The Pennsylvania State University
Department of Architecture

Master of Architecture Program Report for 2016 NAAB Visit for Initial Accreditation

Master of Architecture: 97 Credits

Year of the Previous Visit: 2015
Current Term of Accreditation:

> "At the February 2016 meeting of the National Architectural Accrediting Board (NAAB), the board reviewed the *Visiting Team Report* (VTR-CC) for the Pennsylvania State University Department of Architecture. As a result, the proposed professional architecture program:
>
> **Master of Architecture**
>
> was formally granted continuation of its candidacy for a period of two years. The continued candidacy term is effective January 1, 2015. Initial accreditation must be achieved by 2019, or the program will be required to submit a new candidacy application."

Submitted to: The National Architectural Accrediting Board
Date: May 27, 2016

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Program Administrator:	Professor Mehrdad Hadighi, Department Head Department of Architecture 130 Stuckeman Family Building, University Park, Pa 16802 Email: hadighi@psu.edu, Phone (814) 865-8219
School Administrator:	Professor Kelleann Foster, Director Stuckeman School of Architecture and Landscape Architecture 121 Stuckeman Family Building, University Park, PA 16802 Email: kxf15@psu.edu, Phone (814) 865-6112
Chief Administrator:	Dr. Barbara O. Korner, Dean College Of Arts And Architecture 124 Borland Building, University Park, Pa 16802 Email: bok2@psu.edu, Phone: (814) 865-2591
Chief Academic Officer:	Dr. Nick Jones, Executive Vice President and Provost 201 Old Main, University Park, PA 16802 Email: npj1@psu.edu, Phone: (814) 865-2505
President of the Institution:	Dr. Eric J. Barron, President 201 Old Main, University Park, PA 16802 Email: president@psu.edu, Phone: 814-865-7611
Individual submitting the APR:	Professor Mehrdad Hadighi
Direct questions to:	Professor Mehrdad Hadighi

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PART ONE (I): INSTITUTIONAL SUPPORT AND COMMITMENT TO CONTINUOUS IMPROVEMENT
Part One (I): Section 1 – Identity & Self-Assessment

I.1.1 History and Mission

The Pennsylvania State University is strategically located in the geographic center of the Commonwealth of Pennsylvania, and is a state-related institution with an attractive, expansive campus environment. The University offers a broad range of academic programs and is a major worldwide research facility.

Institution

The Pennsylvania Legislature chartered the institution as The Farmers High School in 1855. In May 1862, it was renamed The Agricultural College of Pennsylvania and on April 1, 1863, the State Legislature designated Penn State as the Land-Grant College of the Commonwealth. In 1874, it was renamed The Pennsylvania State College, the name it was known by for the next 79 years. In 1953, the name was changed to The Pennsylvania State University in formal recognition of what it had long since become, one of the leading educational institutions in the country. The total student body has exceeded 98,000 with more than 6,100 full time faculty and another 2,784 part time faculty. The University, whose prime purpose has always been to serve the people and the interests of the Commonwealth and the nation, is accredited by the Middle States Commission on Higher Education and is one of 62 members of the Association of American Universities.

Penn State has 24 locations statewide in addition to other locations and the World Campus. Educational opportunities are also available through television, internet, and correspondence. One out of ten college students in Pennsylvania attends Penn State and total enrollment for the Fall Semester of 2014 was 95,973 for all locations. As a major research facility, the University administers over $813 million in sponsored research. Penn State's University Park is the main campus with an undergraduate student population of 40,541, and a graduate enrollment of 6,065. The campus physical plant, valued at $2.7 billion, includes over 947 general and educational buildings, auxiliary structures, and 7,343 acres of land. The current value of the endowment is close to $2.28 billion dollars.

General operations of the University are supported by appropriations of the State Legislature, by tuition and fees, and by appropriations from the Federal Government. Governance and control of the institution is vested in a Board of Trustees composed of thirty-eight members. The Board of Trustees of Penn State is the corporate body established by its charter with complete responsibility for the governance and welfare of the University. To execute this responsibility, the authority for day-to-day management and control of the University and for establishing policies and procedures for the educational program and other operations of the University is delegated to the President. The President delegates certain responsibilities to the faculty and also consults with the faculty and the student body on matters in accordance with the general directives of the board.

The organization of the University includes twelve academic colleges, The Schreyer Honors College, Division of Undergraduate Studies, University System of Commonwealth Campuses, College of Medicine, Dickinson School of Law, Graduate School, and the World Campus. Library services come under the direction of the Dean of Libraries. The academic colleges of the University offer undergraduate majors leading to baccalaureate and associate degrees in Agricultural Sciences, Arts and Architecture, Business Administration, Communications, Earth and Mineral Sciences, Education, Engineering, Health and Human Development, Information Sciences and Technology, The Liberal Arts, Nursing and Science. In addition, Abington College, Altoona College, Behrend College, Berks College, Capitol College and University College provide alternative educational settings where students may enroll in selected undergraduate degree programs. The Dickinson School of Law, the Penn State Great Valley School of Graduate Professional Studies near Philadelphia, and The Milton S. Hershey Medical Center near

Harrisburg offer a number of advanced degree programs. The following is the mission of The Pennsylvania State University:

> Penn State is a multi-campus public research university that educates students from Pennsylvania, the nation and the world, and improves the well-being and health of individuals and communities through integrated programs of teaching, research, and service.
>
> Our instructional mission includes undergraduate, graduate, professional, and continuing education offered through both resident instruction and online delivery. Our educational programs are enriched by the cutting edge knowledge, diversity, and creativity of our faculty, students, and staff.
>
> Our research, scholarship, and creative activity promote human and economic development, global understanding, and progress in professional practice through the expansion of knowledge and its applications in the natural and applied sciences, social sciences, arts, humanities, and the professions.
>
> As Pennsylvania's land-grant university, we provide unparalleled access and public service to support the citizens of the Commonwealth. We engage in collaborative activities with industrial, educational, and agricultural partners here and abroad to generate, disseminate, integrate, and apply knowledge that is valuable to society.

College
The mission of the College of Arts and Architecture is to educate and prepare artists, scholars, teachers, and other arts professionals and enrich the lives of others through the celebration and dissemination of the arts. The vision of the College for 2014-2019 is to

- To create a rich and dynamic intellectual ecosystem that fosters excellence in teaching and learning, research and creative practice, and exhibition and presentation across the arts and design disciplines within the college and the university.
- To provide a culture that embraces diversity, encourages intercultural experiences, and affirms the value of differing perspectives within and between our disciplines.
- To position the college, our units, and our faculty and staff, and students as leaders in the arts and design disciplines within regional, national, and global communities.

Our mission and vision are rooted in the Penn State Values:

PENN STATE COMMUNITY: We are Penn State, one community geographically dispersed, united in our commitment to our common values, goals, and relationships to one another, the University, and our communities.

RESPECT: We honor the dignity of each person, treat each individual accordingly, engage in civil discourse, and foster an inclusive community.

RESPONSIBILITY: We meet our obligations and hold ourselves accountable for our decisions, actions, and their consequences.

INTEGRITY: We act in accordance with the highest ethical standards, making certain that our behavior reflects our values.

DISCOVERY: We seek and create new knowledge and understanding, and foster creativity and innovation, for the benefit of our communities, society and the environment.

EXCELLENCE: We strive to give and do our best in all our endeavors.

