (MIT Press, 2001).
Mario Carpo, *The Digital Turn in Architecture, 1992-2012. An AD Reader* (Wiley, 2012)

Offered: Spring only; 2012-13

Faculty assigned: Mario Carpo, Visiting Lecturer

Number & Title of Course: ARC 530 M.Arch. Thesis Seminar

Course Description: This course will support students in the development of a broad range of thesis topics optimized to the faculty of the SoA.

Course Goals & Objectives:

- Students will undertake a series of exercises intended to guide them in identifying the primary questions that currently structure the discipline as such, and those extra-disciplinary concerns which architecture must engage with today. Continuously and throughout the work, analyses of these issues will be linked in concrete ways to contemporary architectural production.
- Students may begin with an intuition about possible thesis topics, so the course will provide opportunities for rigorous examination of these original points of departure in relation to the given state of the field. In this way, the course will harness the dynamic and *a priori* feedback between specifically architectural problematics and the general logic of contemporary culture as preparation for future independent thesis work.

Student Performance Criteria addressed:
A.1 Communication Skills, A.5 Investigative Skills, A.7 Use of Precedents, A. 11 Applied Research, B.1 Pre-Design C.2 Human Behavior, C.6 Leadership

Topical Outline:
Five exercises in shared research will scan a wide range of specific contemporary phenomena outlined below and further detailed in class and explore their relationship to contemporary architectural protocols. Students will conduct the research and develop means for summarizing and presenting this research in ways that derive from and exploit existing and novel architectural methods. Encouraging collaboration as well as individuation within a teamwork environment, the course will facilitate the independent work of the candidate with his/her future thesis advisor by engendering an explicit and shared understanding of a focused thesis intent.

Section 1: Discipline (20%)
Section 2: World (20%)
Section 3: Post-Discipline – Models of Work (20%)
Section 4: Deliverables and Take-Aways (20%)
Section 5: Presentation Techniques (20%)

Textbooks/Learning Resources:

Prerequisites: Graduate Standing; Open to students in the final year of the M.Arch. program only

Offered: Fall semester, annually

Faculty assigned: Jeff Kipnis, Visiting Professor, and Sylvia Lavin, Visiting Professor

Number & Title of Course: ARC 536 Architecture, Cities, and Nature

Course Description: The seminar looks at the history of the city from the 19th century to the present through the lens of landscape and nature.

Course Goals & Objectives:
- Students will be introduced to the literature of ecology and the history of the environmental movement as it relates to urban development.
- Students will explore the presence and the role of nature within urban environments, leading to new and more environmentally sustainable approaches to urbanism.
- Students will analyze well know urban projects (Chandigarh, Brasilia, etc.) from an ecological perspective.
- Students will explore the relationship between American cities and the landscape of the Great Plains and the American West through novels and films.
- Students will investigate the relationship between the rise of the environmental movement and contemporary green architecture.
- Students will critically assess the relationship between suburban sprawl, landscape, landscape urbanism, and ecology.
- Students will gain a new perspective on the relationship between regional ecology and the city.

Student Performance Criteria addressed:
A.1 Communication Skills, , A.8 Ordering Systems, A.9 Historical Traditions and Global Culture, A.10 Cultural Diversity, A.11 Applied Research, B.3 Sustainability, C.2 Human Behavior

Topical Outline:
Final written paper (writing and research skills): (50%); Oral Presentation (communication skills): (30%); Class/Precept Participation (reading and preparation): (20%)

Prerequisites: Graduate Standing

Textbooks/Learning Resources:
Cosgrove, Denis**,** *Social Formation and Symbolic Landscape*
Cronon, William**,** *Nature's Metropolis: Chicago and the Great West*
Fishman, Robert**,** *Urban Utopias in the Twentieth Century*
Marx, Leo**,** *The Machine in the Garden: Technology and the Pastoral Ideal*
McHarg, Ian**,** *Design with Nature*
Mitchell, W.J.T.**,** *Landscape and Power*

Offered: Spring 2013-2014

Faculty assigned: Stanley T. Allen, Professor (F/T)

Number & Title of Course: ARC 543 Ecologies of Practice: From Cosmopolitanism to Cosmopolitics

Course Description:
This course will provide an introduction to the pragmatist tradition of Science and Technology Studies (STS) and Actor-Network-Theory (ANT).

Course Goals & Objectives:
- Students will discuss critically how specific methods, concepts and insights from STS can be used by the design disciplines, in particular how the methodological insights of ANT can inspire research in design and architecture.
- Students will examine closely recent attempts to extend the methods of STS and ANT into the field of design, architecture, and urban studies.
- Students will explore an ANT-inspired "anthropology of design," reflecting slowly, meticulously, and with many lively examples, on its epistemological offerings.
- During the second part of the course, students will complete a very specific exercise of following, analyzing, and mapping a controversy of design, urban, or architectural nature. Taking a cosmopolitical approach, the students will scrutinize design practice as complex ecology involving actors with variable ontology, scale, and politics.

Student Performance Criteria addressed:
A.1 Communication Skills, , A.9 Historical Traditions and Global Culture, A.11 Applied Research, C.1 Collaboration, C.2 Human Behavior, C.9 Community and Social Responsibility

Topical Outline:
The course includes three types of sessions: 1) Theory sessions; 2) Writing exercises (atelier d'écriture): all students in the class are invited to write one page on a particular topic and bring their work in class. The purpose of the exercise is to reflect on the performativity of writing and in particular on the role of description; 3) 'Meet the Author' sessions: invited presentations related to the themes of the seminar. Fifty percent of the time is spent on reading and discussions, and the other 50% of the time is spent on the mapping controversies exercise.

Prerequisites: Graduate Standing

Textbooks/Learning Resources:
Akrich, M. The De-scription of Technical Objects. In *Shaping Technology/Building Society: Studies in Sociotechnical Change (*MIT Press,1992)
Dana, C. *Architecture: The Story of Practice*. (MIT Press,1991)
de Vries, G., "What is Political in Sub-politics?: How Aristotle Might Help STS" (*Social Studies of Science*, 37, 2007)
Galison, Peter & Emily Thompson (eds.), *The Architecture of Science* (MIT Press,1999).
Latour, B., *Reassembling the Social: An Introduction to Actor-Network-Theory* (Oxford University Press, 2005)
Latour, B., *"*Whose Cosmos, Which Cosmopolitics? Comments on the Peace Terms of Ulrich Beck", (*Common Knowledge* 10:3, 2004).
Latour, B., *Science in Action: How to Follow Scientists & Engineers through Society*. (Harvard,1987)
Loukissas, Y., *Co-Designers. Cultures of Computer Simulation in Architecture* (Routledge, 2012)
Yaneva, Albena, *Made by the Office for Metropolitan Architecture. (*010 Publishers, 2009)

Offered: Fall only, annually

Faculty assigned: Albena K. Yaneva, Visiting Professor

Number & Title of Course: ARC 545 The Philosophy of Urban History

Course Description: The class introduces the branch of the philosophy of history, which specializes in cities as social entities existing between individuals and society as a whole.

Course Goals & Objectives:
- Students will receive a more concrete sense of social context, stressing particular urban examples instead of vague generalities such as “Western Culture.”
- Students will be introduced to the work of a variety of contemporary historians who have revived meso-level social entities as part of the explanation of specific historical episodes.
- Students will be introduced to the distinction between symbolic and materials cultures, the concept of assemblage, and the variety of specialized concepts needed to understand cities as economic, ecological and epidemiological, linguistic, technological, and military entities.
- Students will be introduced to topics including reactions to industrialization in the 19th century, the City Beautiful and the Garden City movements, the modernist city, landscape architecture, post-war suburban development, the rise of the environmental movement, and the emergence of Landscape Urbanism in the late 1990s.
- Students will complete close readings of plans, projects, and buildings to complement readings and in-class discussions.

Student Performance Criteria addressed:
A.1Communication Skills, A.9 Historical Traditions and Global Culture, A.10 Cultural Diversity, A.11 Applied Research, C.2 Human Behavior

Topical Outline:
Philosophy of Urban History (10%), Capitals and Metropolises (10%), Urban Economics (10%), Biology of Cities (10%), Cities as Linguistic Laboratories (10%), Cities and Transportation Technologies (10%), Fortified Walls and the State of Siege (10%), Symbols and Connections (10%)

Requirements: Paper in lieu of final (60%), Oral Presentation(s) (20%), Class/Precept Participation (20%)

Prerequisites: Graduate Standing

Textbooks/Learning Resources:
William McNeill, *The Pursuit of Power*
Paul M Hohenberg & Lynn Hollen Lees, *The Making of Urban Europe*
Manuel DeLanda, *A New Philosophy of Society*
Fernand Braudel, *The Perspective of the World*
Jane Jacobs, *The Economy of Cities*
Annalee Saxenian, *Regional Advantage*

Offered: Fall only, annually

Faculty assigned: Manuel J. DeLanda, Visiting Lecturer

Number & Title of Course: ARC 546 Ohms, Environments: Architecture, Resistance, and Media Technology

Course Description: The seminar explores articulations of environment in post war architecture through new technologies of communication, production, and reception.

Course Goals & Objectives:
- Students will explore the inflation of environment, its new currency, and its wide circulation through analyses of specific articulations of environment in architecture, and in new technologies of communication, production, and reception.
- Students will track media and environment as twin terms, systems of description, and forms of design that intersected through a broad and heterogeneous range of practices, pedagogies, technologies and social theories.
- Students will consider environmental design as a response to a perceived organizational, social and technical complexity, as the site of a liberatory expansiveness and as a form of resistance to architectural conventions.
- Students will assess environmental miscommunications, infelicities, and failures, from urban violence to ecological distress, and behavioral transformation.
- Students will also examine the extent to which contemporary architecture has tuned in to or resisted postwar environmental strategies and preoccupations.

Student Performance Criteria addressed:
A.1 Communication Skills, A.9 Historical Traditions, Global Culture, A.11 Applied Research, C.2 Human Behavior

Topical Outline:
Introduction: Environmental Images (8%)
The Invisible Environment: Communication, Interaction and Environmental Perception (8%)
Media Ecologies (8%)
Environments and Institutions (8%)
Genealogies of Environment and Milieu: Signals and Nature (8%)
Environmental Design Methods: Computation and Quantification (8%)
Buckminster Fuller and Environmental Games (8%)
E.A.T. Experiments in Art, Environment and Technology (8%)
The City as Classroom: Learning, Adaptation, Survival (8%)
Tomas Maldonado, Ulm and Environmental Objects (8%)
Populations of Pollutants: Smog and Noise (8%)
Bad Behavior: Urban Protests and Environmental Psychology (8%)
Environmental Expansion and the Molecular (8%)

Prerequisites: None

Textbooks/Learning Resources:
Alexander, Christopher, *Major Changes in Environmental Form Required by Social and Psychological Demands*
Halprin, Lawrence, *The Rsvp Cycles : Creative Processes in the Human Environment*
Mitman, Gregg, *The State of Nature: Ecology, Community, and American Social*
Maldonado, Tomás, *Design, Nature, and Revolution; toward a Critical Ecology*
McLuhan, Marshall, *The Invisible Environment: The Future of an Erosion*
Moles, Abraham A., *Theory of Complexity and Technical Civilization*

Offered: Spring 2013-14

Faculty assigned: Mark J. Wasiuta, Visiting Lecturer

Number & Title of Course: ARC 547 Introduction to Formal Analysis

Course Description: Introduction to the primary projective systems that form the foundations of architectural representation and serve as essential tools of formal analysis and design.

Course Goals & Objectives:
- Students will explore issues of geometry and architectural representation through lectures on the history and theory of representation, in-class exercises, tutorials, and weekly representational projects. The issues will cover the fundamentals of architectural representation in both their traditions and their contemporary practice.
- Students will learn how to produce architectural representations, iteratively develop a drawing, and argue the underlying ideas through different media. This includes familiarity with techniques and concepts for multiple methods. These types of representation include but are not limited to the following: Plans, Sections, Elevations, Descriptive Geometry, Plane Geometry, Formal Analysis, Axonometrics, Digital Modeling, Computational Processes, Diagrammatic Drawing, and Realism in Rendering.

Student Performance Criteria addressed:
A.1 Communication Skills, **A.3 Visual Communication Skills,** A.4 Technical Documentation, A.5 Investigative Skills, A.6 Fundamental Design Skills, A.7 Use Of Precedents, **A.8 Ordering Systems**

Topical Outline:
Class sessions will consist of lectures, tutorials, analog drawing exercises, five two-week representation projects and presentations. Representation Projects (50%); Oral Presentation(s) (25%), Participation & Exercises (25%)

Prerequisites: ARC Graduate Students Only.

Textbooks/Learning Resources:
Evans, Robin, *The Projective Cast: Architecture and its Three Geometries*
Booker, Peter Jeffrey, *A History of Engineering Drawing*
Cohen, Preston Scott, *Contested Symmetries & Other Architectural Predicaments*
Monge, Gaspard, *Geometric Descriptive*

Offered: Fall only, annually

Faculty assigned: Michael B. Young, Visiting Lecturer

Number & Title of Course: ARC 549 / ART 586 History and Theories of Architecture: 20th Century

Course Description: An overview of the major themes running through the various strands of modern architecture in the twentieth century.

Course Goals & Objectives:
- Students will learn about the major ideas or concepts, such as form, space, function, and figures of twentieth century architecture, including Le Corbusier, Mies van der Rohe, and Frank Lloyd Wright, and through the work of major architectural historians, such as Sigfried Giedion, Bruno Zevi, and Manfredo Tafuri.
- Students will explore the relations between twentieth century architectural practice and the historiography and reception history of modern architecture as well as its relations to aesthetic, political, and cultural issues.
- Students will focus weekly on a specific theme, and will explore the relations of modern architecture with cultural, aesthetic, and scientific theories that have informed contemporary architectural debates, including organicism, vitalism, functionalism, historicism, and their opposites.

Student Performance Criteria addressed:
A.1 Communication Skills, A.5 Investigative Skills, A.7 Use of Precedents, **A.9 Historical Traditions and Global Culture,** A.10 Cultural Diversity, C.8 Ethics and Professional Judgment, C.8 Ethics & Professional Judgment,C.9 Community and Social Responsibility

Topical Outline:
1) History (10%)
2) Space (10%)
3) Revival (10%)
4) Ornament (10%)
5) Function (10%)
6) Organic (10%)
7) Form (10%)
8) Physiognomy (10%)
9) Atmosphere (10%)
10) Proportion (10%)

Requirements: Final paper (60%); Oral presentation (20%); Participation in class discussions (20%)

Prerequisites: None

Textbooks/Learning Resources:
Gottfried Semper, *Style in the Technical and Tectonic Arts*
Sigfried Giedion, *Architecture and the Phenomena of Transition*
L. Moholy-Nagy, *Vision in Motion*
Le Corbusier, *Precisions*
Manfredo Tafuri, *The Sphere and the Labyrinth*
Reyner Banham, *A Critic Writes*

Offered: Fall only, annually

Faculty assigned: Spyridon Papapetros, Associate Professor (F/T)

Number & Title of Course: ARC 557 The Modeling Complex

Course Description: The modeling complex includes those practices that privilege a dynamic temporal and spatial relationship between architectural things and their effects in the world over time.

Course Goals & Objectives:
- Students will explore things, objects, and effects through readings in theory from architecture, art, philosophy, mathematics, and the sciences, and through the examination of case studies.
- Students will explore modeling as processes and processing; as practices that conceive architecture within problem sets, not as a singular solution to a problem. They will study the traits and effects of modeling, rather than a singular definition of modeling.

Student Performance Criteria addressed:
A.1 Communication Skills, A.3 Visual Communication Skills, A.8 Ordering Systems, A.9 Historical Traditions and Global Culture, A.11 Applied Research

Topical Outline:
1) Complexity, Information and Solution Sets (8%)
2) The Use Value of Modeling (8%)
3) Algorithms beyond the Serial Attitude (8%)
4) Structures Implicit, Explicit and Dynamic (8%)
5) There is no outside, there is no subject (8%)
6) *Eppure si muove* (8%)
7) The Place of Modeling (8%)
8) Outputs (8%)
9) Automated Hands, Democratic Objects, Non-Planned Economies, Managed Cities (8%)
10) Modeling and Metaphors (8%)
11) Visualizing Modeling (8%)
12) Utopian Modeling (8%)

Prerequisites: None

Textbooks/Learning Resources:
Emily Abruzzo, Eric Ellingson, Jonathan D. Solomon**,** *Models*
Alain Badiou, *Concept of Model*
Mario Carpo**,** *The Alphabet and the Algorithm*
Lorraine Daston, Peter Galison, *Objectivity*
Susan G. Strerrett, *Wittgenstein Flies a Kite*
Mark C Taylor, *The Moment of Complexity*

Offered: Spring 2012-13

Faculty assigned: M. Christine Boyer, Professor (F/T)

Number & Title of Course: ARC 562 Introduction to the Architecture Profession

Course Description: ARC 562 deals with the entire process of an architectural project, including the contracts, specifications, technical documentation, project management, and construction administration phases of architectural services.