School

The School of Architecture and Landscape Architecture (SALA) was established in 1998 with the intent to encourage further cooperation and joint efforts between the Departments of Architecture and Landscape Architecture. Administratively, the Head of the Department of Architecture reported directly to the Dean of the College of Arts and Architecture. The School functioned as an umbrella for interdepartmental endeavors and was governed by a School Council. The council was composed of an equivalent number of faculty members from each department along with the respective departments heads. After Cal Stuckeman created a major $20 million endowment, Brian Orland, then head of Landscape Architecture, was appointed as the Interim Director for the Stuckeman School. In 2010, the School hired Nathaniel Belcher as its Director. The Director was expected to provide innovative leadership and advance a vision for the Stuckeman School in both the university and beyond that addressed increasingly complex problems in a global world. The department heads retained their memberships in the Deans, Directors and Department Heads Committee. The department heads also retained their direct reporting to the Dean, while on matters related to the School, the heads now reported to the Director, who then reported to the Dean. The two departments also retained membership in key college committees, including the College Promotion and Tenure Committee. The College's Graphic Design program merged with the Stuckeman School in 2011 and added a new dimension to the Stuckeman School. In the summer of 2013, Director Nathaniel Belcher stepped down and Kelleann Foster, Associate Professor of Landscape Architecture, was appointed Interim Director. In 2014, Kelleann Foster was appointed Director of the Stuckeman School of Architecture and Landscape Architecture, and associate dean of the College of Arts and Architecture at the University, for a two-year term.

Architects and landscape architects share a common mission: to design places and spaces that foster and celebrate humanity. Though professionally they sometimes work independently, their work is complementary and often collaborative. When they collaborate with each other, their designs can be transformative. For these reasons, the departments of architecture and landscape architecture became the School of Architecture and Landscape Architecture. In 2005, thanks to the generosity of an architecture alumnus, Cal Stuckeman, who believed in the power of collaboration, the school would have its own building—the Stuckeman Family Building—and would be called the H. Campbell and Eleanor R. Stuckeman School of Architecture and Landscape Architecture with a new Director. The Stuckeman Family Building has weathered well in the last ten years and has become one of the many attractive features of the architecture program at Penn State. The mission of the H. Campbell and Eleanor R. Stuckeman School of Architecture and Landscape Architecture is to:

- educate future architects and landscape architects;
- lead research and thinking about the future of the design professions;
- contribute to the intellectual life and outreach of the university;
- promote the sustainability and improvement of quality of life in the built and natural environment.

Two centers were established within the School of Architecture and Landscape Architecture through endowment funds. First, The Stuckeman Center for Design Computing, created in summer 1998, began as the expansion of an existing design computing center. It has now grown into an advanced design computing media laboratory. While there continues to be a computer lab named the Stuckeman Center, the "center" is in reality distributed throughout the Stuckeman Building. Our philosophy is to integrate design computing into our studio environment, rather than isolate computer facilities in "labs." Second, The Hamer Center for Community Design Assistance began operation in January 1999 and offers design assistance to communities and planning agencies in the Commonwealth of Pennsylvania.

Department

The Department of Architecture was established in 1910 with a four-year course in Architectural Engineering; in 1922, a curriculum in architecture was added, leading to the Bachelor of Science in Architecture. The enrollment reached a high of 163 in 1930, and dropped to 83 during the Depression

years of 1935-36. In 1948, the curriculum changed from a four-year to a five-year program, and the number of students gradually increased from 158 in 1948 to 194 in 1955-56, and reached a total of 256 in 1962. At one time the department was housed in the College of Engineering and Architecture and managed the departments of art and architectural engineering. In January 1963, the department became part of a newly established College of Arts and Architecture and by 1972 the enrollment in architecture had risen to 480. By instituting a quota of admission in 1972 and by being highly selective in its acceptances, the department since 1975 has remained relatively small and constant in size, thus maintaining an essential personal contact between faculty and students. The department presently enrolls 239 undergraduate students majoring in architecture, in addition to a cohort of approximately sixty five graduate students in our three graduate programs (professional MARCH, post-professional MS and PhD.)

For decades, the department offered study abroad opportunities with programs in the United Kingdom, Germany, and Florence, Italy. In 1991, the department consolidated these options, moving the program to Rome and making it a requirement for all of our fourth-year students to spend a full semester there. In 1992, the department negotiated a long-term lease for instructional facilities within the Palazzo Doria Pamphili, in the center of Rome. These facilities, now operated by the Pantheon Institute, include multiple studio spaces, classrooms, a library, a computer lab, and administrative support areas. This study-abroad opportunity in Rome is offered as a summer option to the professional MARCH students, along with other study abroad programs.

In 1994, the Raymond A. Bowers Program for Excellence in Design and Construction of the Built Environment was initiated from an endowed fund to support interdisciplinary cooperation between the departments of architecture, landscape architecture, and architectural engineering. Presently, the Bowers Program receives proposals annually that show support for the intentions of the endowment by way of research projects or class instruction. In recent years, the Bowers Program has provided “seed” financial support for projects such as our American Indian Housing Initiative, an architectural lighting laboratory, the Inter-disciplinary Collaborative Design Studio, and other similar interdisciplinary projects.

Architecture Program Mission

To serve as a leading national and international studio-centered program in the art and science of architecture that is responsive to the most important social, environmental, technological, and cultural challenges of the twenty-first century, and to achieve excellence in teaching, research, design, outreach, advising, and service to society. In support of this mission, our aim is to:

- Educate undergraduate and graduate students in the discipline of architecture and to prepare them for a life of creative engagement and personal fulfillment in the practice of architecture and related fields.
- Encourage the production of exemplary works of architectural design, theory, critical analysis, and research in a studio-centered learning environment.
- Increase the cultural, religious, ethnic, and gender diversity in the student body, the faculty and in the curricular subject matter.
- Provide an educational environment that encourages the cross-fertilization of knowledge from all of the arts and sciences, where students and teachers are motivated to participate in the most urgent contemporary social, cultural, and environmental issues.
- Educate in the areas of ethical behavior, critical thinking, life-long learning, and service to society.
- Develop a teaching/learning environment that encourages collaboration and teamwork, as well as individual research and creative activity.
- Serve the regional area, the Commonwealth of Pennsylvania, the nation, and the international community by increasing public awareness of architecture.

Synergies and contributions to the University

All architecture faculty contribute to the Department, School, College, and University by participating in committees at all levels. Of particular significance is the contribution of many faculty members to Penn State via participation on key university committees. Professor Nathaniel Belcher, former Director of the Stuckeman School, has been serving on the Architect Screening Committee that reviews the credentials of architectural firms competing for commissions for buildings on campus. He also participates in the interview process of the Architect Selection Committee, which comprises three trustees, to help select the most qualified architectural firm. Prior to Professor Belcher's appointment on these committees in 2011, Professor Jawaid Haider was involved in the same capacity since 1998. Professor Haider currently chairs the Facilities Planning Advisory Board (FPAB), a committee with broad university representation that oversees and reviews all planning and design projects on campus. Professor Scott Wing has been helping the university understand the importance of environmental design by serving on the Arboretum Design Committee and Shaver's Creek Advisory Committee. Professor Alexandra Staub has served on University Senate as an elected representative of the College. Professor Kalisperis has contributed to the university through his participation in the Graduate Council Committee on Programs and Courses, and the University Faculty Advisory Committee on Academic Computing.

Architecture faculty members also contribute in leadership positions at the College and School levels. Scott Wing will be serving as the Associate Dean for Academic Affairs and will chair the Faculty Council. For the college, Dan Willis serves on the Promotion & Tenure Committee; James Wines serves on the Sabbatical Leave Committee; Rebecca Henn serves on the Undergraduate Committee on Scholarships & Awards; Madis Pihlak serves on the Diversity Committee; Dan Willis serves on the Committee for Undergraduate Curricular Affairs; Darla Lindberg serves on the Committee on Research & Creative Activity; Ute Poerschke serves on the Graduate Curricular Affairs committee and Allan Sutley serves on the College Safety Committee.

Overview of Penn State's Approach to Architectural Education

Penn State's professional architecture program is committed to being one of the most thoughtful, technologically progressive, and pedagogically distinctive programs among our peers. Our goal, like that of many architectural schools, is to provide entrants to the architectural field with well-developed, broad-based skills. Where Penn State may be different is that, due to the increasingly complex and diverse nature of architectural practice, we believe that tomorrow's practitioner is best served by excellence in specific areas within the architecture discipline, be they sustainability, digital design, digital fabrication, project/practice management, urban and community design, or others. By requiring a number of electives (which we call Supporting Courses) in addition to general required coursework, we encourage students to move beyond basic comprehension of the field toward development of skills in areas for which they have shown particular interest and talent. Through the development of an academic plan, our students learn to select from an array of advanced offerings in diverse areas of study. These serve as enhancements to the students' accumulated knowledge of architecture. Individual excellence, no matter what the chosen focus for each student, is the end to which we are firmly committed.

With this pedagogy, our intention is to facilitate a much broader range of options for tomorrow's architects who are able to immediately utilize highly developed specialty interests once they become practitioners. We do this with excellence in mind, and are finding that our new building, the supportive nature of our faculty, and the diversity of ideas presented have created a highly sympathetic environment that enables productive and spirited exchange within the entire School of Architecture and Landscape Architecture; one that is charged with energy and inquiry at all levels.

As committed as we are to preparing our students for professional practice, we also believe that it is even more important for us to provide them with what only a university can provide: a sense of presence and responsibility in the world where their general intelligence and humanity is more valuable than their vocational expertise. In this, Penn State has always been a leader in advocating the contextuality of studio education and the centrality of art in life.

I.1.2 LEARNING CULTURE

All architectural educators share a common interest in providing an education that prepares students for leadership roles in the architecture profession. All architecture students share the desire to have the best education possible. The culture and atmosphere within the studio play a vital role in the quality of architectural education. Our community of educators, scholars, students, and professionals brings us in frequent contact with others sharing similar interests. Such a shared culture does not, however, suggest conformity. The success of our educational community depends on the ability of everyone in it to speak freely, to take risks, to dissent from the majority opinion, and to seek new and untested ways of doing things.

It is the intention of the Department of Architecture at Penn State to provide and promote an atmosphere that fosters respect and cooperation among the members of our community. A healthy studio culture cannot be created by the faculty alone. It requires the full participation of our students. The academic setting is structured to encourage different viewpoints, various methods of teaching and inquiry, and the dissemination of knowledge by traditional and non-traditional methods. Each member of an academic community is unique, having a variety of different experiences, educational and family backgrounds, as well as aspirations.

In the architecture program at Penn State, “studio” is our short-hand term for a series of courses, but it is also a physical place that is founded on an educational ideal. That ideal is the belief that the studio setting places our students in a situation where they are able to learn at least as much from each other as they will learn from the faculty. We are fortunate that the studio spaces in the Stuckeman Family Building have been carefully designed to maximize the interconnectedness of students in all studio levels, and in both the Architecture and Landscape Architecture majors. To benefit from the Stuckeman Family Building and the proximity to other students it encourages, students must commit to working in the studio environment. We encourage all Architecture students to take full advantage of the educational environment in the Stuckeman Family Building, and whenever possible to complete their Architecture course assignments within the physical limits of our educational community.

We strongly encourage our students to respect the ideas of their colleagues and classmates. This includes respect not only for others without discrimination as to race, color, religion, gender, or sexual orientation, but respect for different ideas, philosophies, and methods. We strongly encourage our faculty to respect the ideas and individual goals of our students, understanding that a diversity of ideas and goals among the student body is a great asset. Universities exist to promote new knowledge, not hinder it. Individual actions that are disrespectful of others cannot be tolerated in our community. Freedom of expression must be carefully balanced with freedom from intimidation or ridicule.

In order to help maintain a level of professionalism within the studio, students should not expect one faculty member to provide a “sympathetic ear” to any student complaints about another instructor. If a student has a specific problem in a course, she or he should speak to the instructor who teaches it. Of course, it is always appropriate to seek advice from their advisor before doing so. Keep in mind that an instructor cannot react to criticisms unless they are aware of them. Therefore, the first step for any student who disagrees with an instructor’s teaching methods is to communicate this to the instructor. If the result of these discussions is not satisfactory, students should meet with the Department Head.

Respect for property, both individual and institutional, is fundamental to our studio culture. Architecture students at Penn State are well known for their positive work ethic. Students must always respect the products of their classmates’ work, since it is the work of an architect that distinguishes him or her. As the designers of buildings and environments, it is also incumbent upon all of us to show respect for the facilities we occupy. If we do not respect the places in which we live and work, we set a poor example for those around us.

At Penn State, we believe that "architecture" is a verb as well as a noun. Architecture is an unfolding process that enriches our lives. Architecture exists as much in the things we do as in the objects we make. In the lives of architects, as in their works, great attention must be paid to proportionality. In order to enjoy the fruits of architecture, we—the faculty and the students in the Department—must lead lives that are well proportioned.

In order to promote a healthy working environment, it is important that everyone's time be respected. Students have a right to expect that faculty will be on time and prepared to teach, and will acknowledge and respect students' non-studio time commitments. Likewise, students have the responsibility to be in studio on time for class, prepared to work, understanding the commitment of time and energy that faculty have made to prepare and present course material.

An intensive study of the liberal arts and sciences is fundamental for producing architects who are well-rounded critical thinkers. Architecture students should manage their time such that they devote sufficient attention to these subject areas, as well as to recreational and cultural activities. Students who are exhausted, who suffer from poor nutrition, lack of sleep, inadequate physical activity, or who seldom interact with family and friends, cannot fully participate in and contribute to a healthy academic community.

Architectural education employs a variety of means to review the ideas and work of students and these periods of assessment are an essential element of the culture of the studio. Reviews are both an opportunity to facilitate discussion of greater issues as well as an occasion to consider differing viewpoints and possibilities. For formal reviews, students and faculty are expected to arrive on time and stay engaged as active participants throughout the review process. In advance of the reviews, faculty are responsible for informing invited guests and reviewers about the project intentions and background, as well the expectation that the review will reflect the Department's commitment to a culture of respect, engagement, and professionalism. Students are expected to be prepared to discuss their work, as well as to participate in the discussions of their peers' work.