Course Goals & Objectives:

- The underlying theme of the course is the leadership of the architect in taking the client through a project along with developing an understanding of the dramatic differences in clients and their goals and aspirations for the project.
- Objectives include:
  1. Understanding all of the forces at work on a project: economic, political, environmental, social, cultural, etc.
  2. Understanding the difference in clients and their goals for a project.
  3. Learning the step-by-step process of doing a project and then outlining it in a term paper, which is a proposal to a prospective client.
  4. Understanding the economics of doing a project, including time management, mark-ups on payroll, and consultants.
  5. Development of an awareness of all of the "players" in the architecture profession, construction industry, and real estate business.
  6. Understanding the phases of architectural services and the appropriate documentation required for each phase.
  7. Understanding the importance of building, planning, and zoning codes and their application.
  8. Development of an awareness of the architectural licensing process.
  9. Development of project schedules.
  10. Development of project budgets.

Student Performance Criteria addressed:
A.4 Technical Documentation, A.7 Use of Precedents, **B.1 Pre-Design**, B.2 Accessibility, **B.5 Life Safety**, **B.7 Financial Considerations**, C.1 Collaboration, C.2 Human Behavior, **C.3 Client Role in Architecture, C.4 Project Management, C.5 Practice Management,** C.6 Leadership, **C.7 Legal Responsibilities, C.8 Ethics and Professional Judgment, C.9 Community and Social Responsibility**

Topical Outline:
Related to the Goals and Objectives listed above:

1. Forces	(5%)	6. Phases	(10%)
2. Client	(10%)	7. Codes	(15%)
3. Process	(25%)	8. Licensing	(5%)
4. Economics	(15%)	9. Schedules	(5%)
5. Players	(5%)	10. Budgets	(5%)

Prerequisites: None

Textbooks/Learning Resources:
Paul Neel, *The Executive Architect*
AIA, *All contract and general condition forms*
Andy Pressman, *Professional Practice 101: Business & Management Strategies*
Andy Pressman, *Fountainheadache: The Politics of Architect-Client Relations*

Offered: Fall only, annually

Faculty assigned: J. Robert Hillier, Visiting Lecturer

Number & Title of Course: ARC 563 Founding, Building, and Managing an Architectural Practice - Business and Legal Issues in Architectural Practice

Course Description: Review of dynamics and processes in starting, developing, managing and operating an architectural practice, including marketing, finance, human resources, project process, liability, and general management.

Course Goals & Objectives:
- Understanding the differences in firms: Idea, Service, Specialist.
- Understanding different firm operational structures: departmentalized, matrix, studios.
- Development of a business plan: the term paper which incorporates all aspects of the course into a presentation to a banker for a loan including SWOTs (Strengths, Weaknesses, Opportunities, Threats).
- Understanding project and firm economics and finance, including the importance of direct and indirect time and critical ratios for profitability.
- Appreciation of Human Resources and its importance in building firm culture while establishing the employees' rights and protecting the firm from litigation.
- Appreciation of the difference between marketing, including public relations, and the selling of architectural services.
- Understanding the different processes of architectural firm selection that clients might follow and how to respond.
- Understanding each step of the marketing process from the "lead" to the letter of interest, through qualifications, proposal, presentation, to the contract.
- Development of a Marketing Plan as part of the Business Plan dealing with size of market, competition, growth potential, economic climate.
- Specific training in making a presentation for a project before a selection committee.
- Understanding how to manage client disappointment, deal with litigation, and the importance of Professional Liability Insurance.

Student Performance Criteria addressed:
A.7 Use of Precedents, B.1 Pre-Design, B.2 Accessibility, **B.7 Financial Considerations,** C.2 Human Behavior, **C.3 Client Role in Architecture, C.4 Project Management, C.5 Practice Management,** C.6 Leadership, **C.7 Legal Responsibilities,** C.8 Ethics and Professional Judgment, C.9 Community and Social Responsibility

Topical Outline:
Related to Course Goals and Objectives outlined above.

1. Firm types	(5%)	7. Architect Selection	(2%)
2. Firm Structures	(5%)	8. Marketing Process	(5%)
3. Business Plan	(20%)	9. Marketing Plan	(10%)
4. Economics and Finance	(20%)	10. Presentation	(15%)
5. Human Resources	(10%)	11. Liability/Insurance	(5%)
6. Marketing vs Sales	(3%)		

Prerequisites: None

Textbooks/Learning Resources:
Anonymous**,** *Marketing in a Nutshell*
C. Thompson, *Managing Brainpower*
M. DePree, *Leadership is an Art*
R. Gutman, *Architectural Practice*
J. Capelin, *Principles for Principals*

Offered: Spring only, annually

Faculty assigned: J. Robert Hillier, Visiting Lecturer

Number & Title of Course: ARC 574 Computing and Imaging in Architecture

Course Description: This course on digital media infrastructure explores the breaking technologies of fabrication, modeling, and design based on production pipelines pioneered by the film and gaming industries.

Course Goals & Objectives:
- Students will conduct a series of formal experiments culminating in the fabrication of rapid prototypes using the CNC mill and the InVision 3D printer, explicitly challenging conventional modes of practice and seeking insight into new forms of organization, techniques, and operative procedures.
- Students will design and produce digitally based projects in ways unique to the specific technologies.

Student Performance Criteria addressed:
A.3 Visual Communication Skills, A.4 Technical Documentation, A.5 Investigative Skills, A.6 Fundamental Design Skills, A.8 Ordering Systems

Topical Outline:
Coursework will be divided between lecture/demonstrations and work sessions that take place in the computer lab (50%) and the digital fabrication studio (50%).

Prerequisites: Graduate Standing

Textbooks/Learning Resources:
Mitchell, William J., *The Logic of Architecture*
Mitchell, William J., *Digital Design Media*
Evans, Robin, *The Projective Cast: Architecture and Its Three Geometries*
McCullough, Malcolm, *Abstracting Craft: The Practiced Digital Hand*
Stiney, George, *Shape: Talking about Seeing*
Pottmann, Helmut et al., *Architectural Geometry*

Offered: Fall only, annually

Faculty assigned: Marc Fornes, Visiting Lecturer

Number & Title of Course: ARC 575 Advanced Topics in Modern Architecture: Building a New New World: Amerikanizm in Russian Architecture

Course Description: The seminar aims at a comprehensive analysis of a phenomenon often limited to the late Stalinist high-rise buildings, interpreted through architecture and urban design.

Course Goals & Objectives:
- Students will explore the phenomenon of Americanism, a system of characteristic of modernity and modernization, where the most paradoxical relationship is the one between Russia and the United States in the 20th century.
- Students will investigate a comprehensive analysis of a phenomenon of cultural transfer often limited to the late Stalinist high-rise buildings. Interpretation will develop through the prism of architecture and urban design, relying on the analysis of discourse, designs, and buildings. Politics, art, literature, and technology will also be involved in the discussion.

Student Performance Criteria addressed:
A.7 Use of Precedents, A.9 Historical Traditions and Global Culture, A.10 Cultural Diversity

Prerequisites: Graduate Standing

Textbooks/Learning Resources:
Ball, Alan M., *Imagining America*
Brumfield, William Craft, *Reshaping Russian Architecture*
Castillo, Greg, *Cold War on the Home Front*
Cohen, Jean-Louis, *Scenes of the World to Come*
Starr, S. Frederick, *Red and Hot*
Gough, Maria, *The Artist as Producer*
See instructor for complete list.

Offered: Fall 2013-2014

Faculty assigned: Jean-Louis Cohen, Visiting Professor

Number & Title of Course: ARC 576 / ART 598 / MOD 502 Advanced Topics in Modern Architecture

Course Description: This topics seminar explores such ideas as the role played by manifestos in 20th-century architecture, or the perversions of modern architecture.

Course Goals & Objectives:
- Students will explore, through a series of case studies from the early twentieth century through today, of both mainstream figures and misfits. The class will explore the backwaters of modern architecture to reveal the astonishing richness and eccentricity of the field. (Perversions of Modern Architecture)
- Students will investigate the history of the avant-garde in art, architecture, and literature in relation to the history of its engagement with the media. It is not just that the avant-garde used media to publicize its work. The work did not exist before its publication. (Manifestos)
- Students will explore the key role played by manifestoes in 20th century architecture, and ask what happened to such calls for action in the digital age. (Manifestos)

Student Performance Criteria addressed:
A.1 Communication Skills, A.2 Design Thinking Skills, A.5 Investigative Skills, A.9 Historical Traditions and Global Culture, A.10 Cultural Diversity,A.11 Applied Research

Topical Outline: (Manifesto)
1) What is a Manifesto? (8%)
2) Adolf Loos and Le Corbusier (8%)
3) Situationist International 1957-1972 (8%)
4) Constant's New Babylon (8%)
5) The Radicals (8%)
6) Yona Friedman (8%)
7) Alison and Peter Smithson (8%)
8) A Gentle Manifesto: Robert Venturi (8%)
9) Metabolism (8%)
10) Rem Koolhaas/Bernard Tschumi (8%)
11) Open Source Manifestos (8%)

Prerequisites: Graduate Standing

Textbooks/Learning Resources:
Manifestos:
Ulrich Conrads**,** *Programs and Manifestoes on 20th Century Architecture*
Kiesler**,** *Manifesto of Correalism*
Libero Andreotti and Xavier Costa ed.**,** *Theory of the Dérive and Situationist Writing on the City*
Yona Friedman**,** *Mobile Architecture*
Rem Koolhaas and Hans Ulrich Obrist**,** *Project Japan: Metabolism Talks*
Carlo Ratti, *Open Source Architecture Manifesto*

Perversions:
Frederick Kiesler, *Pseudo-Functionalism in Modern Architecture*
Bernard Rudofsky, *The Unfashionable Human Body*
Carlo Mollino, *Message from the Darkroom*
Buckminster Fuller, *Operating Manual for Spaceship Earth*
Francois Dallegret, *God & Co*
Bernard Tschumi, *Architecture and Transgression*

Offered: Spring 2012-13; Spring 2013-14

Faculty assigned: Beatriz Colomina, Professor (F/T)

Number & Title of Course: ARC 577 Topics in Contemporary Architectural Theory: Anonymity (Fall 2013), Kissing Architecture (Fall 2012)

Course Description: Examines the history and theory of medium specificity, tracing the dissolution of material specificity into notions of discipline, and speculating on the limits of the field.

Course Goals & Objectives:
- Students will explore changing ideas of architectural authorship. They will investigate the full range of historical figurations of the architect as producer: from the emergence of the figure of the architect from the system of guilds, through its managerial role in the corporate office system, to the architect as artistic genius, to more contemporary conceptions that engage crowdsourcing and other digital protocols.
- Students will learn the methods of scholarly inquiry and research and will apply this knowledge to their own primary intellectual and or creative production.

Student Performance Criteria addressed:
A.1 Communication Skills, A.2 Design Thinking Skills, A.5 Investigative Skills, A.9 Historical Traditions and Global Culture

Topical Outline:
Research techniques (60%); Writing skills (40%)

Prerequisites: Graduate Standing

Textbooks/Learning Resources:
Anonymity:
Foucault, Michel, *Lives of Infamous Men*
Hitchcock, Henry-Russell, *Architecture of Bureaucracy and Architecture of Genius*
Weckherlin, Gernot, *Ernst Neufert's Architect's Data*
Joselit, David, *Feedback: Television against Democracy*
Molesworth, H.A, Alexander, M.D. and Bryan-Wilson, J., *Work Ethic*
Carpo, Mario, *Digital Darwinism*

Kissing Architecture:
Jean-Luc Nancy, *Why Are There Several Arts and Not Just One?*
Colin Rowe, *The Mathematics of the Ideal Villa*
John McHale, *The Plastic Parthenon*
Thomas Kuhn, *The Route to Normal Science*
Hal Foster, *Design and Crime*

Offered: Fall 2013-14

Faculty assigned: Sylvia Lavin, Visiting Professor

Number & Title of Course: ARC 579 Los Angeles: Architecture, Mobility, and Motion Pictures.

Course Description: The seminar will discuss historical texts, designs, and plans, and recent interpretations of Los Angeles as a global physical and cultural construct.

Course Goals & Objectives:
- Students will study the modes of construction of the main urban systems, from the wider features of the metropolitan landscape to the highways, the typical building programs, and the architectural attitudes.
- The model represented by the city and its diffusion beyond the boundaries of Southern California will be analyzed, as well as the patterns according to which fiction, film, art and architecture have interacted to create specific Angeleno myths and cultures.
- Students will focus on the spatial devices related with the diffusion of the automobile and to the intersection between urban development, architecture, and the film industry.

Student Performance Criteria addressed:
A.1 Communication Skills, A.9 Historical Traditions and Global Culture

Topical Outline:
1) The state of knowledge and the problematic of the seminar (8%)
2) Origins: L.A. from the transcontinental railroads to the Panama Canal (8%)
3) Early architectural experiments, from Arts & Crafts to proto-Modernism (8%)
4) The first automobile age: roadside architecture and parkway planning (8%)
5) Frank Lloyd Wright's Los Angeles (8%)
6) The input of European Modernism: Schindler and Neutra (8%)
7) The impact of WWII: factories, freeways, and mass housing (8%)
8) The Case Study Houses program (8%)
9) The moving image: architecture and film (8%)
10) John Lautner's playful Modernism and Victor Gruen's commercialism (8%)
11) Frank Gehry's L.A., between the art scene and urban design (8%)

Prerequisites: Graduate Standing

Textbooks/Learning Resources:
Mike Davis, *City of Quartz, Excavating the Future in Los Angeles*
Reyner Banham, *Los Angeles, the Architecture of Four Ecologies*
Thomas S. Hines, *Architecture of the Sun: Los Angeles Modernism*
Norman M. Klein, *The History of Forgetting, Los Angeles and the Erasure of Me*
Richard W. Longstreth, *City Center to Regional Mall: Architecture, the Automobile, and Retailing in Los Angeles, 1920-1950*
David L. Ulin, *Writing Los Angeles: a Literary Anthology*

Offered: Fall 2012-13

Faculty assigned: Jean-Louis Cohen, Visiting Professor

Number & Title of Course: ARC 588 Dynamical Logics in Architecture

Course Description: This course is a workshop in architecture derived from material logics, with intensive design projects exploring the emerging potentials of the deep section.

Course Goals & Objectives:
- In this model, the economy of relations of part to whole allows for a very different set of architectural organizations and effects than the minimal envelope.
- Students will complete a project that works through the architectural implications of the complex interplay between material organization, historical precedents, program, and form.
- Students will explore the relationships between multiple forms of representation, including analogue and digital modeling, animation, drawing, and full-scale prototyping
- Students will research and analyze historical precedents that operate across several scales, in particular Mies van der Rohe's clear span building model.
- Students will develop an architectural agenda that privileges mass over lightness, and opacity over transparency. As opposed to the articulation and separation of building systems, students will explore system integration of building tectonics.
- Students will evaluate building performance through quantitative terms (structural, environmental, etc.), as well as cultural and aesthetic agendas.

Student Performance Criteria addressed:
A.3 Visual Communication Skills, A.5 Investigative Skills, A.6 Fundamental Design Skills, A.8 Ordering Systems, B.8 Environmental Systems, B.9 Structural Systems

Topical Outline:
Individual Design/Research Projects (60%), Analysis (30%), Background Readings (10%)

Prerequisites: None

Textbooks/Learning Resources:
Reiser + Umemoto, *Atlas of Novel Tectonics* (Princeton Architectural Press, 2006)
Cyril Stanley Smith, “Structure, Substructure and Superstructure,” in *A Search for Structure, Selected Essays on Science, Art and History* (The MIT Press)
Manuel DeLanda, “Non-Organic Life,” in *Zone 6: Incorporations*
Sanford Kwinter, “Notes on the Synthesis of (a) Form: O-14,” in *O-14: Projection and Reception* (Architectural Association Publications, 2012)
Reiner Banham, “The Well-Tempered Environment,” in *A Critic Writes* (University of California, 1999)
Sylvia Lavin, *Kissing Architecture* (Princeton University Press, 2011)
David Joselit, *After Art* (Princeton University Press, 2013)
Terrence Riley, ed., *Light Construction*, Catalogue (MoMA 1995)
Kenneth Frampton, “The Glass House Revisited” in *Catalogue 9* (Institute for Architecture and Urban Studies, September-October 1978)
Detlef Mertins, *The Presence of Mies* (Princeton Architectural Press, 2000)
Philip Johnson, *Mies van der Rohe* (The Museum of Modern Art, 1947)
Phyllis Lambert, *Mies in America* (Whitney Museum of American Art, 2001)
Kenneth Frampton, *Studies in Tectonic Culture* (The MIT Press, 1995)

Offered: Spring only, annually

Faculty assigned: Jesse Reiser, Professor (F/T)

Number & Title of Course: ARC 596 Embodied Computation

Course Description: This advanced seminar will introduce the participants to developing novel design models in a computational design context and produce research publications from the results.

Course Goals & Objectives:
- Computational design is often presented as a problem-solving tool for design implementation rather than as an integral part of design conceptualization and exploration. This seminar focuses on approaching computational design from the conceptual design direction extending existing or defining novel models of design along the way. A strong emphasis is put on prototyping as the embodiment of the design process, as well as drawing on contemporary development of physical electronic feedback and control systems in robotics mapped to architecture.
- Students will produce hands-on work in computational design, such as developing code in processing, parametric design, and physical prototypes.
- Students will produce a final report/paper at the level of a technology conference publication. It is expected to document, reflect, and summarize the work. Ideally, this could be the basis for a submission to a conference in the field of computation, such as acadia, ecaade, caadfutures, or similar emerging ones.

Student Performance Criterion/a addressed:
A.3 Visual Communication Skills, A.4 Technical Documentation, A.5 Investigative Skills, A.6 Fundamental Design Skills, A.8 Ordering Systems, A.11 Applied Research, C.2 Human Behavior

Topical Outline:
- Research project definition (15%): A hypothesis with architectural/spatial implications that intersects with computational design with a particular emphasis on embodied computation.
- Model (15%): Development of a computational model. “Model” stands for an abstract conceptual set of dependencies that are embodied in an algorithmic or parametric construct.
- Generate (15%): Refinement of the computational model to generate a range of design outputs.
- Prototype (15%): Creation of a prototype, a partially functional embodiment of the design experiment, i.e. a physical artifact to a piece of software, in parallel development of evaluation criteria.
- Explore (15%): Exploration of design variations within the established computational design construct in order to test the robustness of the approach both in terms of stability but also conceptual variability.
- Final Report (25%): The final report is in the form of a research paper, to publish the novel contributions in a way that allows others to understand and retrace your steps.

Prerequisites: The emphasis is on learning new methods of developing design, and there are no prerequisites, but a strong motivation to tackle new knowledge and work in an experimental design setting is expected.

Textbooks/Learning Resources:
Brell-Cokcan, S. Braumann, J.**,** *Robotic Fabrication in Architecture, Art, and Design*
Gengnagel, C., Kilian, A., Palz, N., Scheurer, F.**,** *Computational Design Modelling, Conference Proceedings*
Gengnagel, C.**,** *Design Modelling, Conference Proceedings*
Ceccato, Hesselgren, Pauly, Pottmann, Wallner**,** *Advances in Architectural Geometry, Conference Proceedings*
Pottmann, H., Kilian, A., Hofer, M.**,** *Advances in Architectural Geometry, Conference Proceedings*

Offered: Spring only, annually

Faculty assigned: Axel Kilian, Assistant Professor (F/T)

Part Four: Supplemental Information

2. Faculty Resumes

Name: Lucia Allais

Courses Taught:
ARC 403 The Architectural Thesis
ARC 308 History of Architectural Theory

Educational Credentials:
Ph.D., History, Theory, Criticism of Architecture & Art, Massachusetts Institute of Technology, 2008
M.Arch. with Distinction, Graduate School of Design, Harvard University, 2001
B.S.E., Princeton University Civil Engineering & Architecture, 1996

Teaching Experience:
Assistant Professor, Princeton University, 2011–present
Behrman-Cotsen Postdoctoral Fellow in the Society of Fellows, Princeton University, 2008–2011
Lecturer in Architecture and in the Council of the Humanities, Princeton University, 2008–2011
Massachusetts Institute of Technology Teaching Assistant, 2002–2006
Harvard Graduate School of Design Teaching Assistant, 1999–2001

Professional Experience:
Editor, writer, translator, and interviewer, 2x4, New York, 2004–2006
AMO, New York, 2001–04
Editor, *Wired 11/6: Koolworld Special* issue guest-edited by Rem Koolhaas (June 2003)
Project manager: Condé Nast Media Group
Architectural designer, Office for Metropolitan Architecture, Rotterdam, 1999–2000
Competition Team, WW Architects, Cambridge, MA, 2000
Architectural designer, Thompson & Rose Architects, Cambridge, MA, 1998,1999
Competition Team, Atelier Séraji, Paris, France, 1997

Selected Publications and Recent Research:
Publications:
"Formless Keepers: Riegl, Kieslinger and the Dissolution of History." *Formless:* ed. Garret Ricciardi & Julian Rose. Manifesto Series (Storefront / Lars Müller, 2013)
"Integrities: The Salvage of Abu Simbel." *Grey Room 50* (Winter 2013)
"Staring at Walls (2x4 for Architects)." *Multiple Signatures.* ed. Michael Rock (Rizzoli, 2013)
"The Formlessness of Architectural History" in *FormlessFinder,* ed. Julian Rose & Garrett Riccardi (Forthcoming, 2013)
Lectures:
"Birth of Monument Diplomacy." Test Sites Symposium. California College of the Arts. San Francisco, CA (November 2013)
"The Design of the Nubian Desert: Monuments, Mobility, and the Space of Global Culture." Aggregate, *Governing by Design. Architecture, Economy and Politics in the Twentieth Century* (Pittsburgh University Press, 2012)
"Power/Pen." What I Did Next Lecture Series. Princeton School of Architecture (October 2012)
"Systems of Decay: Borrowers, Burrowers, and the Decolonization of Museum Space." Society of Architectural Historians Annual Meeting, Detroit, MI (April 2012)
Awards:
Radcliffe Fellowship, Radcliffe Institute for Advanced Studies at Harvard University, 2013
Dean of the Faculty Top-Up Award for Honorific Fellowships, Princeton University, 2013
Graham Foundation Grant to Organizations, "Aggregate History Collective": Collaborator, 2012
SSHRC Grant for "Archaeologies of Design Instruments": Collaborator, 2012

Professional Memberships:
Editor, Grey Room (September 2012–present)
Editorial board member, Aggregate: The Architectural History Collaborative (2005–present)

Name: Stanley T. Allen, FAIA

Courses Taught:
ARC 203 Introduction to Architectural Thinking
ARC 505B Architecture: Design Studio (Integrated Building Studio)
ARC 536 Architecture, Cities and Nature

Educational Credentials:
M.Arch., Princeton University School of Architecture, 1988
B.Arch., The Cooper Union, School of Architecture, 1981
B.A., Brown University, Independent Concentration: Architectural History, 1978

Teaching Experience:
George Dutton Class of '27 Professor of Architecture, Princeton University, 2002–present
Dean of the Princeton University School of Architecture, 2002–2012
Associate Professor of Architecture, GSAPP, Columbia University, 1990–2002; Director, Advanced Architectural Design Program, 1998–2002
Assistant Professor of Architecture, GSAPP, Columbia University, 1990–1997

Professional Experience:
SAA/Stan Allen Architect, New York, 1991–present
Principal and Director, Field Operations, in partnership with James Corner, 1999–2003
Rafael Moneo Architect, Madrid, Spain, and Cambridge, MA, 1984–1987
Richard Meier and Partners Architects, New York, 1981–1983

Licenses/Registration:
New York, New Jersey, Pennsylvania

Selected Publications:
Landform Building: Architecture's New Terrain. Co-Edited with Marc McQuade (Lars Müller, 2011)
Practice: Architecture, Techniques and Representation, *Collected Essays by Stan Allen* (G+B Arts International, 2000; Revised and expanded second edition published by Routledge, 2008)
Stan Allen Architect: Points + Lines, Projects and Built Works by Stan Allen 1990–1997. Introduction by K. Michael Hays; postscript by R.E. Somol (Princeton Architectural Press, 1999; Second Printing, 2004; Third Printing, 2012)
"New Natures: Abalos + Sientkewitz's Intermodal station in Logroño" in *New Natures: Intermodal Station in Logroño* (Q Estudio, 2013)
"Postscript: R. Buckminster Fuller and Louis I Kahn" in *Buckminster Fuller: World Man*. Edited by Daniel Lopez-Perez, (Princeton Architectural Press, 2013)
"The Future that is Now: Architectural Education in North America, 1009–2012." Book Chapter, *Architecture School: Three Centuries of Educating Architects in North America*. Edited by Joan Ockman (MIT Press/ACSA, 2012)

Selected Recent Professional Practice:
Durham House, Durham, Pennsylvania; Single-family house; under construction
Peter Saul Studio, Germantown, New York; Artist studio; under construction
Tainan Art Museum, Tainan, Taiwan; Schematic Design completed 2013
MM Studio, Cold Spring, New York; Artist house and studio; completed fall 2013
Monument to Freedom and Equality, Leipzig, Germany, (Finalist in invited competition) 2012

Professional Memberships:
Fellow, American Institute of Architects
AIA Member, New York City Chapter
NCARB Certificate No. 62115

Name: M. Christine Boyer

Courses Taught:
URB 201/WWW 201/SOC 203 Introduction to Urban Studies
ARC 525/ Art 524/MOD 524 Mapping the City
ARC 572/Art 582 Research in Architecture

Educational Credentials:
Ph.D., Department of Urban Studies and Planning, Massachusetts Institute of Technology, 1968–1972
M.S., City Planning, Massachusetts Institute of Technology, 1966–1968
Special Student, Computational Linguistics, The Department of Electrical Engineering, Massachusetts Institute of Technology, 1965–1966
M.S., Computer and Information Science, The Moore School of Electrical Engineering, University of Pennsylvania, 1962–1964
B.A. in Mathematics, Goucher College, 1958–1961

Teaching Experience:
Director, Program in Urban Studies, Princeton University, 2005–2012; Co-Director 2012–2014
William R. Kenan Jr. Professor of Architecture, Princeton University School of Architecture, 1995–present
Professor, Princeton University, School of Architecture, 1991–present
Professor and Chairperson of the City & Regional Planning Program, School of Architecture, Pratt Institute, 1989–1991
Special Lecturer, School of Architecture, New Jersey Institute of Technology, Newark, NJ, 1987
Visiting Professor, Historic Preservation Studio, Graduate Program of Historic Preservation, School of Fine Arts, University of Pennsylvania, 1985–1988
Associate Professor, Historic Preservation Program, School of Architecture and Planning, Columbia University, 1978–1984, and Assistant Professor, Department of City Planning, 1975–1978
Assistant Professor, Department of City and Regional Planning, The Graduate School of Design, Harvard University, 1972–1975

Selected Publications and Recent Research:
Le Corbusier home de letters (Princeton Architectural Press, 2011)
CyberCities: Visual Perception in the Age of Electronic Communication. Translated into Japanese by Tabata Akeo (Tokyo: Communis, 2009), originally published (Princeton Architectural Press, 1996)
"Collective Memory under Siege: The Case of 'Heritage Terrorism'" in C. Greig Crysler, Stephen Cairns and Hilde Heynen (eds.) *The Sage Handbook of Architectural Theory* (Sage Publications Ltd., 2012)
"Splendour and Havoc: The Many Maps of Baghdad" in Gillian O'Brien and Finola O'Kane (eds.) *Portraits of the City: Dublin and the Wider World* (Dublin: Four Courts Press, 2012)
"Foreword" *A Lebanese Perspective Houses and other Work by Simone Kosremelli* (Mulgrave, Australia: The Images Publishing Group Pty Ltd, 2011)
"Why do Architects Write? The Case of Alison and Peter Smithson" in Max Risselada (ed.) *Alison & Peter Smithson A Critical Anthology* (Barcelona: Ediciones Poligrafa, 2011)
"Collective Memory under Siege: the case of heritage terrorism" in *Architecture in the Age of Empire / Die Architektur der neuen Weltordnung 11th International Bauhaus—Colloquium Weimar April 1st—5th 2009 Symposium Reader* (Weimar: Verlage der Bauhaus—Universitat Weimar, 2011)
"The Two Orders of Cybernetics in Urban Form and Design" in Tridib Banerjee and Anastasia Loukaitou—Sideris (eds.) *Companion to Urban Design* (Routledge, 2011)

Professional Memberships:
2010–present, Terreform, Inc. Advisory Board, NYC
2010–present, Sarcha (School of Architecture 4 All) Advisory Board, Athens
2005–present, Member of the Scientific Committee for *Oases / an independent architectural journal*

Name: Mario Carpo

Courses Taught:
ARC 528 The Digital Turn: A Cultural History

Educational Credentials:
Ph.D., European University Institute, 1990
D.Arch., University of Florence, 1983

Teaching Experience:
Visiting Professor, Princeton University School of Architecture, 2013
Tenured Associate Professor, École d'Architecture de Paris-La Villette, 1993–present
Researcher, École d'Architecture de Grenoble
Vincent Scully Visiting Professor of Architectural History, Yale University School of Architecture, 2010–2012
Professor, College of Architecture and at School of Literature, Communication, and Culture, Georgia Institute of Technology, 2009–2012

Mr. Carpo was an assistant professor at the University of Geneva in Switzerland. Since 1993 he has been a tenured associate professor in France and more recently a professor at the Georgia Institute of Technology in Atlanta. He has also taught at several distinguished universities in Europe and in the United States, including Cornell, the Massachusetts Institute of Technology, and Williams College, and has been a scholar in residence at the Getty Research Institute and at the American Academy in Rome.

Professional Experience:
Civil Servant, French Ministry of Culture, 1993–present
Head and Consultant Head, Study Centre at the Canadian Centre for Architecture in Montreal, 2002–2006

Selected Publications and Recent Research:
His research and publications focus on the relationship among architectural theory, cultural history, and the history of media and information technology. Mr. Carpo's award-winning *Architecture in the Age of Printing* (2001) has been translated into several languages. His most recent books are *Perspective, Projections and Design* (2007, coedited); a translation of and commentary on Leon Battista *Alberti's Descriptio Urbis Romae* (2007, coauthored); a monograph on the work of Swiss architect Valerio Olgiati (2008, coauthored), and the recently published *The Alphabet and the Algorithm* (MIT Press, 2011). His recent essays and articles have been published in *Log*, *Perspecta*, *Journal of the Society of Architectural Historians*, *Grey Room*, *L'Architecture d'aujourd'hui*, *Arquitectura Viva*, *AD/Architectural Design*, *Abitare*, *Lotus International*, *and Arch+.*

Name: Jean-Louis Cohen

Courses Taught:
ARC 575 Advanced Topics in Modern Arch: Building a new New World: *Amerikanizm* in Russian Architecture
ARC 579 Los Angeles: Architecture, Mobility and Motion Pictures

Educational Credentials:
Ph.D. in Art History, École des Hautes Études en Sciences Sociales, 1985
École Spéciale d'Architecture and Unité Pédagogique n° 6 in Paris, 1973

Teaching Experience:
Visiting Professor, Princeton University School of Architecture, 2012–2014
Sheldon H. Solow Chair for the History of Architecture, New York University's Institute of Fine Arts, 1994–present
Chair, Collège de France in Paris, 2013–present
Chair, Town-Planning History, Institut Français d'Urbanisme, University of Paris, 1996–2004
Research Professorship, School of Architecture Paris-Villemin, 1983–1996

Professional Experience:
National Gallery of Art's Center for Advanced Study in the Visual Arts, 1987
Getty scholar, Getty Research Institute, 1992–1993
From 1997 to 2003, the French Minister of Culture appointed him to create the Cité de l'architecture, a museum, research and exhibition center in the Paris Palais de Chaillot, which opened in 2007. During that period, he directed the Institut Français d'Architecture and the Musée des Monuments Français, the two main components of the Cité.

Selected Publications and Recent Research:
La modernité, promesse ou menace? France, 101 bâtiments 1914–2014. With Vanessa Grossman Paris (Dominique Carré, 2014)
Le Corbusier: An Atlas of Modern Landscapes (Museum of Modern Art, 2013)
Interférences / Interferenzen: Architecture, Allemagne, France 1800–2000. Edited with Hartmut Frank (Musées de la Ville de Strasbourg, 2013)
The Future of Architecture. Since 1889 (Phaidon, 2012)
Architecture in Uniform; Designing and Building for WWII (Hazan, 2011)
New York (Paris: Mazenod, 2008)
Mies van der Rohe (Birkhäuser, 2007)

His research activity has focused mainly on 20th-century architecture and urban planning. He has studied in particular German and Russian architectural cultures, colonial situations in Morocco and Algeria, architecture during World War II, and extensively interpreted Le Corbusier's work and Paris planning history. The question of cultural transfer in architecture, urban design, and visual culture is central in his work, and has been discussed in reference to the relationships between Italy, Germany, and France and, with particular emphasis, in reference to the interaction between Russia and the West.

He curated "Le Corbusier, an Atlas of Modern Landscapes," which opened at MoMA in June 2013 and traveled to Spain in 2014. In 2014, he curated the French Pavilion at the Venice Architecture Biennale, receiving the special mention of the jury.