We expect everyone in the Department of Architecture to promote and enforce a safe, efficient place of work. The harassment of others has no place in our community. Harassment is not limited to overt actions, but also includes creating situations that interfere with another's performance, or the fostering of an intimidating, hostile, or offensive environment. Students must be aware that the memorabilia, photographs, and posters they display on their desk and around their workspace may be offensive to others. At the same time, members of any community must practice tolerance. Not everything that one finds offensive is intended to offend.

Students are encouraged to work together to promote a positive spirit of unity without conformity; of cooperation balanced with respect for individual expression. Although founded on an unshakable commitment to architectural excellence, our community of scholars is a living and breathing entity. Each member of our community contributes something to our studio and institutional culture. As people come and go, as ideas find favor and then fall out of fashion, our culture must adapt. The goal: to continually reinvigorate our scholarly community of architects and would-be architects, creating an environment and a school of which all can be proud.

Harassment and Discrimination
The following Statement of Nondiscrimination and Harassment accurately defines the University policy and is part of all Penn State publications:

The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. It is the policy of the University to maintain an academic and work environment free of discrimination, including harassment. The Pennsylvania State University prohibits discrimination and harassment against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed,

sex, sexual orientation, gender identity or veteran status. Discrimination or harassment against faculty, staff, or students will not be tolerated at The Pennsylvania State University.

Provisions for Students with Disabilities
Penn State University is committed to providing a welcoming, encouraging, and empowering environment for students with disabilities to ensure equal access, full participation and reasonable accommodations for their academic pursuits. The Office for Disability Services (ODS) is responsible for coordinating support services, arranging judicious academic accommodations, and promoting disability awareness in the university community. The ODS team is committed and ready to assist students with disabilities to reach their academic goals.

Academic Integrity
See Policy: G-9 –

The Office of Student Conduct at Penn State University serves as a valuable resource for the university community by promoting a safe living and learning environment. The Student Code of Conduct applies to all students, including undergraduates, graduates, full-time, part-time, and World Campus students.

Studio Culture Policy
The Department of Architecture in the H. Campbell and Eleanor R. Stuckeman School of Architecture and Landscape Architecture developed its Studio Culture Policy in fall 2004. Discussions with students regarding input to the policy were initiated through student representatives in 2006/07. Student input was formalized with proposed revisions incorporated in the policy document over the summer of 2007. The studio coordinators' committee and the student representatives review the policy periodically. The policy was recently revised in April 2013 with input from student representatives. The Studio Culture Policy stresses the need for creating a shared culture and a spirit of unity in the studio without relying on conformity. To benefit from the Stuckeman Building environment, students must commit to working in the studio space. The studio setting places students in a context where they are able to learn from each other and from the faculty.

Learning Outside the Classroom

Our students have the ability to join a host of student organizations, from nationally sanctioned bodies to homegrown groups: AIAS, Freedom by Design, SEED (Students for Environmentally Enlightened Design), NOMAS (National Organization of Minority Architecture Students), Alpha Rho Chi, GSA, and year-specific groups. We support, with assistance from AIA Central PA, students travelling to AIAS Forum, and national meetings, and NOMAS national meetings.

Given our location in central PA, field trips to urban locations are a focal point of almost every studio we teach. We select sites that almost always require a field trip. Pittsburgh, Philadelphia, and New York City are regulars. In addition, we arrange trips to visit sites of architectural importance, in order to introduce our students to the experience of architecture as a built artifact. A sampling of field trips follows:

- The fourth-semester studio went to Pittsburgh on January 21, 2015, to visit the Strip District, the project site, and the Pittsburgh art museums. The students studied, for example, how the natural context between a river and a steep hill forms an urban area; how the rich ethnic history of the Strip District, mainly from Polish and Italian immigrants, can be traced; and how the heritage of coal and steel industries has been transformed for the needs of our time (new apartments in old cork factory). The students also met with Ray Gastil, planning director of Pittsburgh and former Stuckeman professor at Penn State, who presented the development plan for the Strip District and discussed planning strategies and challenges related to the area.

- For a field trip for Arch 531, faculty drove 9 students to Raystown lake to examine the site and facilities of the recreation destination, including a background exhibit on the lake, its construction,

and use over the previous century. The students met with the director of the U.S. Army Corps of Engineers, which owns and manages the dam, lake, surrounding land, and facilities. The director shared a number of master planning documents to borrow that included a marketing analysis for a recreation facility similar to the one proposed for the studio. The students reflected that this physical experience brought to life the contour lines and aerial views of the physical place. On a subsequent trip, students returned to the site after having selected the specific location for their building. At the lake, they either hiked to their specific plot of land, or went out on a boat in order to photograph and experience their site from multiple vantage points. Based on this return experience, a handful of students modified the siting of their building to better accommodate their goals for the project.

- A second annual field trip to the Glass House took place in the fall 2014. The itinerary included New Haven with a tour of the Rudolph building guided by the Yale Special Event Coordinator and Associate Professor Edward Mitchell. In addition, it also included University Art Gallery, YaleCenter for British Art, Binecke Library, and Ingalls Rink. Students also had the opportunity to visit the office of Pickard Chilton while in New Haven. On the way back to University Park, the group stopped by New York City and walked the length of the High Line from the New Whitney Museum to the new addition at the north.

I.1.3 Social Equity

The Architecture Department, Stuckeman School, College of Arts and Architecture, and The Pennsylvania State University are committed to equality and diversity in all aspects of their operations. The Office of the Vice Provost for Educational Equity serves as a catalyst and advocate for Penn State's diversity initiatives. Educational Equity's vision is an inclusive and welcoming Penn State community for all. Since the implementation of the initial Framework in 1998, Penn State has made considerable strides toward building a truly diverse, inclusive, and equitable institution and in establishing an infrastructure to facilitate effective diversity planning, implementation, and reporting processes. Fostering diversity must be recognized as being at the heart of our institutional viability and vitality, a core value of the academic mission, and a priority of the institution. With the 2010-15 Framework, Penn State started the next phase of achieving our diversity potential, and will continue to develop this framework further as we move forward.

The Stuckeman School's Strategic Plan explicitly emphasized the need for increased efforts to develop action plans for enhancing diversity among faculty and staff. The School's strategic plan also stressed the need for recruiting and matriculating a more diverse student body. The Architecture Department continues to specifically pursue an increased presence of qualified women and minorities on the faculty. Since the team visit for initial accreditation in Fall 2013, three women and one minority have joined the faculty. The department recognizes that more needs to be done in this context and is committed to building a community that exemplifies the ideals of diversity, healthy faculty-staff-student interaction, active learning, and innovation that fosters a climate of respect for the free exchange of knowledge and ideas. The College of Arts and Architecture is also committed to maintaining a welcoming and inclusive climate for all.

Enrollment

2013-14 was the first year of the professional MARCH program at Penn State. In 2015-16, the program reached its intended maximum cohort and enrollment, at least, as it was conceived. In 2014-15, we added the PhD cohort, with 6 new students, and in 2015-16 and 2016-17 we have added 6 new students to that program each year.

Total graduate student enrollment 2013-14 through 2015-16:

Type of Students	2013-14	2014-15	2015-16	Three-Year Enrollment Ave./%
Full-time students	24	42	62	42
Female students	12	24	36	24/57%
American Indian/Alaskan Native	0	0	0	0/0%
Asian/Pacific Islander	0	0	0	0/0%
Latino/Hispanic/Puerto Rican	0	2	4	2/5%
White	4	10	37	17/40%
African American	0	1	1	1/2%
Declined to report	20	29	20	23/55%
Total minority students	0	3	5	5/12%

Institutional-level policies
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> The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. It is the policy of the University to maintain an academic and work environment free of discrimination, including harassment. The Pennsylvania State University prohibits discrimination and harassment against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, gender identity or veteran status. Discrimination or harassment against faculty, staff, or students will not be tolerated at The Pennsylvania State University.

Provisions for Students with Disabilities
Penn State University is committed to providing a welcoming, encouraging, and empowering environment for students with disabilities to ensure equal access, full participation and reasonable accommodations for their academic pursuits. The Office for Disability Services (ODS) is responsible for coordinating support services, arranging judicious academic accommodations, and promoting disability awareness in the university community. The ODS team is committed and ready to assist students with disabilities to reach their academic goals.

EEO/AA Policies and Procedures
The following excerpts describe Penn State's policies and procedures relative to Equal Employment Opportunity and Affirmative Action (EEO/AA) for faculty, staff, and students:

The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. It is the policy of the University to maintain an academic and work environment free of discrimination, including harassment. The Pennsylvania State University prohibits discrimination, harassment against any person because of age, ancestry, color, disability or handicap, genetic information, national origin, race, religious creed, sex, sexual orientation, gender identity or veteran status and retaliation due to the reporting of discrimination or harassment. Discrimination, harassment, or retaliation against faculty, staff or students will not be tolerated at The Pennsylvania State University (AD42).

It is the policy of The Pennsylvania State University to provide equal opportunity in all terms and conditions of employment, for all persons, as described in the University's Affirmative Action Plan and HR01. The intent of this policy is to prohibit discrimination (including sexual harassment) and to promote the full realization of equal employment opportunity through a continuing affirmative program in each

administrative unit outlined in the Plan. This policy of equal opportunity applies to, and must be an integral part of, every aspect of personnel policy and practice in the employment, development, advancement, and treatment of employees and applicants for employment at the University.

Penn State's Office of Affirmative Action has developed Guidelines for a Diverse Workforce to assist deans, department heads, and search committees members in conducting affirmative searches that are consistent with the University's commitment to Affirmative Action and Equal Employment Opportunity and with applicable laws and regulations. More information is readily available in the Fair Employment Practices and Staff Employee Handbook.

Other Initiatives for Diversity

Consistent with Penn State's emphasis on diversity, which the University website refers to as the Framework, or our "roadmap for achieving our diversity goals," the Department, Stuckeman School, and the College of Arts and Architecture are committed to equality and diversity in all aspects of their operations. The Framework is a parallel strategic plan that addresses diversity issues outside the University, College, and academic unit level strategic plans. The University policy clearly stresses the importance of colleges and departments developing their own diversity plans: "Although diversity planning will continue to occur in a parallel planning process, units should take advantage of the opportunity to incorporate related elements of their goals and commitments regarding diversity into the larger context of the unit's future vision and strategies."

Among the four goals of the College of Arts and Architecture Strategic Plan, Goal II states: Prepare students to thrive in a global and diverse environment. The strategies identified to accomplish this goal include the need to create a climate that encourages learning from diverse perspectives, using data available through University resources and engaging college/school diversity committees to develop specific goals and measures.

The Stuckeman School Strategic Plan explicitly states that by collaborating with an increasingly diverse range of professionals, communities, and individuals, we aspire to become global citizens participating in the discovery and making of responsible living environments. We are creative and innovative scholars and stewards, with a vision expanding beyond landscapes and buildings.

The Department Strategic Plan not only incorporates the diversity goals and strategies of the University, College, and School plans, but also includes additional ones consistent with the nature and peculiarities of contemporary architectural education. Goal five of the Department Strategic Plan specifically addresses diversity: "Increase educational opportunities that expose students to diverse cultural conditions." The Department is committed to providing students with opportunities to study in a variety of diverse cultural and physical contexts: urban and rural, domestic and international. Diversity begins at home, and the Department is committed to providing an academic environment that reflects the diversity of American culture. Study abroad provides students the opportunity to learn about and respect, through direct experience and immersion, diverse cultures, and understand the fundamental truism that architecture is, and always has been, a critical and inextricable component of society and culture. Study abroad confirms for students the validity of experiencing and understanding precedents and primary sources from historical as well as contemporary perspectives. However, study abroad locations should include not only places of historical significance, or where esteemed examples of contemporary design can be found, but also underdeveloped and developing regions of the globe. The plan identifies the following strategies to accomplish these diversity goals:

- Assure a diverse student body, faculty, and staff.
- Continue recruitment, yield enhancement, and fundraising for need-based scholarships to maintain gains in the enrollment of underrepresented groups (particularly African-American students) in the Architecture student body. Develop target numbers based on specified criteria.
- Recruit faculty and staff from underrepresented groups to diversify faculty and staff populations.

- Use the summer camp for high-school students as a recruiting tool for underrepresented minorities; continue and increase need-based scholarships for the program.
- Aggressively recruit underrepresented minority students through outreach.
- Analyze retention trends and graduation rates of underrepresented minority students in the program and develop a plan to increase retention/graduation if analysis shows this to be an area of concern.
- Mirror the minority population percentages within the Commonwealth of PA and adjoining states.
- Support a student chapter of the National Organization of Minority Architects (NOMA) to create a welcoming environment and contribute to the retention of minority students by facilitating social interactions between students and faculty.
- Support "Freedom by Design" [the AIAS community service program that utilizes the talents of architecture students to radically impact the lives of people in their community through modest design and construction solutions]. Offer credits for participation to encourage more student involvement, for example through a summer design-build course.

I.1.4 Defining Perspectives

The following section describes how the program is responsive to the following perspectives:

A. Collaboration and Leadership
B. Design
C. Professional Opportunity
D. Stewardship of the Environment
E. Community and Social Responsibility

A. Collaboration and Leadership

The dual mission of assuring a general education and providing strong disciplinary focus remains at the heart of Penn State's distinctive contribution and commitment as a Land-Grant Institution. The University continues to guard against a proliferation of requirements for various specific courses and, where possible, tries to accommodate student flow between programs. This enables students to make reasonable changes in career and disciplinary goals without losing credit for work already completed.

Faculty are expected to meet all requirements of the scholarship of teaching and learning, the scholarship of research and creative accomplishments, and the scholarship of service to the university, society, and the profession. University resources and physical facilities are compatible with an institution of this size and quality. The College of Arts and Architecture is the academic entity within which the department operates. The various academic units within the college are all in close physical proximity, thereby encouraging collaboration and interdisciplinary interaction. Together, the buildings and outdoor spaces form the Arts sub-campus, studio facilities in sculpture, painting, printmaking, photography, and other visual and performing art studios including theater production are within a two-minute walk of our building. Related departments of Art History, the Visual Arts, and Music are also clustered in this area, and provide classroom instruction, printing, visual, and audio resources, once again emphasizing collaboration.

The Architecture Department continues to maintain strong ties with the Department of Architectural Engineering through collaborative programs, interdisciplinary faculty research, such as the IEL, and other cooperative endeavors. Currently, the Department of Architectural Engineering provides architecture students with required coursework in structural and mechanical systems, while the architecture department reciprocates with architectural design courses for engineering majors. The Architecture Department also offers an Architectural Studies Minor for non-professional degree students seeking an architecturally related career.