Professional Memberships:
Académie d'architecture, in Paris.
Akademie der Künste, in Berlin.
Russian Academy of Architecture, in Moscow
Accademia di San Luca, in Rome

Name: Beatriz Colomina

Courses Taught:
ARC 571 / ART 581 / MOD 573 / LAS 571 Research in Architecture
ARC 576 / ART 598 / MOD 502 Advanced Topics in Modern Architecture

Educational Credentials:
Ph.D*., Cum laude*, Escuela Técnica Superior de Arquitectura de Barcelona, 1990
Título de Arquitecto, Escuela Técnica Superior de Arquitectura, Universidad de Valencia and Barcelona, 1969–1975

Teaching Experience:
Professor, School of Architecture, Princeton University 2000–present
Associate Professor, School of Architecture, Princeton University 1997–2000
Assistant Professor, School of Architecture, Princeton University 1991–1996
Lecturer, School of Architecture, Princeton University 1988–1991
Visiting Lecturer, School of Architecture, Princeton University 1986
Visiting Professor, School of Architecture, Architecture, MIT, 2000
Adjunct Assistant Professor, GSAPP, Columbia University, 1984–1988
Visiting Scholar, GSAPP, Columbia University, 1981–1983
Research Scholar, The New York Institute for the Humanities, NYU, 1980–1981
Profesor Adjunto, Arquitectura, Universidad de Barcelona, 1978–1980
Profesor Encargado de Curso, Arquitectura, Universidad de Barcelona, 1976–1978

Professional Experience: N/A

Selected Publications and Recent Research:
Publications:
Manifesto Architecture: Learning From Mies (Stenberg Press, 2013)
Playboy Architecture 1953-1979, (ed.) (NAIM/Bureau Europa, 2012) (booklet)
"Exhibitionistiche Architektur," *Texte Zur Kunst*, December 2013
"Gibt es einer Achitektur der Verführung?" *Baumeister*, August 2013
"'Haus und Spiegel, interview by Marcus Draper and Johannes Kuehn," in *Marcus Draper: Haus, Wand, Spiegel*, Berlin, Distanz verlag, 2013
"The Exhibition as an Archive," *The Archives as a Productive Space of Conflict*. Edited by Stuart Bailey and Markus Miessen (Berlin, Sternberg Press, 2013)
"Sex, Lies and Decoration: Adolf Loos and Gustav Klimt," *Adolf Loos: Our Contemporary /Unser Zeitgenosse*." Edited by Yehuda Safran, (MAK ,Vienna, 2013)
"Multi-screen Architecture," *Public Space, Media Space*. Edited by Chris Berry, et al. (London, Palgrave McMillan, 2013)
"New Jersey as Non-Site: A Conversation." With Kelly Baum, Hal Foster, William Gleason, and Hendrik Hartog. Edited by Kelly Baum (Princeton University Art Museum, Yale University Press, 2013)
"Media as Modern Architecture," *Contemporary Art About Architecture: A Strange Utility*." Edited by Isabelle Loring Wallace and Nora Wendl, (Ashgate Press, 2013)
"Paper Architecture," *AA: Architecture Australia,* (January-February 2013)
Exhibitions:
2013 Radical Pedagogies: Architectural Education in a Time of Disciplinary Instability, 3rd Lisbon Architectural Triennial, curator with a team of Ph.D. students from Princeton University.
2012–2013 Playboy Architecture: 1953–1979, NAI/Bureau Europa, Maastricht and NAI Rotterdam, curator with a team of Princeton Ph.D. students, Forthcoming at Deutsches Architektur Museum, Frankfurt, 2014.
2006–2013 Clip/Stamp/Fold: The Radical Architecture of Little Magazines, curator with a team of Princeton Ph.D. students. The exhibition opened at The Storefront for Art and Architecture in New York in 2006, and continues to develop and expand with a program of research and oral history as it travels globally

Name: Manuel DeLanda

Courses Taught:
ARC 545 The Philosophy of Urban History

Educational Credentials:
Ph.D., Media and Communications, European Graduate School, Switzerland, 2010
M.A., Communication, European Graduate School, Switzerland, 2005
B.F.A., School of Visual Arts, New York, 1979

Teaching Experience:
Visiting Lecturer, Princeton University School of Architecture, 2004, 2012–present
Adjunct Professor, University of Southern California, Graduate School of Architecture, 2011–2012
Gilles Deleuze Chair, European Graduate School, Switzerland, 2008–2012
Adjunct Professor, Southern California School of Architecture, 2008–2009
Adjunct Professor, Pratt Institute Graduate School of Architecture, 2006–2012
Adjunct Professor, University of Pennsylvania Graduate School of Design, 2004–2012
Adjunct Professor, Cooper Union, School of Architecture, 2002–2007
Adjunct Professor, Columbia University, Graduate School of Architecture, Planning, and Preservation 1995–2006

Professional Experience:
Manuel DeLanda has been an internationally recognized philosopher since 1991. He has participated in over fifty conferences all over the world, published essays in several journals and collections, and written six books, two of which have been translated into several languages. Before 1991, he was an independent filmmaker, with films in the permanent collection of Anthology Film Archives, and a computer programmer and 3D modeler, working for several production houses in New York City.

Selected Publications and Recent Research:
"Cities as Historical Actors," Keynote address at the 14th Meeting of Heads of European Schools of Architecture, Chania, Crete, Greece, 2011
Philosophy and Simulation (Continuum Books, 2011)
Deleuze: History and Science (Atropos Press, 2010)
A New Philosophy of Society (Continuum Books, 2010)
"Cities and Nations," in *The Ashgate Research Companion to Planning Theory*,(2010)
"Molecular Populations and Molar Entities," in *Deleuze and History* (Edinburgh University Press, 2009)

Name: Elizabeth Diller

Courses Taught:
ARC 507 Master of Architecture: Thesis Studio
ARC 508 Master of Architecture: Thesis Studio

Educational Credentials:
B.Arch., The Cooper Union, 1979

Teaching Experience:
Professor, Princeton University, 1990–present
Associate Professor Adjunct, Cooper Union, 1982-1990
Visiting Professor, Harvard University GSD, Fall 1990
Visiting Professor, Columbia University GSAPP, Spring 1988
Instructor, Institute for Architecture and Urban Studies, 1981

Professional Experience:
Founding principal of Diller Scofidio + Renfro (DS+R), an interdisciplinary design studio that integrates architecture, the visual arts, and the performing arts.

Diller Scofidio + Renfro's international body of architectural work includes Lincoln Center for the Performing Arts in New York, comprised of the redesign of Alice Tully Hall, the renovation and expansion of The Juilliard School, the Hypar Pavilion Lawn and Restaurant, the expansion of the School of American Ballet, public spaces throughout the campus, Information Landscape, and a pedestrian bridge. The first mile of the High Line, an urban park situated on an obsolete elevated railway stretching 1.5 miles long through the Chelsea neighborhood of New York City, has been completed, and the final third is currently in design. Other built works include: the Brown University Creative Arts Center in Providence, Rhode Island; the Institute of Contemporary Art, the first new museum to be built in Boston in 100 years; Slither, a housing complex in Gifu, Japan; and Blur, a pavilion built of fog on Lake Neuchâtel and commissioned by the Swiss Expo.

Projects in construction or in design include: the Museum of Modern Art (MoMA) expansion in New York City; the Broad Art Museum in Los Angeles; the Berkeley Art Museum & Pacific Film Archive at the University of California, Berkeley; the new Columbia University Graduate School of Business and Columbia University Medical Education Building in New York City; the Museum of Image & Sound on Copacabana Beach in Rio de Janeiro; the Dissona Housing & Factory Complex in Dongguan, China; the new Stanford University Art & Art History Building in Palo Alto, California; "The Corset", an 80-storey residential tower for Related Companies in New York's Hudson Yards Development; and Culture Shed, a cultural start-up in New York City. Diller Scofidio + Renfro recently won the international design competition for Zaryadye Park, a new 35-acre public space next to the Kremlin in Moscow, Russia.

The studio's in-progress installation and curatorial projects are: *DesteFashionCollection*, a curated fashion project commissioned by the Deste Foundation for Contemporary Art in Athens, Greece; and a Charles James Exhibition to be shown at the Metropolitan Museum of Art in New York City in 2014.

Selected Publications and Recent Research:
Books by Diller Scofidio + Renfro include *Back to the Front: Tourisms of War, Flesh: Architectural Probes, and Blur: the Making of Nothing*. The studio's most recent book, *Lincoln Center Inside Out: An Architectural Account*, chronicles a decade of work redesigning a New York City icon. Diller Scofidio + Renfro is the subject of *SCANNING: The Aberrant Architectures of Diller + Scofidio*, published by the Whitney Museum and including essays by Aaron Betsky, K. Michael Hays and Laurie Anderson; the monograph *Diller + Scofidio (+Renfro): The Ciliary Function by Guido Incerti*, Daria Ricchi and Deane Simpson; and *Diller Scofidio + Renfro: Architecture after Images*, written by film historian Edward Dimendberg. Columbia University Medical Center New Physicians & Surgeons Medical Education Building–100,000 sq ft, New York, NY (in construction).

Name: Hayley Eber, AIA

Courses Taught:
Junior Independent Work (Studio)

Educational Credentials:
M.Arch., Princeton University School of Architecture, 2001–2003
B.Arch., The Cooper Union for the Advancement of Science and Art, 1999–2001
B.A.S., The University of Cape Town, South Africa, 1995–1997

Teaching Experience:
Visiting Lecturer, Princeton University School of Architecture, Spring 2013–present
Adjunct Professor and Undergraduate Thesis Studio Coordinator, The Cooper Union, 2007–present

Professional Experience:
EFGH New York, NY (2007–present) Co-Founder/Principal
Diller Scofidio +Renfro, New York NY (2002–2007), Project Architect/Lead Designer (Selected)
Lebbeus Woods, New York, NY (2001), Book Designer, editor, contributor
Lindy Roy Design, New York, NY (2000) Installation Team: Moma PS1: Young Architects Program
Eisenman Architects, New York, NY (1999)
Wiel Arets Architects, Maastricht, The Netherlands (1998)

Licenses/Registration:
AIA Professional Licensure, NY State

Selected Publications and Recent Research:
"Dogmatic" in Detail in *Contemporary Bar and Restaurant Design* by Drew Plunkett (Laurence King Publishing, 2014)
"Suburban Dreams" in *Protein Journal: The City Issue* (Issue 10, Autumn 2013)
"Chop't" in *Design Bureau: A Fresh Concept* (October 2013)
Built Work:
Manhattan Mini Storage, East 62nd Street, under construction, 2014
Chop't, Restaurant Interior Build-Out with Storefront, Bryant Park, NY, and Market Square, NY, 2013
Recreo Lot 6, Single Family House, Costa Rica, 2012-2013
Harris House, Single Family House Renovation, East Hampton, 2012
Chop't, Restaurant Interior Build-Out with Storefront Wildwood, VA, 100 Park Ave, NY, and W. 56th St., NY, 2012
Unbuilt Work / Competitions:
Invited: Van Alen Institute, Flatiron Public Plaza Holiday Design Competition, August 2014
Invited: Van Alen Institute, Ground Work Competition, Finalist, August 2013
Streetfest Competition Runner Up, New Museum and The Storefront for Art and Architecture, 2013
Open House: Workshop and Installation, Levittown NY with Droog And DS+R, 2011
Installations / Exhibitions / Participation:
"POP: Protocols, Obsessions, Positions" Original drawing exhibition, The Storefront for Art and Architecture, July 2013
Van Alen Institute, Ground Work Competition Exhibition, Fall 2013
"What I Did Next: Princeton's Alternative Architectural Practices," Princeton University, Spring 2013.
At Cooper, Alumni Lecture series, October 2012
"Open House" Serving New York, Droog Design Lab + Workshop, September 2011-May 2012.
"Draw Think Tank: Emerging Territories of Movement" Symposium for the Festival of Ideas, NY with The Storefront of Art and Architecture, May 2011
"Instant Architecture", participant, The Storefront of Art and Architecture, December 2010
TSZHK Hong Kong / Shenzen Bi-City Biennale of Urbanism and Architecture, West Kowloon Waterfront Promenade, 2010-2011

Name: Ignacio Fernandez Solla

Courses Taught:
ARC 411 Building Envelope: Technology and Architecture

Educational Credentials:
Ph.D. (ABD), Department of Architectural Technology, Universidad Politécnica de Madrid, Spain
M.Arch., Escuela Técnica Superior de Arquitectura, Universidad Politécnica de Madrid

Teaching Experience:
Visiting Lecturer, Princeton University School of Architecture, 2014
Visiting Professor, Escuela de Arquitectura, Universidad Europea de Madrid, 2009–2013
Visiting Professor, Escuela Técnica Superior de Arquitectura, Universidad Politécnica de Madrid, 2003–2011
Visiting Professor, Escuela Técnica Superior de Arquitectura, Universidad Politécnica de Catalunya, Barcelona, 2005–2009
Visiting Professor, Escuela Técnica Superior de Arquitectura, Universidad del País Vasco, San Sebastián, 2007–2011

Professional Experience:
Associate Director and Façade Engineering leader, Ove Arup & Partners, Spain, 2004-present
Consultant in façade projects in Spain, Europe, Middle East, and the Americas; in association with architects such as Richard Rogers, Norman Foster, Zaha Hadid, Herzog & de Meuron, David Chipperfield, Jean Nouvel, Juan Herreros, and others
Building Systems Director, Norsk Hydro, 1995–2004
Project Manager, Curtain Wall, Robertson Cupples,1991–1995
Assistant Architect, Nieto-Sobejano Arquitectos, 1989–1991

Selected Publications and Recent Research:
Research:
Research Assistant, Laboratory of Acoustics, Instituto Eduardo Torroja, CSIC, Madrid 2006
Research Assistant, Construction Department, Escuela Técnica Superior de Arquitectura de Madrid, 1990-1991
Publications:
"La envolvente fotovoltaica en la arquitectura." With Nuria Martín Chivelet. (Editorial Reverté, Barcelona 2007)
"Compared evolution of environmental design and cladding," *Arquitectura en Fachadas Ligeras*, June 2013
"The Equitable Building and the birth of contemporary curtain walling," *Arquitectura en Fachadas Ligeras*, December, 2010
"Passive strategies applied to buildings," *Detail* (Spanish edition), April 2005
Selected Projects:
The Bridge Pavilion with Zaha Hadid in Zaragoza; Bodegas Portia with Foster & Partners in Burgos
Palmas Altas Campus with Rogers Stirk & Harbour & Partners in Seville
Terminal T4 at Barajas International Airport with Rogers & Lamela in Madrid
BBVA Headquarters with Herzog & de Meuron in Madrid
Qatar Faculty of Islamic Studies in Doha
Munch Museum with Herreros Arquitectos in Oslo
Bogota Convention Center also with Herreros Arquitectos in Columbia

Name: Marc Fornes

Courses Taught:
ARC 574 Computing and Imaging in Architecture

Educational Credentials:
M.Arch. and Urbanism, Design Research Lab, Architectural Association School of Architecture, London, 2004
Architect D.P.L.G., Ecole d'Architecture de Strasbourg, 2001
B.S., Mathematics, College Episcopal Saint-Etienne, Strasbourg, France, 1995

Teaching Experience:
Visiting Lecturer, Princeton University School of Architecture, 2012–2014
Harvard Graduate School of Design, Seminar, 2010
Columbia GSAPP, Advanced Studio with Francois Roche, 2009
University of Southern California, Graduate Studio with Francois Roche, 2009
University of Michigan, Graduate Studio, 2009
Die Angewandte, Vienna, Cross Over Studio with Francois Roche, 2008

Professional Experience:
Founder and Principal, THEVERYMANY, LLC, New York, 2008–present
Senior Architect / Researcher, Skidmore, Owings & Merrill LLP (SOM), New York, 2006–2008
Project Architect & Project Manager (from competition to tender documentation), ZAHA HADID Architects, London, 2004–2006
Ross Lovegrove – StudioX, London, 2003

Licenses/Registration:
Registered "Architect D.P.L.G" – France 2008

Selected Publications and Recent Research:
Research:
He is a recognized figure in the development of computational protocols applied to the field of design and fabrication. His extensive body of research on ways to describe complex curvilinear surfaces into a series of flat elements has defined a field of Computational Skinning for architecture. Researching through practice in NYC, he self-defines his studio's agenda as a quest for "*Explicit and Encoded*" and "*Precise Indetermination.*"

As THEVERYMANY™, Fornes has designed and built over the last 10 years an extensive body of experimental, highly organic, large scale and self-supported structures, between art and architectures. His prototypical work has been acquired and displayed as part of the permanent collection of the Centre Pompidou (Paris), the FRAC Centre (Orleans, FR), the CNAP and some private collections. He has exhibited work at the Guggenheim (Contemplating the Void), Miami Art Basel /GGG, Art Paris and sold at auction at Phillips De Pury. Marc is a TED Fellow. He has been invited to talk within institutions across the globe, including the MoMA (NYC). In 2012 he was the recipient of the artist residency at the Atelier Calder (FR), and his studio has been awarded the New Practices New York 2012 by the American Institute of Architects. His architectural work for Louis Vuitton is the recipient of the A+ Jury Award in the Pop Up category.