Faculty and students within the Department are regularly involved with and contribute to the selection process by which architecture firms are chosen for new construction and renovation projects in the Penn State University system. We believe this participation has contributed to a higher standard of architectural quality of campus facilities, and has projected students into potential leadership possibilities. Respected architects and firms such as Rafael Vinoly, Robert Stern, Bohlen Cywinski Jackson, the Polshek Partnership, Overland Partners, and Payette Associates have all designed recent campus projects. Many members of the faculty also practice architecture locally, nationally, and internationally. Many of our students belong to and take leadership in student organizations, some national, such as AIAS, and NOMAS, and others invented here, such as SEED (Students for Environmentally Enlightened Design). One of our AIAS leaders has served as Forum president, and will be serving as the national AIAS president in 2015-16.

The Department encourages faculty and student participation in national and international conferences to present their creative work and productive scholarship. Many faculty members have presented at ACSA regional and national conferences in the last few years. Some faculty and students have been recognized by ACSA for their teaching and creative achievement (see section “1.3.3 Faculty Credentials” for details) in the past. In addition, many of our graduate students present at national and international conferences, and have also taken leadership in organizing student-led conferences here.

Faculty members consistently engage in high-level research in the Department and many have been successful in securing prestigious external grants as Principal Investigators. Professor Darla Lindberg completed a $450,000 National Science Foundation (NSF) grant with three Co-Principal Investigators in the capacity of a Senior Researcher in 2008. As part of this grant, she was the Co-Founder of the Huck Institute of Life Sciences with Professor Peter Hudson. In 2009, she received as Principal Investigator a major grant of $396,857 from the National Institute of Health (NIH), which was completed in 2012. Professor Lindberg’s grants have highlighted critical issues of health and place, contributing to a greater recognition of what architecture can potentially contribute to the sciences. In 2010, Peter Aeschbacher, associate professor of landscape architecture and architecture, and Marcus Shaffer, assistant professor of architecture secured a $251,670 grant from the Doris Duke Charitable Foundation for a two-year action-research project that employed design as means of reinvigorating public space. Students and faculty from architecture, landscape architecture, dance, and engineering collaborated and presented original performances in public spaces on campus. In 2009, Christine Gorby was awarded a Graham Foundation grant for her proposal titled Deviant Decoration: The Architectural Interior, which comprised a series of three public symposiums and related exhibitions. In 2008, Professor Haider, with Peter Aeschbacher and Mallika Bose as Co-PIs, received a major grant of $235,00 from the Pottstown Area Health and Wellness Foundation for an interdisciplinary study that focused on encouraging active living through design and planning strategies for the Parks and Recreation System in the region. Some faculty members have also secured significant internal grants. Professors Muramoto and Willis are involved in the Penn State-led Energy Efficient Buildings (EEB) grant from the Department Of Energy that is funding the development of the Energy Innovation Hub at the Philadelphia Navy Yard.

All of these efforts collectively point to an environment that encourages collaboration among architecture students, and with other University students, while supporting leadership roles for our students.

B. Design

Due to the high demand for admittance into the Department of Architecture, we are lucky to have many exceptional students. The unique nature of architectural studio education creates an environment where the students are intimately involved in the day-to-day activities of the program. Their constant presence in the building naturally invites them to be active participants in shaping all aspects of our curriculum, both explicit and implicit. By definition, the "design critique/jury" involves the students individually and collectively in the crafting of their education. In fact, the faculty regularly invites upper level students to serve as guest jurors for lower year courses. This intermixing of students from various year levels contributes to an integrated and cohesive student body. Additionally, the open studio design of the Stuckeman Building promotes student interaction and mutual awareness, not only within the Architecture student body, but also between Architecture and Landscape Architecture majors. We believe this empowerment of students adds a unique dimension to architectural education and encourages students to share and debate ideas to hone their critical thinking skills.

The Department of Architecture has a long sustained history of design-centered education, and the design studio is the center-piece of that education. We pride ourselves in our design studio curriculum and its delivery in the studio environment. It may seem commonplace to say that the discipline of architecture is, in itself, multi-disciplinary. It is indeed this very commonplace statement that continues to introduce complexities in the way that we teach and practice architecture. The fundamental issue is that architecture is a synthetic discipline that requires knowledge and expertise in composition (arts), history and theory (humanities), structural, environmental and mechanical systems (engineering), material properties (material sciences), land use and policy (law), computation (computing), human factors, infused with our professional responsibility to protect the public's health safety and welfare. The students and architects, alike, are constantly asked to integrate and synthesize information from many different fields of study. The education of architecture in our curriculum is therefore a circulation between the disciplinary logic of each of the subjects and the inherent tectonic and synthetic model of learning of architects, added to the professional concerns of practice. The teaching of the core intellectual domains of each subject to architecture students is central to the pedagogic mission of any architecture program and critical to the survival of the profession. Yet this mission must be tempered by a shift towards the synthetic and the professional.

The curriculum of the Professional Master of Architecture Graduate program is organized to reflect this dual nature, this two-handed learning: the hand that must learn the core disciplinary practices of every field that influences architecture and the hand that must synthesize as an architect. To that end, our program circulates curricular content horizontally, among courses within each semester, as well as vertically, from semester to semester and year to year. The curriculum of each year is then composed of design studios, lectures, seminars, and workshops that examine the topic of the year through multiple lenses.

Woven throughout our curriculum are concerns about sustainable practices, urban, community, collaborative and social conditions, and the development of a humanitarian perspective. We train our students to be the ambassadors of excellence in the design of the built environment and the stewards of the natural environment. Design is the centerpiece of our curriculum.

In addition to the curriculum, we approach design in many other places in our students' lives. The active interaction between students at different year levels is enhanced by many annual "traditions" we maintain within the curriculum. These rituals include our various charrettes and competitions such as the Corbelletti Charrette, The Stewardson Competition, and the Kossman Review. At the conclusion of these competitions, the student designs are always exhibited, and there are generally public presentations to present the winners and discuss the projects. These traditions not only highlight the complex nature of design, but also highlight multiplicity and the diversity of approaches.

The students also engage in more light-hearted traditions that contribute to the social environment of the department such as the Annual Architectural Costume Parade, and Pumpkin Carving Competition. These

serve as social celebrations in the manner of traditional Beaux-Arts Balls. Students are vital participants in the planning and administration of all of these events and activities.

The Department is committed to providing extracurricular events that expose students to a wide range of diverse ideas and work from professional practice and allied design disciplines. Our lecture series is lively with an influx of new funding from the Stuckeman Endowment. The Architecture lecture series is coordinated with the Departments of Landscape Architecture and Graphic Design lecture series, and includes a number of jointly funded lectures. In addition, University organizations, such as the Institute for Arts and Humanities, sponsor visiting lectures of interest to architects.

Five independent student organizations provide the means and opportunity for students to be actively involved and assume leadership roles in the life of the department, the university and the community: the Penn State chapter of AIAS, a chapter of *Alpha Rho Chi*, an *Architecture Student Interest House*, the National Organization of Minority Architecture Students (NOMAS) and Students for Environmentally Enlightened Design (SEED). These groups are instrumental in helping and, at times, leading major events, activities, and programs. Additionally, the PSU DIGITAL BEEHIVE workshops are student-organized events to teach peers in the Stuckeman School state-of-the-art computer programs. All of these organizations hold the advancement of “design” as their primary objective.

The local chapter of Alpha Rho Chi and the AIAS participate in such campus-wide events as homecoming preparations, Dance Marathon, and other social and charitable activities, in addition to academic events, such as portfolio workshops and lectures. The AIAS maintains ties to the Middle Pennsylvania Chapter of AIA, which usually supports participation of our AIAS officers in the AIAS national meetings. AIAS activities have expanded considerably in the past few years and the Penn State chapter membership has increased by 37 percent with the introduction of the new mentoring program comprising 120 students. In 2012, Penn State Architecture student Danielle Mitchell was honored for her leadership of Penn State’s chapter of the AIAS. Mitchell, who began her second term as president of the Penn State chapter of AIAS, was named the August AIAS Chapter Leader of the Month. Two years ago, students organized an AIAS Quad Conference, “From Bytes to Built." More than 275 students attended this conference from the northeast region, including sixty Stuckeman School students. Danielle Mitchell has gone on to serve as the national president of AIAS in 2015-16.

Lastly, the Department collaborates with the Department of Landscape Architecture to offer a summer camp for high-school students every year. Faculty, alumni and students contribute to the camp, which introduces students to the broad spectrum of issues related to design, as well as the creative and interdisciplinary nature of the two design disciplines. Although this does not directly play into the MARCH curriculum, it describes one of the many way that the Department is committed to design.

C. Professional Opportunity

The professional architecture programs at Penn State are structured to prepare graduates with the theoretical background and practical skills necessary to become licensed professionals. Courses in the program are designed to develop an understanding of the following: historical forces that shape the built environment, building and site design sensibilities, specific methods for addressing design criteria, environmental issues, life-safety, building materials and construction methods, structural concepts, construction standards and regulations, and the ethical responsibilities of a professional architect.

Incoming students are given an architecture school information packet, which includes a copy of the ACSA Guide to Architecture Schools that provides an overview of architectural education, degree options, and the path to licensure including the Internship Development Program (IDP) and the Architectural Registration Examination (ARE). Additionally a “Paths to Architecture Licensure in the USA” handout is provided as part of this information package. Information related to establishing an IDP Record is posted on the Architecture Department website which is available to prospective and current students.

Early each Fall Semester an IDP/ARE information session is held for all architecture students. Presented by either a representative of NCARB or the Pennsylvania IDP State Architect Licensing Advisor in conjunction with the School IDP Architect Licensing Advisor, this ninety-minute session includes Q & A. Sean Sheffler, the current State of Pennsylvania IDP Architect Licensing Advisor participated in the Fall 2012 presentation. At this session information related to NCARB IDP / ARE and State specific licensure information was provided. Student resources such as the State and School Architect Licensing Advisor are also identified to the students. The School Architect Licensing Advisor also sends emails to all architecture students at least one time per semester encouraging students to establish NCARB Records, reminding students of the need to establish a Date of Eligibility as well as providing links for detailed NCARB IDP / ARE information. All NCARB Date of Eligibility Forms received from students are signed, recorded and forwarded to NCARB by the Department office. The Architect Licensing Advisor also corresponds with students through email and meets with students and colleagues on an as needed basis. The School Architect Licensing Advisor has been coordinating our response to the current NCARB Accelerated Path to licensure RFP and met with the Pennsylvania State Architects Board regarding current jurisdiction contradictions with NCARB model law. Specifically, a rules change in the current Board regulations that limits access to the ARE for enrolled students and 1/3 reductions of IDP unit requirements, currently proposed but NCARB.

The current Professional Practice course for fifth-year students dedicates a substantial amount of coursework to the topic of professional responsibilities and the role of the architect in various professional, social, technical and ethical contexts. The course includes visits to professional offices in Washington, DC or New York City. Attention is given in the course to a detailed discussion of the IDP and ARE requirements and procedures as well requirements specific to the State of Pennsylvania—along with noting that IDP / ARE requirements can vary from state to state.

The role of the AIA, and all architecture collateral organizations, is discussed. Additionally a recent architecture program graduate working in an architectural office makes a class presentation on the IDP, preparing for the ARE, and transition from school to practice. Differences in non-United States architectural education, licensing and practice are also touched upon in the Professional Practice class.

In 2012, the position of Career Counselor/Advisor was established to advise students on possible career choices and to work with both firms and students to create positive internship and externship opportunities. Ross Weinreb currently fills this role.

Professor Nathaniel Belcher, AIA, NCARB, former NAAB Board member, serves as the School IDP Coordinator since Summer 2013. The previous Penn State School IDP Coordinator has attended the NCARB IDP Conference every year since 2008 and the new School IDP Coordinator will continue to do so.

Many architecture students participate in summer employment and internships. The Stuckeman School sponsors a spring Career Day for architecture students in collaboration with the departments of Landscape Architecture and Graphic Design. The Career Day activities are held over three days. The Career Day program kicks off with a Recent Graduate Panel Discussion, which includes presentations from six recent graduates (2-10 years out of school). Each participant provides an overview of their postgraduate experiences, as well as advice for the current students. Topics covered include IDP, ARE, job search strategies and the transition from school to practice. A diverse group of panelists is selected to provide a wide range of experiences from small to large office as well as alternative careers. The second day is a full day of presentations given by attending firms and two “Poster Sessions” where students have an opportunity to interact with the practitioners. Additionally there is a lunch with faculty and student leaders and an evening reception open to all. The third day is devoted to interviews that are held at the Penn State Bank of America Career Center, and the firms arrange student interviews. Forty six firms attended Career Day, and of those twenty conducted student interviews at the Spring 2016 Career Day.

The Department Head often attends meetings of the officers of the AIA and works with the Middle PA Chapter. We have coordinated lecture schedules, and have arranged for continuing education credits to be granted at most Department presentations. The Middle PA AIA Chapter typically sponsors one lecture per year. In addition, the head also consults on a regular basis with the Architecture Alumni Advisory Group comprising architectural practitioners and AIA members, as well as educators from other architecture schools. To facilitate professional dialog, architecture alumni are invited to join a reception for Penn State alumni at AIA's national convention. The reception was collaboration between the AIA-Pennsylvania and Pennsylvania schools of architecture, including Penn State, University of Pennsylvania, Carnegie Mellon and Temple.

In 2011, the School of Architecture and Landscape Architecture launched the Stuckeman Advisory, a group of professional advisers who visit the Stuckeman School, and engage with faculty and University leaders to provide important external assessment. Stuckeman Advisory, which comprises faculty, practitioners, and students from architecture, landscape architecture, planning, and Graphic Design, has become an additional resource for the architecture program. The intent of this Board is to broadly address the current state of the design professions and its implications for curricula in the Stuckeman School. The Advisory Board's last two years have been productive and meetings have focused on listening and learning about the Stuckeman School. The Board has made several important decisions pertaining to the recruitment of an experienced professional membership, establishment of the various administrative and management systems necessary to function as a high-performing team, and the formation of three tactical work groups.

The Department website posts job advertisements for all levels of professional employment free of charge, so that current students and alumni have access to this information. Architecture students have the opportunity to participate in a fall Career Fair that attracts over 70 A/E and E/A firms, which is organized by the Department of Architectural Engineering. The Department regularly brings in professional architects as guest lecturers and design jurors offering students direct contact with practitioners. The discussions that follow the formal presentations are often lively debates on a wide range of issues related to the practice of architecture.