Name: Mario Gandelsonas, FAIA

Courses Taught:
ARC 404 Advanced Design Studio
ARC 492 Topics in the Formal Analysis of Urban Structure

Educational Credentials:
Diploma Architect, School of Architecture and Urbanism, University of Buenos Aires, 1960
Certificate, Centre de Recherche d'Urbanisme, Paris, France, 1967–1969

Teaching Experience:
Professor, School of Architecture, Princeton University, 1991–present
The Class of 1913 Lecturer in Architecture, School of Architecture, Princeton University, 1996–present
Departmental Representative, School of Architecture, Princeton University, 2008–present
Director, CAUI, Center for Architecture, Urbanism and Infrastructure, 2007–2013
Director of Graduate Studies, Masters Programs, 2000–2007
Guest Professor, Department of Architecture, Tongji University, Shanghai, China, 2010–present
Professor of Architecture, School of Architecture, Yale University, Spring 1991
Critic in Architectural Design, School of Architecture, Yale University, 1975–1990
The Institute for Architecture and Urban Studies, New York, 1974–1984.
Professor, Facultad de Arquitectura y Urbanismo, Universidad de Buenos Aires, 1972
Associate Professor, Semiotics of Architecture, Lecture course and studio, Facultad de Arquitectura y Urbanismo, Universidad de Buenos Aires, 1969–1971

Professional Experience:
Principal, Agrest and Gandelsonas, Architects, New York City

Licenses/Registration:
Registered Architect in New York State

Selected Publications and Recent Research:
Publications:
In search of the public, Notes on the Contemporary American City. Mario Gandelsonas, Rafi Segal, Els Verbakel, editors. CAUI Publications (Island Press, 2013)
Garden-City-State, a speculative Atlas, Mario Gandelsonas and Philip Tidwell, editors CAUI Publications (Island Press, 2013)
"Etats Unis: vers une revolution systemique pour l'eau et l'energie," in *Urbanisme* (hors serie), Paris, October 2013
"Point of Entry: reading and rewriting the American city". *JAE magazine* (Wiley-Blackwell, 2012)
Recent Projects:
Jinxi water village Vision Plan, Jinxi, China, 2013–2014
Jinxi Brick Museum, Jinxi, China, 2013–2015
Re-figuring Walnut Street, a charrette involving government, local business, and neighborhood representatives to redesign Walnut Street as the new spine of Downtown Des Moines, 2011–2012
The Des Moines Greenbelt–second phase, 2011–2014
Kunshan central district, a vision plan, Kunshan, Jiangzu province, China, 2011–2012
MOMA architectural drawings collection acquisition of drawings for the project "Body classifier," 1967–1973, to be exhibited in the 2015 Latin American architecture exhibition, Fall 2013

Professional Memberships:
Fellow, American Institute of Architects
Member, Architectural League, New York
Member of the Advisory Board of 30 60 90, Princeton Architectural Press
Member of the Jury for the "Grand Prix d'Urbanisme," Paris, 2013
Member of the Advisory Board of *Manifest,* Fall 2013

Name: J. Robert Hillier, FAIA, PP

Courses Taught:
ARC 562 The Professional Practice of Architecture
ARC 563 Business and Legal Issues in Architectural Practice

Educational Credentials:
M.F.A., Princeton University
B.A., Princeton University
Harvard University: Continuing Education Studies

Teaching Experience:
Visiting Lecturer, Princeton University School of Architecture, 1992–present

Professional Experience:
Principal, studiohillier, 2011–present
Principal, J. Robert Hillier, 2009–present
Publisher, Princeton Magazine, 2009–present
Founder & Publisher, www.Obit-mag.com, 2007–present
Founder and Principal, Hillier Architecture, 1966–2007
Chairman, Hillier Properties, t/a J. Robert Hillier, 1966–present

Licenses/Registration:
Registered Professional Planner, New Jersey
NCARB Certified
Registered Architect: CT, DE, FL, GA, KS, KY, MA, MD, NC NH, NJ, NY, PA, RI, TX, VA, DC, and WI

Selected Publications and Recent Research:
Cancer Institute of New Jersey
NJ Medical School/University Hospital Cancer Center
Public Library of Princeton, NJ
U.S. Supreme Court Building Restoration
Virginia State Capitol Expansion and Restoration
ACE Headquarters, Hamilton, Bermuda
Bristol-Myers Squibb, Plainsboro, NJ
GlaxoSmithKline World Headquarters, London, England
Sprint World Headquarters Corp Campus, Overland Park, KS
Wyeth Corporate Headquarters, Madison, NJ
Howard Hughes Foundation Headquarters, Bethesda, MD Higher Education:
Bryant University, Smithfield, RI
Cornell University, Ithaca, NY
Goucher College, Towson, MD
Johns Hopkins University, Baltimore, MD
New York University, New York, NY
Princeton University, Princeton, NJ
Rutgers University, Piscataway, NJ
Wharton School, University of Pennsylvania, Philadelphia, PA

Professional Memberships:
Member, College of Fellows, American Institute of Architects
Chair, Dean Search Committee, Princeton University School of Architecture, 2002
Board of Advisors, Architectural Graphics Standards Publication
New Jersey Green Building Council, Founding Member
Advisory Board, University of Pennsylvania Institute for Urban Research, 2010–present
Advisory Board, New Jersey Institute of Technology, 1993–present

Name: Andres Jaque

Courses Taught:
ARC 504 Integrated Building Studio

Educational Credentials:
Escuela Tecnica Superior de Arquitectura, Madrid Spain, 1998

Teaching Experience:
Visiting Professor, Columbia University, Graduate School of Architecture, Planning and Preservation, 2013–2014
Visiting Lecturer, Princeton University School of Architecture, 2014
Tessenow Stipendiat, Toepfer Stiftung FVS, Hamburg, 1998

He has been a visiting teacher in a number of international universities and has lectured and taken part in roundtables extensively throughout the world, including Princeton University, Eidgenössische Technische Hochschule in Zurich, Instituto Politecnico di Milano, Centre International pour la Ville de Paris, Centre pour l'Architecture et le Paysage (Brussels), Sociedad Central (Buenos Aires), Berlage Institut (Rotterdam), and Museo Nacional (Bogotá).

Professional Experience:
He is the author for reference buildings including Plasencia Clergy House (awarded with the Dionisio Hernández Gil Prize), House in Never Never Land (finalist of FAD Awards and Mies van der Rohe European Award), TUPPER HOME (finalist of the European Award Mies van der Rohe and of the X Bienal Española de Arquitectura y Urbanismo), and ESCARAVOX (COAM 2013 Award and finalist of FAD Awards).

Selected Publications and Recent Research:
Andrés Jaque and the Office for Political Innovation explore the potential of post-foundational politics and symmetrical approaches to the sociology of technology to rethink architectural practices. The office's slogan is “ARCHITECTURE IS TECHNOLOGICALLY RENDERED SOCIETY,” and is currently devoted to the study of connected-domesticities like politically-activated urbanism.

In 2012, the Museum of Modern Art of New York (MoMA) incorporated 'IKEA Disobedients' by Andrés Jaque / Office for Political Innovation into its collection as the first architectural performance acquired by the museum. This work has also been nominated in the Architecture category for the Design of the Year 2013 Awards of the Design Museum, London. In 2013 they presented “SUPERPOWERS OF TEN” at Lisbon Architecture Triennale, “Different Kinds of Water Pouring into a Swimming Pool” for RED CAT Gallery at Roy and Edna Disney / CalArts Center for Contemporary Arts, in Los Angeles, and “Hänsel & Gretel's Arenas” at La Casa Encendida, in Madrid. In 2012, they presented their intervention “PHANTOM: . Mies as Rendered Society” at the Mies van der Rohe Pavilion in Barcelona. In 2011, the research and prototype-making project “SWEET PARLIAMENT HOME” was presented at the Gwangju Biennale and, in 2010, the installation “FRAY HOME HOME” was presented at the Biennale di Venezia 2010. An exhibition titled *Urban Enactments* was exhibited at Princeton University School of Architecture in spring 2014.

They are authors of the publications *PHANTOM. Mies as Rendered Society, Different Kinds of Water Pouring into a Swimming Pool, Dulces Arenas Cotidianas,* and *Eco-Ordinary. Codes for everyday architectural practices and Everyday Politics.* Their production has been published in the most important media including *A+U*, *Domus*, *El Croquis*, *The New York Times,* and *Vogue*, among others. Their work has been exhibited at MoMA New York, MAK Austrian Museum of Applied Arts / Contemporary Art in Vienna, London Design Museum, RED CAT Gallery at Roy and Edna Disney / CalArts Center for Contemporary Arts, Schweizerisches Architektur Museum in Basel, the Cité de l'Architecture et du Patrimoine de Paris, Mostra di Architettura de la Bienal de Venezia, Gwangju Biennale, and Lisbon Architecture Triennale. Andrés Jaque / Office for Political Innovation awarded with the Silver Lion for the best research project at the current 14th Venice Biennale, directed by Rem Koolhaas.

Name: Axel Kilian

Courses Taught:
ARC 374 Computational Design
ARC 502 Architecture: Design Studio
ARC 596 Embodied Computation

Educational Credentials:
Ph.D., Design and Computation, Department of Architecture, Massachusetts Institute of Technology, 2006
M.S., Architecture Studies, Design and Computation, Department of Architecture, Massachusetts Institute of Technology, 2000
Dipl.-Ing., Architecture, University of the Arts, Berlin, Germany, 1998

Teaching Experience:
Assistant Professor, Princeton University, School of Architecture, 2009–present
Assistant Professor, TU Delft, Design Informatics, Department of Architecture, 2007–2009
Post Doctoral Associate in Computation, Department of Architecture, MIT, 2006–2007
Instructor, Level II Architecture design studio, MIT, Department of Architecture, 2006
Instructor, "Design Explorers" design workshops, MIT, Department of Architecture, 2006

Professional Experience:
Internship with Director of Research Robert Aish, Bentley Systems, Exton, PA, 2003
Designer, Metadesign, San Francisco, CA, 2000–2001
Designer, Eisenloeffel+Sattler Ingenieure, Kolb+Ripke Architekten, Berlin, 1997
Designer, Juergen Mayer Hermann, Architect, Berlin, Germany, 1997

Selected Publications and Recent Research:
Initiation of Robotic Arm donation and installation in the ARC Lab (donation from BMW through Stefan Bartscher) in collaboration with Princeton University and the SOA (2012–2013)
Participation in the development of architecture laboratory studies, School of Architecture, Princeton University, with Dean Alejandro Zaera-Polo and David Benjamin from the living (2010–present)
Audi Urban Futures Award speed pitch; invited contender with an online pitch video on autonomous parking and its impact on city design, with Ben Fry and Saul Griffith (2nd place) (December 2013)
"Fabricate 2014" ETH Zurich conference panel chair invited by the chairs Fabio Gramazio and Matthias Kohler and Silke Langenberg (Spring 2014)
Richard Schulz lecture moderator; Invited by the Keller Center, Princeton University (Fall 2013)
Futures Past Conference, MIT Department of Architecture; Invited panel moderator with Chuck Eastman and John Gero (December 2013)

Publications:
Pottmann, H., Asperl, A., Hofer, M., Kilian, A., *Architekturgeometrie*, Springer and Bentley Institute Press, 2009. German language textbook for teaching geometry in the context of architecture, developed with the chair of Computational Geometry at TU Vienna.
Gengnagel, C. Kilian, A., Scheurer, F., (editors), 2013, Design Modeling, Proceedings of the Design Modeling Symposium, Berlin, 2013
Jordan, A., Adriaenssens, S., Kilian, A., Adriaenssens, M.; Freed, Z., *Material Driven Design for a Chocolate Pavilion*, special edition *CAD Journal*, December 2013 (online publication date December 2013)
Invited article in *Inside Smartgeometry*. Edited by Brady Peters and Terri Peters with Helen Castle (John Wiley & Sons, forthcoming). Invited by Brady Peters and Terri Peters, Spring 2013

Name: Jeffrey Kipnis

Courses Taught:
ARC 403 Topics in the History and Theory of Architecture
ARC 489 Selected Works of 20th Century Architects
ARC 530 Masters Thesis Preparation Seminar

Educational Credentials:
M.S., Physics, Georgia State University, 1981
B.S., Physics, Georgia State University, 1976

Teaching Experience:
Visiting Professor, Princeton University School of Architecture, 2008–present
Professor, Ohio State University Department of Architecture, 1987–present
Distinguished Visiting Professor, Angewandte Kunst, Vienna, present
Visiting Professor, Harvard University Graduate School of Design, 2006–2007
Visiting Professor, Columbia University GSAPP, 1990–2004

Professional Experience:
Piranesi Variations, Curator, Jeffrey Kipnis with Peter Eisenman, Venice Architecture Bienalle, International Pavilion, 2012
"A Figure Ground Game" (Conceived, Curated and Produced by Jeff Kipnis, Designed by Stephen Turk, Jeff Kipnis, John Yurchyk, Paul Adair) – SCI-ARC Gallery January 2014; Website: www.Figuregroundgame.com

Selected Publications and Recent Research:
"I am for Tendencies" *Log 28*, Summer 2013
"On Architectural Judgment" in *Judgment* (Rice University Architecture School Press, 2014)
"Mulling the Miller" in *Et in Suburbia Ego* (an anthology of studies of Jose Oubrerie's Miller House) (Wexner Center Press, 2014)
A Question of Qualities (collected essays) (MIT Press, 2013)
Coy Howard's Rooftop Villas (SCI-ARC Press, 2012)
Beyond the Blue, 40 Years of Coop (Himmelblau, Prestal-MAK, Vienna, 2008)
Stone and Feather (Prestel-USA, 2007)
Exhibitions:
"Field of Dreams" (with Jose Oubrerie and Stephen Turk), Venice Architecture Bienalle, International Pavilion, 2012
"Field of Dreams (as above) University of Michigan Art Gallery, 2012

Name: Andrew Laing

Courses Taught:
ARC 401 Theories of Housing and Urbanism

Educational Credentials:
Ph.D., Urban Studies and Planning, MIT, 1988
M.Phil., Town and Country Planning, Bartlett School of Architecture, University College London
B.Arch., Bartlett School of Architecture, University College London

Teaching Experience:
Visiting Lecturer, Princeton University School of Architecture, 2007–present
Senior Fellow, Center for Urban Real Estate, Graduate School of Architecture Planning and Preservation, Columbia University, 2011–present
Senior Fellow, Global Cities Institute, University of Toronto (2014)

Professional Experience:
AECOM, Strategy+practice, Global Practice Leader, (2011–present)
Director, DEGW in North America, (New York) (1998–2011) and London (1989–1998)

Selected Publications and Recent Research:
Publications:
"Spaces for Learning – A Neglected Area in Curriculum Change and Strategic Educational Leadership." With Jonas Nordquist. *Medical Teacher*, July, 2014.
"The Emerging City Workscape: Propositions for Sydney." With Sue Wittenoompaper, presented at the Fourth International Utzon Symposium, Sydney, Australia, March, 2014.
"Work and Workplaces in the Digital City", *CURE, The Center for Urban Real Estate at Columbia University,* November, 2013
"Innovations in the Corporate Workplace: Using Design to Drive Organizational Performance; Implications for Inter-professional Education Environments." With Peter Bacevice. *Journal of Inter-professional Care*, 2013.
Research:
Laing's consulting practice focused on helping clients research and create innovative design strategies that support higher levels of business, organizational, and user performance. Clients are Fortune 100 companies, government, and leading academic institutions. Selected clients include: Accenture, Bristol-Myers Squibb, Capital One, CBC, GlaxoSmithKline, Google, JWT, Macquarie Bank, Microsoft, Nike, Novartis, Pfizer, Qatar Airways, and the UN.

Laing led research efforts on several international multi-client funded studies that investigated directions for change in the design of the workplace, buildings, and the city. Two of these studies were published as books: *New Environments for Working* (1997), and *The Responsible Workplace* (1993), both co-written by Laing with DEGW founder Frank Duffy. Laing researched the impact of 9/11 on the thinking of corporate real estate executives (published in the Journal of Corporate Real Estate in 2003). Since 2009, Laing has led the "Workplace Innovation Collaborative," a group of global real estate leaders engaged in collaborative research and dialogue about innovation in the workplace using Telepresence. Laing's work with DEGW on workplace innovation was featured in *Harvard Business Review* in September 2011.

Name: Sylvia Lavin

Courses Taught:
ARC 530 Masters' Thesis Preparation Seminar
ARC 577/MOD 577 Topics in Contemporary Architectural Theory

Educational Credentials:
Ph.D. With Distinction, Columbia University, Department of Art and Archaeology, 1990
M.Phil., Columbia University, Department of Art and Archaeology, 1986
M.A., Columbia University, Department of Art and Archaeology, 1984
B.A., Columbia University, Barnard College, New York, 1982

Teaching Experience:
Professor of Architectural History and Theory, UCLA, Department of Architecture and Urban Design, 2000–present
Director of Critical Studies and MA/PhD Programs, UCLA, Department of Architecture and Urban Design, 2006–present
Visiting Professor, Princeton University School of Architecture, 2008–present
Visiting Professor, Harvard University, Graduate School of Design, 1995, 2005–2007

Selected Publications and Recent Research:
Conferences Convened:
"Anonymous:" conference convened at Princeton University School of Architecture, 2013
"Ultra Exposure," conference with Hiroki Azuma, Elizabeth Diller, Nicholas de Monchaux, Rene Daalder and Machiko Kusahara, Japanese American National Museum, 2011
"Architecture in The Age of the Tweet," UCLA, 2011
"The Disappearing Hand: Drawing after Computation," UCLA, 2010
Publications:
The Flash in the Pan and Other Forms of Architectural Contemporaneity, AA publications, forthcoming
Everything Loose Will Land, exhibition catalog. Edited, (Mak Center and Verlag fur Kunst, 2013)
"Kissing Architecture," *POINTS*. Series edited by Sarah Whiting (Princeton University Press, 2011)
Form Follows Libido: Architecture and Richard Neutra in a Psychoanalytic Culture (MIT Press, 2005)
Crib Sheets: A Drop-in On Architectural Conversation. Edited with Helene Furjan. (Monacelli, 2005)
Quatremère de Quincy and the Invention of a Modern Language of Architecture (MIT Press, 1992)
"Lying Fallow," *Log* 29, 2013
"The Young Woman Who Lived in a Swoosh," in *Elena Manferdini*, (Equal Books, 2013)
"What's in a Hole," *RUR*, AA Publications, 2012
Vanishing Point, *ArtForum*, 2012
"Comments on the Expanded Field," in *Retracing the Expanded Field*, Spyros Papapetros and Julian Rose, eds. (Princeton Architecture Press, forthcoming)
Lectures and Presentations:
Office Space, US Pavilion panel, Venice Biennale, 2014
"On the Future," Kiesler Foundation panel, Venice Biennale, 2014
"Creative Space," MIT 2014
"On Drawing" (conference) MIT 2014
"Everything Loose," University of Cincinnati, 2014

Professional Memberships:
International Advisory Board, Chicago Architecture Biennial
International Advisory Board, *Art History*
Canadian Center for Architecture, Board Member

Name: Paul Lewis, AIA

Courses Taught:
ARC 503 Integrated Building Studio
ARC 204 Introduction to Architectural Design

Educational Credentials:
M.Arch., Princeton University School of Architecture, 1992
B.A., Wesleyan University, 1988

Teaching Experience:
Princeton University School of Architecture, 1999–present
Associate Professor, 2012 to present; Assistant Professor, 2005–2012;
Director of Graduate Studies, 2003–2009; Lecturer, 2001–2005; Visiting Assistant Professor, 1999
Richard Trott Visiting Professor, Ohio State University, 2001–2002
Adjunct Assistant Professor of Architecture, Columbia and Barnard Colleges, 1995–2000

Professional Experience:
Principal and Founding Partner, Lewis.Tsurumaki.Lewis Architects (LTL), New York, 1997–present
Planning Coordinator, The Cooper Union for the Advancement of Arts and Sciences, New York, 1997–1998
Diller + Scofidio, New York, 1993–1997

Licenses/Registration:
Registered Architect in NY, OH, PA, TX, NV, RI, FL, WY and MA
NCARB Council Certification #55481
LEED Accredited Professional (U.S. Green Building Council)

Selected Publications and Recent Research:
Research Projects:
"Structures of Coastal Resiliency (SCR): Atlantic City's Amphibious Back Bay"–Principal Investigator for the Princeton design team, developing new models of coastal resiliency, funded by the Rockefeller Foundation. 2013–present
"Train Terraces: Build a Better Burb, Parking Plus." Funded by the Long Island Index / Rauch Foundation in collaboration with the Long Island Railroad, 2013
"Water Proving Ground," in *Rising Currents: Projects for New York's Waterfront*. Museum of Modern Art, 2010
Built Work:
Upson Hall Renovation and School of Engineering Facades' Masterplan, in progress
Seaman Corporation, Wooster, OH, in progress
Bronx Council for the Arts, New York, NY, in progress
Brookline Atrium, Brookline, MA, in progress
Brown Institute for Media Innovation, Graduate School of Journalism, Columbia University, in progress
NYU Steinhardt School, 2013
Coney Island Steeplecase Pier, NY, Reconstruction following damage from Hurricane Sandy, 2013
Carnegie Library, Syracuse University, 2013
Residential Hall, Gallaudet University, 2012
Publications:
Lewis.Tsurumaki.Lewis, *Intensities* (Princeton Architectural Press, 2013)
Lewis.Tsurumaki.Lewis, *Opportunistic Architecture* (Princeton Architectural Press, 2008)
Lewis.Tsurumaki.Lewis, *Situation Normal...* Pamphlet Architecture 21, (Princeton Architectural Press, 1998)

Professional Memberships:
The Architectural League of New York, Vice President, 2010-Present, Board of Directors, 2006–present

Name: Giancarlo Mazzanti

Courses Taught:
ARC 505c Graduate Design Studio

Educational Credentials:
M.Arch., History, Theory and Industrial Design, University of Florence, 1991
B.Arch., Pontifical University in Javeriana, Bogotá (Pontificia Universidad Javeriana), 1987

Teaching Experience:
Visiting Lecturer, Princeton University School of Architecture, 2012

Mazzanti has taught in several architectural schools in Europe and America. He has acted as an external professor developing year-long studios and short workshops. He has taught in the Universidad Javeriana, Universidad de los Andes, and Universidad Jorge Tadeo Lozano, the three top Colombian private universities with the most recognized schools of architecture. The courses that he has designed, developed, and taught range from the Culmination Project in the Universidad de los Andes, the International Educative Program in the Universidad Javeriana, and the Industrial Design studio in Universidad Jorge Tadeo Lozano. In addition, he has been a guest in international studios such as the W.A.V.E. in Venice, Italy; in the Universidad Católica in Santiago, Chile; and the University of Florida, Gainesville, Florida; among others.

Professional Experience:
El Equipo De Mazzanti, 1993–present

Selected Publications and Recent Research:
Selected Projects in Colombia:
Pies Descalzos Foundation Sports Hall, Soacha
Pies Descalzos Foundation School, Cartagena
Social Kinder Garden El Porvenir, Bogotá
Social Kinder Garden Timayui and El Paz, Santa Marta
Public Library Park Spain, Medellín
Public Library Park León de Greoff, Medellín
Plaza Mayor Conventions Center, Medellín
Sports complex for the 2010 South American Games, Medellín

In 2006 the architect was awarded first prize in the Urban Design and Landscape category at the 10th Venice Architecture Biennale, and in 2008 he won the Best Work award at the 6th Ibero-American Biennial of Architecture and Urban Planning. In November 2011, the Department of Architecture and Design at the Museum of Modern Art in New York (MoMA) acquired the architect's three architectural models of recent projects. Mazzanti is the first Colombian architect to have his work included in the museum's collection.

Name: Forrest Meggers, LEED, AP

Courses Taught:
ENE 202 / ARC 208 / EGR 208 / ENV 206 Designing Sustainable Systems
ARC 521 Elemental Building Function

Educational Credentials:
Doctor of Science, ETH Zurich, Faculty of Architecture, Institute for Technology in Architecture, Building Systems Group, Switzerland, 2011
M.S., Environmental Engineering, The University of Iowa, 2005
B.S., Engineering, Mechanical Engineering, The University of Iowa, 2003

Teaching Experience:
Associate Researcher/Assistant Professor, Princeton University School of Architecture and The Andlinger Center for Energy and the Environment, September 2013–present
Assistant Professor, Department of Architecture, National University of Singapore, 2013
Senior Researcher and Module Coordinator, SEC Future Cities Laboratory, Singapore, 2011–2013
Researcher, Building Systems Group, ETH Zurich, Switzerland, 2006–2011
Scientific Assistant to President Zehnder, ETH Council, Switzerland, 2005–2006
Researcher, US Building Stock CO2 emissions, NASA Goddard Institute for Space Studies, Columbia University, 2005

Licenses/Registration:
LEED AP, United States Green Building Council (USGBC)

Selected Publications and Recent Research:
Research Fields of Knowledge:
Building systems design and integration; sustainable systems; renewable energy; optimization of energy systems; geothermal; seasonal energy storage; low temp hybrid solar; building materials; energy systems modeling; energy analysis; thermodynamics and heat transfer
Book Chapters:
Meggers, F., "Reduce CO2," in *Re-inventing Construction* (Ruby Press, 2010)
Meggers, F. and Leibundgut, H., "EOL, COP, PVT, TABS, and LowEx," in *Re-inventing Construction* (Ruby Press, 2010)
Journal Articles/Proceedings:
Bruelisauer, Marcel, Kian Chen, Rupesh Iyengar, Hansjürg Leibundgut, Cheng Li, Mo Li, Matthias Mast, et al. “BubbleZERO—Design, Construction and Operation of a Transportable Research Laboratory for Low Exergy Building System Evaluation in the Tropics.” *Energies*, *6* (9) 2013
Bruelisauer, Marcel, Forrest Meggers, and Hansjürg Leibundgut, “Choosing Heat Sinks for Cooling in Tropical Climates,” *Frontiers of Architectural Research*, 2 (3), 2013
Bruelisauer, Marcel, Forrest Meggers, Esmail Saber, Cheng Li, and Hansjürg Leibundgut, “Stuck in a Stack – Temperature Measurements of the Microclimate around Split Type Condensing Units in a High Rise Building in Singapore.” *Energy & Buildings*, 71 (3) March 2013
Iyengar, Rupesh, Esmail Saber, Forrest Meggers, and Hansjürg Leibundgut, “The Feasibility of Performing High Temperature Radiant Cooling in Tropical Buildings When Coupled with a Decentralised Ventilation System.” *HVAC & R Research Journal*, 19 (8): 2013
Bruelisauer, M., Berthold, S., Aschwanden, G., Belle, I., Ostertag, E., Meggers, F., 2013, “Reclaiming backlanes–addressing energy efficiency, outdoor comfort and urban space,” in: *Proceedings of the SB13 Singapore*, Presented at the SB13 Singapore, *Realizing Sustainability in the Tropics,* Research Publishing, Singapore

Professional Memberships:
United States Green Building Council Iowa (USGBC Iowa)
Engineers for a Sustainable World (founder of Iowa Chapter)
ASHRAE Singapore chapter member

Name: Michael Meredith, AIA

Courses Taught:
ARC 501 Architecture: Design Studio
ARC 520 Questioning Post-Medium Specificity in Architecture

Educational Credentials:
M.Arch., Harvard University Graduate School of Design, 2000
B.Arch., Syracuse University School of Architecture, 1994

Teaching Experience:
Director of Graduate Studies, Princeton University, School of Architecture, 2013–present
Assistant Professor, Princeton University, School of Architecture, 2011–present
Associate Professor of Architecture, Harvard University, Graduate School of Design, 2008–2011
Assistant Professor of Architecture 2004–2008, and Visiting Design Critic 2003–2004
Assistant Professor, University of Toronto, Faculty of Architecture, Landscape and Design, 2001–2004

Professional Experience:
Founder and Principal, MOS Architects, 2003–present

Licenses/Registration:
Registered Architect in Texas (2012), New York (2008), Connecticut (2008) and Massachusetts (2008)

Selected Publications and Recent Research:
Selected Projects:
Ramp Hill Residence, upstate New York, in progress
Osaka Competition, completed, 2013
Artist Studio and Residence, Brooklyn, New York, in progress
Miami Design District, façade, Miami, Florida, in progress
Façade, software, in progress
Chamber, retail space, New York, New York, in progress
Krabbesholm Højskole, studio spaces, Skive, Denmark, completed, 2011–2012
Publications:
MOS: Selected Works (2003–2013), MOS Monograph (Princeton Architectural Press, forthcoming)
"One Thing Leads to Another", *Under the Influence*, Ed. Ana Miljacki (MIT Press, forthcoming)
Untitled Text, *Perspecta* 47: Money, forthcoming
"MOS Manifesto, maybe," *Formless: Storefront for Art and Architecture Manifesto Series 1*, eds. Garrett Ricciardi and Julian Rose (Lars Muller, 2013)
"The Diffuse Field of Production", *Retracing the Expanded Field*, Eds. Spyros Papapetros and Julian Rose, (MIT Press, 2013)
"Element House", *Log 29* (Anyone Corporation, 2013)
"Floating Buildings", *Book of Copies* (San Rocco, 2013)
Everything All at Once: The Software, Videos, and Architecture of MOS. MOS Monograph (Princeton Architectural Press, 2013)
Archive: Design Biennial Boston, Michael Kubo, Chris Grimley, and Mark Pasnik, eds. *(pinkcomma*, 2013)
The Design Collective: An Approach to Practice (Cambridge Scholars Publishing, 2012)
Foreclosed: Rehousing the American Dream, Barry Bergdoll, and Reinhold Martin, eds. (MoMA, 2012)
Exhibitions:
"Behind the Green Door, Thoughts on a Walking City," Danish Architecture Center, Copenhagen, Denmark February–May 2014
"Volume 37: Is this not a pipe?," Architecture Foundation, London, November 2013
"San Rocco: Book of Copies," AA Gallery, London, October–November 2013
"Thoughts on a Walking City," Oslo Architecture Triennale, Oslo, Norway September–December 2013

Name: Bruce Nichol, ARB RIBA Assoc. AIA Principal

Courses Taught:
ARC 513 Contemporary Façade Design

Educational Credentials:
M.Arch., Oxford Brookes University
B.A., (Honours), Huddersfield Polytechnic

Teaching Experience:
Visiting Lecturer, Princeton University School of Architecture, 2012–present
Lecturer, Pratt Institute School of Architecture, 2013–2014
Visiting Lecturer, University of Pennsylvania School of Design, 2010–present
Columbia University School of Architecture Graduate Program, 2010

Professional Experience:
Front Inc., New York
Renzo Piano Building Workshop, Paris
Polshek Partnership Architects, New York
Foster + Partners London, Hong Kong

Licenses/Registration:
Registered Architect – Architects Registration Board (ARB)

Selected Publications and Recent Research:
Keynote Speaker, Future Envelope 5 Conference on Building Envelopes, TU Delft (NL), May 2011
Keynote Speaker, AIA Colorado Practice & Design Conference, October 2010
Keynote Speaker, PLÅT10 ARKITEKT URE N Seminar, Malmö, Sweden, April 2010
Strategies for Marketing Real Estate Development Workshops, Columbia University, 2010
Guest presenter, “Current innovative work of Front, Inc.,” Architectural Record Innovation 2007 Conference

Recent Projects:
Aspen Art Museum, Colorado with Shigeru Ban Architects
Baha’i Temple for South America, Santiago, Chile with Hariri Pontarini Architects
CCTV China Central Television Headquarters, Beijing with OMA and ECADI
Highline 23 Condominium, New York with Neil M. Denari Architects
Isabella Stewart Gardner Museum, Boston, with Renzo Piano Building Workshop and Stantec
Lewis Centre for the Arts, Princeton University, New Jersey, with Steven Holl Architects
LVMH Paradise, Osaka, Japan, with Kengo Kuma Architects
Miami Art Museum, Florida, with Herzog & deMeuron Architects and Handel Architects
Morgan Library & Museum, New York, with Renzo Piano Building Workshop and Beyer Blinder Belle
New Museum of Contemporary Art, New York, with SANAA and Gensler
New York University Center for Spiritual Life, New York, with Machado and Sivetti Architects
Normandy Interpretive Centre, Omaha Beach, France, with Smith Group
Sheila C Johnson Design Center, Parsons School of Design, New York, with Lyn Rice Architects
Toledo Museum of Art Glass Pavilion, Ohio, with SANAA and Kendall Heaton Associates
University Medical Center for Princeton at Plainsboro, New Jersey, with HOK
Yale University Health Services Building, New Haven, with Mack Scogin Merrill Elam Architects

Professional Memberships:
Member–Royal Institute of British Architects (RIBA)
Registered Architect – Architects Registration Board (ARB)
International Associate–American Institute of Architects (AIA)

Name: Guy Nordenson, PE

Courses Taught:
ARC 404 Advanced Design Studio
ARC 510 Structural Analysis for Architecture
ARC 518 Construction and Interpretation
ARC 519 Climate Adaptation Design

Educational Credentials:
Loeb Fellow in Environmental Design, Harvard University Graduate School of Design, 1993–1994
M.S., University of California at Berkeley (Structural Engineering & Structural Mechanics), 1978
B.S., Massachusetts Institute of Technology (Civil Engineering), 1977
Baccalauréat, Série C (mathématiques élémentaires) with distinction, 1973

Teaching Experience:
Professor, Princeton University School of Architecture, 1995–present
Associate Professor 2000–2004 (with continuing tenure), 1997–2000; Lecturer 1995-1996
Professor of Structural Engineering and Architecture, 2004–present
Harry S. Shure Visiting Professor, The University of Virginia School of Architecture, 2009
Visiting Lecturer, Massachusetts Institute of Technology, 1995
Columbia University Graduate School of Architecture, Planning and Preservation, Adjunct Assistant, then Adjunct Associate Professor, 1985 – 1995

Professional Experience:
Guy Nordenson and Associates LLP, New York, 1997–present
Ove Arup & Partners, New York, 1987–1997
Weidlinger Associates, New York, 1982–1987
Forell/Elsesser Engineers, San Francisco, 1978–1982
Fuller and Sadao & Noguchi Fountains, Long Island City NY, 1974–1976

Licenses/Registration:
CA (1980) (Civil & Structural), NY, CT, PA, OH, NJ, ME, HI (Structural), TX, MI, TN, IN and DC

Selected Publications and Recent Research:
Patterns and Structure: Selected Writings 1972–2008 (Lars Müller Publishers, 2010)
On the Water | *Palisade Bay*. With C. Seavitt and A. Yarinsky (MoMA Publications, 2010)
Selected Projects:
Museum of Fine Arts, Houston, TX (Steven Holl Architects)
Paris Residential Facility, US Embassy, Paris, France (Michael Maltzan Architecture)
Menil Drawing Institute and Study Center, Houston, TX (Johnston Marklee)
Menil Energy House, Houston, TX (Johnston Marklee)
National Museum of African American History and Culture, Washington DC (Freelon Adjaye Bond/Smith)
Athens Waterfront Plan, Athens, Greece (Renzo Piano Building Workshop), 2011 Master Plan
Wuxi Pedestrian Bridge and Platform, Wuxi, China (with Pelli Clarke Pelli Architects) 2011
Yale Hillhouse Bridges, New Haven, CT (designer and structural engineer with Pelli Clarke Pelli Architects), 2010
WTC Memorial Slurry Wall Bracing Structure, New York, NY (with Davis Brody Bond and Simpson Gumpertz & Heger) 2010

Professional Memberships:
Fellow, American Academy of Arts and Science
Fellow, American Society of Civil Engineers
Founder, and past President (1996), Structural Engineers Association of New York
New York City Green Codes Task Force, Climate Adaptation Technical Committee, 2008-present
Commissioner and Secretary, New York City Public Design Commission, 2006-present
WTC 7 Collapse Investigation, New York NY (Lead expert), 2011

Name: Yusuke Obuchi

Courses Taught:
ARC 505b Graduate Design Studio

Educational Credentials:
M.Arch., Princeton University School of Architecture
B.Arch., Southern California Institute of Architecture

Teaching Experience:
Visiting Associate Professor, Princeton University School of Architecture, 2012
Associate Professor, Director of Obuchi Lab, Global 30 Architecture and Urbanism Program, University of Tokyo, Department of Engineering, 2010—present
Lecturer, Graduate School of Design, Harvard University, 2012
Co-Director, Design Research Laboratory, Architectural Association, School of Architecture, 2005–2011
Unit Master, Intermediate School, Unit 8, 2003–2007
AA Fabrication Cluster Curator, 2007–2008
Course Master, AA Design Laboratory, 2003–2005

Professional Experience:
Foresites Architecture and Design, Partner, London/Tokyo, 2002–present
Reiser + Umemoto RUR Architecture, New York, 2002
ROTO Architects, Los Angeles, 1992–1994, 1997

Selected Publications and Recent Research:
Research:
G30 Obuchi Laboratory at the University of Tokyo is dedicated to interdisciplinary design research connecting architecture, engineering, and computations to explore the ecosystems of contemporary urban environments. It seeks to develop and speculate upon new knowledge for architecture, where the practice of design engages in both social constructs and material performances on a number of scales. Its goal is to redefine the role of architecture as the essential element to theorize, conceptualize, analyze, form, organize, and generate new ideas of and for sustainable future–-built environments.
Exhibitions:
Tokyo Designers Week, 2011
Sinjuku Festa, 2011
Prototyping Architecture, Italian Cultural Center, Tokyo, 2011
Architecture Biennial Beijing 2010, Beijing, China, 2010

His projects have been exhibited widely in the U.S. and Europe, and included in the National Triennial Exhibition at the Cooper Hewitt Museum in New York City, Architecture Biennial Beijing 2004 and 2008, Architecture Biennial Rotterdam, Zurich Design Museum and Barcelona Design Museum.

Name: Nat Oppenheimer, PE

Courses Taught:
ARC 311 Building Science and Technology: Building Systems
ARC 511 Structural Design

Educational Credentials:
B.S., Civil Engineering, Clarkson University, 1988

Teaching Experience:
Princeton University, Visiting Lecturer, Graduate School of Architecture, 2000–present
Parsons School of Constructed Environments, Adjunct Assistant Professor, 2004–2007
Columbia University, Adjunct Assistant Professor, Graduate School of Architecture, Planning, & Preservation, 2000–2002
Clarkson University, Wallace H. Coulter School of Engineering, Guest Lecturer, 2013
University of Michigan, Taubman College of Architecture and Urban Planning, Guest Lecturer, 2013

Professional Experience:
Robert Silman Associates, 1988–1993, 1997–present
Friedman & Oppenheimer, 1994–1996

Licenses/Registration:
Professional Engineer in AK, CO, CT, FL, IL, IN, KY, MA, MI, MN, NJ, NM, NY, SC, TN, TX, Washington DC and WY

Selected Publications and Recent Research:
"An Enthusiastic Skeptic", *Architectural Design*, March 6, 2009
"Moving In", *Modern Steel Construction*. With Yegal Shamash and Ben Rosenberg. September 2008
The Design of Renovations (co-author) (W.W. Norton, 1997)

Professional Memberships:
American Forest Products Association, Member
American Institute of Steel Construction, Member
American Society of Civil Engineers, Member
Architectural League of New York, Treasurer
Association for Preservation Technology, Member
The Salvadori Center, Executive Committee
Structural Engineers Association of New York, Member (Past Director)
US Department of State Bureau of Overseas Building Operations Industry Advisory Group, Member

Name: Spyridon Papapetros

Courses Taught:
ARC 302 / ART 346 Architecture and the Visual Arts
ECS 455 / ART 464 / ARC 455 Animation: Art, Architecture, History
ARC 549 / ART 586 Histories and Theories of Architecture–20th-century
ARC 572 / ART 582 Research in Architecture

Educational Credentials:
Ph.D., Theory and Historiography of Art and Architecture, University of California, Berkeley, 2001
AA Graduate Diploma, Histories and Theories, Architectural Association Graduate School, London,1994
Diploma Architect, National Technical University of Athens, Greece,1991

Teaching Experience:
Associate Professor, School of Architecture, Princeton University, 2012–present
Assistant Professor, School of Architecture, Princeton University, 2003–2012
University College London, Department of Art History, Assistant Instructor, Historiography of Art, Spring 2002

Professional Experience:
Behrman Faculty Fellow in the Humanities at Princeton University. 2012–2014
Getty Scholar, Getty Research Institute, 2007–2008
Visiting Scholar, Getty Research Institute, 2006
Associate Fellow, Warburg Institute, School of Advanced Study, University of London, 2002–2003
Postdoctoral Fellowship, Getty Research Institute, 2002–2003

Selected Publications and Recent Research:
Research:
Spyros Papapetros's work focuses on the historiography of art and architecture, the intersections between architecture and the visual arts, as well as the relationship between architecture, psychoanalysis, and the history of psychological aesthetics.
Publications:
Spyros Papapetros*, On the Animation of the Inorganic: Art, Architecture, and the Extension of Life* (The University of Chicago Press, 2012)
Retracing the Expanded Field: A Conference on Art and Architecture, Spyros Papapetros and Julian Rose, eds., with contributions by Rosalind Krauss, Yve-Alain Bois, Hal Foster, Benjamin Buchloch, a.o. (MIT Press, forthcoming Fall 2014)
Space as Membrane by Siegfried Ebeling. edited by Spyros Papapetros (AA Publications, 2010)
"The Most Conscientious Mason: Léger's Architectonic Analogies" in *Léger, Modern Art, and the Metropolis* exhibition catalogue edited by Anna Vallye, (Yale University Press and The Philadelphia Museum of Art, November 2013)
"Animated Doubles" in *The Double*, edited by Serkan Ozkaya (Storefront for Art and Architecture and Lars Mueller Publishers, December 2013)
"Movements of the Soul: Traversing Animism, Fetishism, and the Uncanny" *Discourse: Journal for Theoretical Studies in Media and Culture*, October 2013
"The Architecture of As If: Josiah McElheny's Sculptural Proposals" in *Contemporary Art about Architecture: A Strange Utility Strategies in Contemporary Art*. Edited by Isabelle Wallace and Nora Wendl (Ashgate, 2013)

Professional Memberships:
Executive committee member of the Program in European Cultural Studies and the Program in Media and Modernity, September 2003–present

Name: Peter Pelsinski, AIA LEED AP BD + C

Courses Taught:
ARC 509 Integrated Building Systems

Educational Credentials:
M.Arch., Princeton University School of Architecture,1991
B.Arch.,The University of Maryland School of Architecture, 1989

Teaching Experience:
Visiting Lecturer of Architecture, Princeton University School of Architecture, 2010–present
Adjunct Professor of Architecture, New Jersey School of Architecture at NJIT, 1997–2005

Professional Experience:
SPaN–Stonely Pelsinski Architects Neukomm LLC, Founding Partner, 1995–present
Operatives, New York: (with Paul Lewis and Marc Tsurumaki), Founding Partner, 1991–1995
Peter Moore Associate, New York 1991–1995
Diller + Scofidio, New York 1991–1992

Licenses/Registration:
Registered Architect, New York #025222

Selected Publications and Recent Research:
Publications:
"Sky's the Limit, *Architectural Digest*, August 2014
"In the Swim," *Architectural Digest*, August 2012
Recent Projects:
The Grand Bazaar, retail development, Las Vegas
Bristol Plaza Residence, Renovation and custom high-end interior furnishings, NYC
Tiffany Prague, New Boutiques Store in the Stare Maesto neighborhood in historic Prague
Extell Hotel, Times Square Hotel, New York, NY, 2013
West Village Restaurant, New 5,000 sq. ft. restaurant, New York, NY, 2012
22 East 2nd Street, Feasibility study for renovation of building which includes lower floor performance space and two residential condominiums. New York, NY, 2012
"String," design of new sister boutique located in historic Greenwich, CT
"String," relocation of high-end yarn boutique first designed by SPaN in 2002, followed by new design and relocation in 2006. New York, NY, 2011

Professional Memberships:
SPaN chairs the "Friends Committee" for the Design Trust for Public Space

Name: Ivan Poupyrev

Courses Taught:
ARC 505a Architecture: Graduate Design Studio

Educational Credentials:
Doctor of Engineering, Hiroshima University, Japan Information Systems Laboratory, 1994–1999
Master and Bachelor of Engineering, Moscow Airspace University, 1986–1992

Teaching Experience:
Visiting Lecturer, Princeton University School of Architecture, 2014
Adjunct Professor, Carnegie Mellon University, School of Computer Science, 2013–present
Visiting Scientist, HIT Lab, University of Washington, 1995–1998

Professional Experience:
Senior Researcher, and Founder and Director, Interaction Group, Disney Research, Walt Disney Imagineering, 2009–Present
Research Scientist, Sony Computer Science Laboratories, Sony Corporation, Japan, 2001–2009
Researcher, MIC Labs, Advanced Telecommunication Research Institute (ATR), Japan, 1998–2001
Research Associate, Leading Software Engineer, Russian Center for Cardiovascular Surgery, 1989–1993

Selected Publications and Recent Research:
Publications:
"*3D User Interfaces: Theory and Practice*", Bowman, D., E. Kruijff, J. LaViola, and I. Poupyrev (Addison-Wesley, 2004)
"AIREAL: Interactive Tactile Experiences in Free Air," Sodhi, R., Popyrev, I., Glisson, M., Israr, A, *ACM SIGGRAPH*, 2013
"Touché: Enhancing Touch Interaction on Humans, Screens, Liquids, and Everyday Objects," Sato, M., Poupyrev, I., Harrison, C., *ACM CHI*, 2012
"REVEL: Tactile feedback technology for augmented reality," Bau, O., Poupyrev, I, ACM SIGGRAPH, 2012, Article 89
"Botanicus Interacticus: Interactive Plants Technology,"Poupyrev, I., Schoessler, P., et al. *ACM SIGGRAPH*, 2012 Emerging Technologies, Article 4
"Printed Optics: 3D Printing of Embedded Optical Elements for Interactive Devices"Willis, K., Brockmeyer, E., Hudson, S., Poupyrev, I, *ACM UIST*, 2012
Selected Keynotes and Invited Lectures in 2013:
Keynote, 3D & Virtual Reality Expo, Tokyo
Speaker, EYEO Art and Design Festival, Minneapolis
Speaker, Resonate Art and Media Festival, Belgrade
Speaker, Now/Next/Why by *Contagious Magazine*, NYC
Opening Keynote, RAPID Conference and Exposition, Pittsburgh
Speaker, HPX Digital: Web, Gaming, Start-ups, Design, Halifax
Keynote, IEEE International Symposium on Augmented and Mixed Reality, Australia

Professional Memberships:
Program Chair, ACM UIST 2013 Conference
Organizing / Program Committee, ACM UIST 2012, ACM TEI 2012, ACM TEI 2011, SIGGRAPH 2011

Name: Mahadev Raman, PE, LEED AP

Courses Taught:
ARC 514 Environmental Engineering of Buildings – Part I
ARC 515 Environmental Engineering of Buildings – Part II

Educational Credentials:
M.S., Applied Energy, Cranfield Institute of Technology (UK), 1981
B.S., Engineering Science, University of Durham (UK), 1978.

Teaching Experience:
Visiting Lecturer, Princeton University School of Architecture, 2001-Present
Adjunct Associate Professor of Architecture, Columbia University GSAPP, 1996–2006
Arup Visiting Engineer, Harvard University GSD, 1996
Visiting Lecturer, Cornell University SoA, 1995
Visiting Critic, Columbia University GSAPP, 1993–1995
Occasional technical tutor for students at the Architectural Association, London, 1979–1992

Professional Experience:
Chairman, Americas, Arup, New York, 2011–present
Arup's Management Board and the Global Sustainability Director
Principal, Arup, New York, 1992–2011
Mechanical Engineer/Associate, Ove Arup and Partners, London, 1978–1992

Licenses/Registration:
PE, State of Arizona, CEng, LEED AP

Selected Publications and Recent Research:
Recent work:
Kansai International Airport, Osaka, Japan
European Court of Human Rights, Strasbourg, France
Sandra Day O'Connor Federal Courthouse, Phoenix, AZ
Kimmel Center for the Performing Arts, Philadelphia, PA
Peabody Essex Museum, Salem, MA
Simmons Hall at MIT, Cambridge, MA
Institute of Contemporary Art, Boston, MA
Nelson Atkins Museum of Art, Bloch Building, Kansas City, MO
Doha Tower and Convention Center, Doha, Qatar
United Nations Long Term Capital Masterplan, United Nations Headquarters, New York, NY
Articles contributed to:
The Organic Approach to Architecture. Edited by Deborah Gans and Zehra Kuz (Wiley, 2003)
Performative Architecture. Edited by Branko Kolarevic & Ali Malkawi (Spon Press, 2005)
It's the Physics: Interview/article for Volume, *Archis* 2013 #3, Volume 37, p. 110, December 2013
The Sky's the Limit: How Arup became the go-to firm for the most challenging and ambitious projects of our time, Interview by Ian Volner, *Metropolis Magazine,* September 2013

Professional Memberships:
Chartered Engineer, Engineering Council; UK
Member, Chartered Institution of Building Services Engineers, UK
Associate Member, Institution of Mechanical Engineers, UK
Member, ASHRAE, USA
Member, International Solar Energy Society, USA
Director, Architectural League of NY, USA
Member, WPI Architectural Engineering Program, Advisory Board

Name: Jesse Reiser, AIA, F.A.A.R.

Courses Taught:
Junior Independent Work
ARC 506 Architecture: Design Studio
ARC 588 Dynamical Logics in Architecture

Educational Credentials:
M.Arch., Cranbrook Academy of Art, Bloomfield Hills, MI, 1984
B.Arch., The Cooper Union, New York, NY, 1981

Teaching Experience:
Professor, Princeton University School of Architecture, 2010–present
Associate Professor, Princeton University School of Architecture, 2000–2010
Director of Graduate Studies, M.Arch. Programs, Princeton University School of Architecture, 2009–2012
Visiting Professor of Architecture, The Cooper Union, 2006
Visiting Professor, University of Pennsylvania School of Design, 2004
Associate Professor, Graduate School of Architecture, Planning and Preservation, Columbia University, 1998–2000
Adjunct Assistant Professor, Graduate School of Architecture, Planning and Preservation, Columbia University, 1992–1997, 1998–1999

Professional Experience:
Reiser + Umemoto, RUR Architecture PC, 1986-present

Licenses/Registration: Registered Architect, New York

Selected Publications and Recent Research:
Recent Projects:
Port and Cruise Service Center, Kaohsiung, Taiwan (Ground Breaking); Taipei Pop Music Center, Taipei, Taiwan (Ground Breaking); Pingshan Cultural District, Shenzhen, China; Torre Siqueros, Mexico City, Mexico; Taichung Cultural Center, and Taichung, Taiwan R.O.C.
Publications:
Dramatic Form. Reiser + Umemoto (AA Publications, 2014 forthcoming)
Projects and their Consequences. Reiser + Umemoto Monograph (AA Publications, 2014 forthcoming)
Grounds and Envelopes: Reshaping Architecture and the Built Environment, Michael Hensel, Jeffrey Turko (Routledge, 2014)
Performative Skyscraper: Tall Building Design Now (Aeon II and O-14 Ground Zero Competition, New York). Scott Johnson (Balcony Press, 2014)
Architectural League's Emerging Voices, Michael Bierut (Princeton Architectural Press, 2013)
Memorial Landscape: International Joint Studio; Sendai Coast 2012. Sendai: Department of Architecture and Building Science (Tohoku University, 2013)
Architecture In:Formation, Pablo Lorenzo-Eiroa and Aaron Sprecher, ed. (Routledge/Taylor and Francis Publishing, London/US 2013 (O-14, Flux Room)
Offices, Chris van Uffelen (Braun Publishing AG, Switzerland 2013)
After Art, David Joselit (Princeton University Press, 2013)
O-14: Projection and Reception. Reiser + Umemoto (AA Publications, 2012)
Digital Fabrication In Architecture, Nick Dunn (Laurence King Publishing Ltd, 2012)
Performalism, Form and Performance in Digital Architecture, "Architecture Performing Itself" by Jesse Reiser and Nanako Umemoto, Yasha J. Grobman and Eran Neuman, Ed. (Routledge, 2012)

Professional Memberships:
Honorary Fellow, School of Engineering, University of Tokyo; Member, American Institute of Architects, New York Chapter; Fellow, Institute for Urban Design, New York; Fellow in Architecture, American Academy in Rome, 1985

Name: Enrique Walker

Courses Taught:
ARC 425 The Ordinary

Educational Credentials:
Ph.D. in Architecture, Architectural Association School of Architecture, London, 2012
M.A in History and Theory of Architecture, Architectural Association School of Architecture, London, 1995
Architect (Honours), Universidad de Chile, Facultad de Arquitectura y Urbanismo, Santiago, Chile, 1992

Teaching Experience:
Visiting Associate Professor, Princeton University School of Architecture, 2012-present
Visiting Lecturer, Princeton University, School of Architecture, Architectural Design 2011
Columbia University, Graduate School of Architecture, Planning and Preservation, Adjunct Associate Professor 2008–2001; Associate Professor 2011–present
Escuela Técnica Superior de Arquitectura de Madrid (ETSAM), Visiting Professor 2010–2011
Barcelona Institute of Architecture (BIArch), Visiting Professor, 2010
Tokyo Institute of Technology, Department of Architecture and Building Engineering, Visiting Professor, 2009
Pratt Institute, School of Architecture, Undergraduate and Graduate Program, Adjunct Assistant Professor, 2007–2008; Graduate Program, Visiting Assistant Professor, 2004–2005

Selected Publications and Recent Research:
"Retroactive Manifestos" in *After the Manifesto*, edited by Craig Buckley (GSAPP Books, in progress).
"Una conversación con José Selgas y Lucía Cano / A Conversation with José Selgas and Lucía Cano," in *El Croquis*: SELGASCANO, 2008–2013 (Madrid, in progress).
"Scaffolding," in *Log* 31: New Ancients (Spring/Summer 2014).
"Scaffolding," in *PLAT* 3.5: Model Misbehavior (Fall 2013).
"Una conversación con Smiljan Radic / A Conversation with Smiljan Radic," in *El Croquis* 167: Smiljan Radic, 2003–2013 (Madrid, 2013).
"Calligram: Scaffoldings" in *Ink*, or "*V is for Vermilion as described by Vitruvius." An A to Z of Ink n Architecture*, edited by Michelle Fornabai (GSAPP Books, 2013), 12-13.
"Scaffoldings," in *Luis M. Mansilla + Emilio Tuñón: From Rules to Constraints*, edited by Giancarlo Valle (Lars Müller, 2012), 74-79.
Lo Ordinario, edited by Enrique Walker (Barcelona: Gustavo Gili, 2010)
Tschumi on Architecture: Conversations with Enrique Walker (New York: The Monacelli Press, 2006),
12 Entrevistas con Arquitectos / 12 Interviews with Architects (Santiago: Ediciones ARQ, 1998)

Name: Mark Wasiuta

Courses Taught:
ARC 544 Ohms, Environments: Arch, Resistance and Media Tech

Educational Credentials:
Ph.D., History and Theory ABD, Harvard University
M.Arch., Princeton University School of Architecture
B.Arch., University of British Columbia

Teaching Experience:
Visiting Lecturer, Princeton University School of Architecture, 2014
Columbia University Graduate School of Architecture Planning and Preservation
Director of Exhibitions, Adjunct Assistant Professor, 2006–present
Co-Director, Masters of Science CCCP in Architecture, 2011–present
Director Collecting Architecture Territories research program, 2011–present
Director Global Experiments in Art and Architecture, 2008–2011
Visiting Professor, Bergen Architecture School, Bergen, Norway, 2011

Professional Experience:
Partner, International House of Architecture, 2008–present
Selected projects: Contact High, 2013; Historical Smog, 2011; House Arrest, 2010
Design Partner, Wasiuta Leung, 2009
Cold Morning with artist Mark Lewis, Canada Pavilion, Venice Biennale
Associate Curator of Contemporary Architecture, Canadian Centre for Architecture, 1999–2000
Assistant Architect, Diller + Scofidio 1997–2003 (intermittent)
Selected projects: The American Lawn: Surface of Everyday Life, Project architect; Blur: Brain Coat and media, Project architect; Whitney Drill, Mural and Whitney Exhibition, Project leader

Selected Publications and Recent Research:
Exhibitions:
Environments and Counter Environments. Italy: the New Domestic Landscape, MoMA, 1972,
Curator (with P. Lang and L. Molinari) and designer, at the Graham Foundation for the Arts and Architecture, Chicago, 2013
Collecting, Curator and designer (with A. Bandler), at Studio X, Istanbul, 2013
The Keeper, Curator and designer (with A. Bandler) at Arthur Ross Architecture Gallery, 2013
Tony Oursler, UFO's and Effigies, Curator (with B. Joseph) and designer (with A. Bandler).
Curator and designer (with A. Bandler) at Arthur Ross Architecture Gallery, 2013
Publications:
Environments and Counter Environments. New Media in "Italy: the New Domestic Landscape," MoMA, 1972, Editor and Co-Author (forthcoming Fall 2014)
"Experimental Radio System," in Oskar Hansen*: Opening Modernism* (forthcoming June 2014)
"E.A.T. in Osaka," in *Exhibiting Architecture* (forthcoming Fall 2014)
Collecting Architecture Territories, Phase 1. Co-editor (with C. Buckley), (New York and Athens: GSAPP and DESTE, 2013)
"Environmental Communications and The Contact High," in *Domus* 971, July–August 2013
Lectures and Conferences:
"Implicating Environment," Paper presentation, *Documentary Remains* conference, GSAPP, Columbia University, (November 2013)
Documentary Remains conference, Moderator and conference organizer, GSAPP, Columbia University, (November 2013)
"Ambasz's New Domesticity," Public talk and discussion with Emilio Ambasz, Graham Foundation for Art and Architecture, Chicago (November 2013)

Name: Albena Yaneva

Courses Taught:
ARC 543 Ecologies of Practice

Educational Credentials:
Ph.D., Sociology, Centre of Sociology of Innovation, Ecole Nationale Supérieure des Mines de Paris
M.A., Sociology, Ecole des Hautes Etudes en Science Sociales, Paris
M.A., Sociology, The University of Sofia

Teaching Experience:
Visiting Professor, Princeton University School of Architecture, 2013
Reader in Architectural Studies, Head of Architecture, Co-Director of the Manchester Architecture Research Centre, School of Environment and Development, University of Manchester (equivalent of "Professor" in the US), 2011-present
Senior Lecturer, School of Environment and Development, University of Manchester, 2009–2011
Lecturer, School of Environment and Development, University of Manchester, 2006–2009
Director, The Gallery of Research/Galerie der Forschung, Austrian Academy of Sciences, Vienna, Austria, 2004–2006
Visiting Lecturer in Anthropology of Art, Institut d'Ethnologie, Université de Neuchâtel, Switzerland, 2005
Postdoctoral research fellow, Department of the History of Science, Harvard University, 2004
Postdoctoral research fellow, Max-Planck Institute for the History of Science in Berlin, 2001–2003

Selected Publications and Recent Research:
Publications:
Mapping Controversies in Architecture (Ashgate, 2012)
The Making of a Building: A Pragmatist Approach to Architecture (Oxford: Peter Lang AG, 2009*Made by the Office for Metropolitan Architecture. An Ethnography of Design* (010 Publishers, 2009)
Sociological Dimensions of Art. volume I et II. With Stefanov, I., ed. (Askoni, 2001)
"The Organization of the Envelope", In Zaera-Polo, A. and Allen, S., eds. *Envelope Conversations*, (Princeton University Press, 2013)
"New York: Inextensible. An Architectural Account of Contested Design", in *Thinking Architecture, Technology, Culture***,** Benesch, K., Meikle, J., Orvell, M., Nye, D., eds. Architecture | Technology | Culture series (University of Pennsylvania Press, 2013
"Actor-Network-Theory Approach to Archaeology of Contemporary Architecture", in Paul Graves-Brown, Rodney Harrison, Angela Piccini, eds.,*Oxford Handbook of the Archaeology of the Contemporary World*, Oxford: Oxford University Press, 2012
Academic Journal Papers:
Yaneva, A. (under review) "Architectural Machines: Articulating Meaning and Materiality in City Making", Social Studies of Science
Yaneva, A. and Heaphy, L. "Urban Controversies and the Making of the Social", *Architectural Research Quarterly*, Volume 16(1), (2012)
Yaneva, A. (editorial) "Traceable Cities", *In City, Culture and Society* (CCS), 2 No.4, December 2011
Yaneva, A. "The Architectural as a Type of Connector", *Perspecta* 42, *The Yale Architectural Journal*, The MIT Press, 2010

Research:
The web-based platform Mapping Controversies in Architecture and Urban Design hosts original research and students projects: www.mappingcontroversies.co.uk

Professional Memberships:
Member of the Society for Social Studies of Sciences (4S), 1999–present
Board member of the international academic journal *Research and Application in Architecture and Urbanism (RAAU)*, 2012

Name: Liam Young

Courses Taught:
ARC 505a Graduate Design Studio

Educational Credentials:
M.Arch., University of Queensland, 2002
B.Arch., University of Queensland, 2000

Teaching Experience:
Visiting Lecturer, Graduate Design Studio, Princeton University School of Architecture, 2012–present
Visiting Schools Unknown Fields Division Coordinator, School of Architecture, Architectural Association, 2010–present
Design Studio Unit Master, School of Architecture, Architectural Association, 2008–present
Unit Coordinator for degree design studio, Bartlett School of Architecture, 2008–2010

Professional Experience:
Urban Think Tank-Tomorrows Thoughts Today, London, founded 2008–present
Nomadic Design Studio-The Unknown Fields Division, International, founded 2008–present
Zaha M. Hadid, Architects. London, 2000–2003
LAB Architecture Studio, Melbourne, Australia, 2001–2002
NMBW Studio, Melbourne/Brisbane, Australia, 2001–2003
John Mainwaring Architects. Sunshine Coast, Australia. 1998–1999

Licenses/Registration: None

Selected Publications and Recent Research:
Nomination for the 2012 Iakov Chernikov Prize in the Field of Conceptual Architecture 2012
Curator of "Future Perfect: A cross section of practice from science fact to science fiction,"' Lisbon Architecture Triennial 2013
Exhibition: "Under Tomorrows Sky," Solo Exhibition 2012
Book Chapter "The Educator of Excess: A conversation with Liam Young" in *Future Practice: Conversations from the Edge of Architecture*, edited by Rory Hyde, 2013
Book Chapter: "A Distributed Ground: Unknown Fields Division," in *Architectural Design: Systems City*, edited by Michael Weinstock, 2013
Book Chapter: "Brave New Now: A Future City," in *The New Pastoralism*, edited by Mark Titman, 2013
"Control + P," *ICON Magazine*, 2013
"The Impossibility of Forgetting," *Architectural Review*, 2013
Guilty Landscapes, Edited by Liam Young + Kate Davies (Archis + Volume, 2012)
"Electronic Countermeasures: a drone swarm for a pirate internet" Wired 2012

Professional Memberships:
Contributing Editor, *ICON Magazine*, 2014–present
Advisory Board, London Architecture Foundation, 2012–present
Peer Reviewer, AIA Forward Design Journal, 2012–present
Associate Editor*, International Journal of Interior Architecture + Spatial Design*, 2012–present
Advisory Board, London Society, 2010–present
Editorial Board, *Kerb*, 2012-Present (Quarterly Landscape Architecture publication published by RMIT)

Name: Michael Young

Courses Taught:
ARC 206 Geometry and Architectural Representation
ARC 547 Introduction to Formal Analysis

Educational Credentials:
M.Arch., Princeton University School of Architecture, 2004
B.Arch., California Polytechnic University, College of Architecture, 1997

Teaching Experience:
Lecturer, Princeton University School of Architecture, 2011–present
Assistant Professor, Cooper Union, Irwin S. Chanin School of Architecture, 2005–present

Professional Experience:
Partner, Young & Ayata, New York, NY, 2008–present
Designer, Reiser-Umemoto, New York, NY 2004, 2006
Designer, Stan Allen Architects, Princeton, NJ, 2005
Project Manager/Designer, Pfau Architecture, San Francisco, CA, 1997–2003

Licenses/Registration:
Registered Architect, State of New York, 2007–present

Selected Publications and Recent Research:
"Natural is Not in It" from *Assembly: Post Digital Craft*, Edited by Brennan Buck (YSOA Publications, Winter 2014)
"Tone" from *INK*, ed. Michelle Fornabai, (GSAPP Publications, Winter 2014)
"Involutions and Atmospheres" from *Architecture In-Formation*, ed. Pablo Lorenzo-Erioa, (Routledge, Winter 2013)
"Digital Remediation" from *Cornell Journal of Architecture 9*, Winter 2013
"Technologies of Mediation" from *Fresh Punches*, Summer 2013
"Funny, Hairy, Symmetry" from *Another Pamphlet #05*, 2013
2014 Lectures:
"Young & Ayata", *Architecture League Award Lecture*, Parsons New School of Design, New York, NY
"Young & Ayata", Parsons New School of Constructed Environments, New York, NY
"Who's Afraid of the Big Bad Box", a TV drawing performance in three parts, *Being*, Storefront for Art & Architecture, New York
"The Estranged Object", *Spring Lecture Series*, Syracuse University, Syracuse, NY
"Realisms", *Spring Lecture Series*, Ohio State University, Columbus, OH, and Institute of Urban Design, University of Innsbruck, Innsbruck, Austria
Moderator – *Digital Post-Modernities Symposium*, Yale University, New Haven, CT
2014 Exhibitions:
"Overlay" Architecture League Award Exhibition, Parsons New School, Aronson Gallery, New York, NY, 2014
"Fuzz Balls", Group Exhibition, *Possible Mediums*, Taubman Collage Gallery, Ann Arbor, Michigan, 2014

Name: Alejandro Zaera-Polo, RIBA

Courses Taught:
ARC 204 Introduction to Architectural Design
ARC 504 Graduate Design Studio
ARC 508 Master of Architecture: Thesis Studio

Educational Credentials:
M.Arch. with Distinction (MARCH II), Graduate School of Design, Harvard University
Dipl. Architecture Degree (Hons), E.T.S. of Architecture in Madrid, Spain

Teaching Experience:
Professor, Princeton University School of Architecture, 2012–present
Dean, Princeton University School of Architecture, 2012–2014
Norman R. Foster Visiting Professor, Yale University, 2009–2011
Visiting Professor, Princeton University School of Architecture, 2008–2011
Berlage Chair, Architecture Department, Technical University in Delft, The Netherlands, 2003–2009
Dean of the Berlage Institute, The Netherlands, 2002–2006
Unit Master Architectural Association School of Architecture, London, 1993–2000
Associate Professor of Design at the E.T.S. of Architecture in Madrid, Spain, 1992–1995

Professional Experience:
Office of Metropolitan Architecture (OMA) in Rotterdam, 1991–1993
Foreign Office Architects (FOA), 1993–2011

As a principal of FOA, Alejandro Zaera-Polo co-authored the award-winning Yokohama International Port Terminal in Japan, after winning an international design competition in 1995. He also was part of the United Architects team, one of the finalists in the Ground Zero competition. He designed and supervised the completion of a wide range of international projects such as the Barcelona Forum Park and Auditoria, the Torrevieja Theater, the Rioja Technology Transfer Centre in Logrono, Spain, the Carabanchel Housing in Madrid, The Palace Residential Towers in Busan, Leicester High Cross, and the recently completed Ravensbourne College of Design and Communication. He also designed and delivered the Spanish Pavilion in the Aichi International Exhibition 2004 and the Madrid Pavilion in Expo Shanghai 2010, and represented Britain in the Venice Architecture Biennale 2002.

2011–present:
Currently working on the Redevelopment of the Birmingham New Street Station; the 2014 ISAF Sailing World Championship Facilities in Santander; the Cerezales Foundation in Leon; the Gapyong Community Centre in South Korea; the Hospital Universitari Arnau de Vilanova in Lleida; the BioPol Science Centre in Barcelona; and the New Film Centre at Locarno for the Locarno Film Festival.

Selected Publications and Recent Research:
The Sniper's Log. Architectural Chronicles of Generation X (ACTAR, 2012)
"FOA's Ark_Evolving Container for the Proliferating Singularities" *Korean Architecture and Culture Magazine*, December 2004
Phylogenesis: FOA's Ark (Actar, 2003)
The Yokohama Project: A Monograph (Actar, 2002)
El Croquis No 136, Madrid, Spain 2003
"FOA Recent Projects" Published as 2G, No. 16, Barcelona, Spain 2001

Professional Memberships:
Member, RIBA, ARB, COAM

Part Four: Supplemental Information

3. *Visiting Team Report* (*VTR*) from the previous visit

   Focused Evaluation Team Reports from any subsequent Focused Evaluations – not applicable

   Add VTR PDF

Part Four: Supplemental Information

4. Catalog (or URL for retrieving online catalogs and related materials)

   Graduate catalog: http://gradschool.princeton.edu/academics/fields-study/architecture
   Undergraduate catalog: http://www.princeton.edu/ua/departmentsprograms/arc/

5. Response to the Offsite Program Questionnaire – not applicable