D. Stewardship of the Environment

The Architecture Department is fully committed to environmental sustainability. The Department (in conjunction with the U.S. Green Building Council, Architectural Engineering, Landscape Architecture, et al.) helps teach a University course to train and qualify students as LEED-accredited professionals. The Stuckeman Family Building was the first building at Penn State to receive a LEED Gold rating. The Department is also fortunate to have one of the leaders of the green architecture movement—James Wines—on its faculty. Many Architecture faculty conduct research on issues related to the environment, and environmental concern is incorporated in the curriculum.

To facilitate and broaden the Department's efforts in sustainable architecture, several faculty members in the Stuckeman School established the Students for Environmentally Enlightened Design (SEED) as a multidisciplinary student organization recognized by the Penn State Office of Student Affairs. Supported by the Department and faculty, SEED promotes student-supported initiatives and work in environmentally conscious design. Completed in 2015, SEED's major project has been to design a shipping container library for refugee camps in Africa. SEED is working with the African Book Project, which has sent hundreds of thousands of books to Africa throughout the last decade. In addition, the Department supports a graduate research cluster in "Sustainability" at the MS and PhD levels. Faculty are organized in four research clusters "Culture, Society, Space", "Design Computing", "Material Matters", and "Sustainability." The Sustainability Cluster focuses on low-energy housing projects and involves students from both master's programs.

The program's emphasis on the design studio sequence, described above under "design", is intended to help students understand the critical role design plays in shaping the environment with all its complex

ramifications. The responsibilities and inherently collaborative nature of architectural design and practice are introduced to students in our studios. These are then reinforced throughout the studio sequence through group projects, interaction with real and hypothetical clients, and through regular guest lectures and topical presentations. The curriculum emphasizes intellectual and operational abilities that would enable students to assume future leadership positions in an increasingly changing, environmentally sensitive, culturally diverse, and globalizing world with a rapidly growing knowledge base. The existence of the School of Architecture and Landscape Architecture highlights our long-term commitment to collaborative practice and interdisciplinary learning that is committed to environmental stewardship.

Ethical issues and the professional conduct of the architect are covered in the Professional Practice course and the Theory sequence, which directly impact the students' understanding of environmental responsibility. The Professional Practice course includes full day visits to architectural firms by small groups of students for an in-depth discussion of practice related topics and issues outside the walls of academia. Additionally, many local AIA Chapter members are regularly invited and scheduled to make class presentations on relevant issues affecting professional practice, environmental stewardship, liability, ethical conduct, and code enforcement.

The Bowers Program provides seed money for interdisciplinary teaching, research, or creative projects. Through Bower-funded initiatives, Architecture students gain real opportunities to work closely with Architectural Engineering and Landscape Architecture students. Bowers funding has been utilized in the Solar Decathlon and most recently in the Interdisciplinary Collaborative Design Studio, both of which highlight our dedication to environmental stewardship.

E. Community and Social Responsibility

As a land-grant university, Penn State is under a mandate to serve the citizens of the Commonwealth. The University has an exemplary record of community outreach and service learning projects. The Hamer Center organizes many of these projects in which the Department participates, often along with faculty and students from Architectural Engineering and Landscape Architecture. Significant opportunities are offered to encourage students to contribute through service learning to their community, to the Commonwealth of Pennsylvania, and to the world at large. All of these together help students develop a sense of social responsibility.

At University Park, the large number of minority and foreign students exposes architecture students to a world of personal and cultural contacts. Specific organizations like the National Organization of Minority Architecture Students (NOMAS), Alpha Rho Chi, and other College and University level organizations are open to participation. The Department provides the option of a foreign study experience to its graduate students, which exposes Penn State students to students from other countries. Organized field trips are an integral part of these program and at least three extended field trips to a variety of sites or cities are included each semester. The first cohort of the professional MARCH program has participated in the Rome program, and in the Korea/Japan program. We believe the collective of these experiences provide students with sensitivity to diverse communities and one's social responsibility as a member of communities.

In the design studio the changing role of technology in the profession of architecture is addressed with problems that question traditional techniques of representation and construction by integrating social, cultural, and formal concerns. Our students participate in regional, national, and international design competitions that address public issues—often with very positive results. Digital fabrication and visualization techniques are incorporated to enable students to use technology in innovative and meaningful ways. We believe such connections are essential to encapsulate the complexity of contemporary design and the public domain. They do much to reinforce to students that architectural design and the technologies used to execute them have direct social and environmental impacts.

The Department's approach across the curriculum to assigning projects at local, regional and national locations contributes to a sense of civic responsiveness where students can understand how architects can potentially contribute to improving the environment and quality of life in many locations.

The Hamer Center for Community Design Assistance, a center within the School of Architecture and Landscape Architecture, has involved students, Center staff, and faculty in a variety of projects with direct links to local and surrounding community associations and businesses. For example the Energy Efficient Housing Research (EEHR) group, a design/build outreach arm of the Hamer Center, engages a multidisciplinary team of faculty, graduate and undergraduate students dedicated to the investigation of energy efficient, affordable and sustainable housing - from design & construction methods through performance optimization – in order to inform better housing solutions and more resource conscious living. EEHR has partners with local housing providers, to undertaken projects of local importance.

Several students each year, including those enrolled in the M.ARCH program, are engaged as research assistants with EEHR. This work has attracted the attention of a State College Borough affordable housing provider, the State College Community Land Trust (SCCLT). Undertaking their first new construction project, SCCLT engaged EEHR to assist with the realization of a demonstration net zero energy ready and environmentally sustainable model for affordable housing in the region. Three methods for engagement are planned for this cross-disciplinary, multi-faculty scholarship project over the next three years. These include:

Curriculum:

Multiple opportunities for integrating this project into existing undergraduate and graduate curricula and studio coursework are underway. The project aligns nicely with the focus of the graduate programs in the Stuckeman School and will likely be incorporated into the studio curriculum. In the Spring semester of 2015, Arch 497: Energy Efficient Housing, 18 students from architecture and engineering majors worked to design, detail and document designs for the new SCCLT duplex homes. Throughout the semester their decisions were verified through community design charrettes with board members of the SCCLT and local residents.

Student Design Competition:

A student design competition is an opportunity to foster engagement across disciplines and for national visibility. In the past a team student design competition proved very effective as a method for sharing ideas and initiating collaboration at the beginning of the Penn State 2007 Solar Decathlon effort. The DOE *Race to Zero* Student Design Competition, a sister (design-only) competition to the Solar Decathlon, was introduced last year and will be undertaken annually. Penn State's spring 2014 submission to the competition was very successful and awarded by the judges in several categories. In Spring 2015 the SCCLT project provided an actual site, program and client for the Penn State competition entry. Approximately 30 students, enrolled in the Arch 497 course and working on the competition on an extracurricular basis developed a 60-page submission booklet documenting the design, building science analysis, and full systems engineering documentation for the SCCLT homes. Additionally the students completed a detailed set of construction documents and a 400-page supplemental volume, including a sketchbook, documenting the decision-making process. This impressive package was submitted the DOE/National Renewable Energy Laboratory in March 2015 for judging. The competition team was lead by a first year M.Arch student, Kyle Macht.

Test Bed:

The SCCLT provides a test bed for research and collaboration where faculty, students and industry partners can "plug-in and play" with new ideas, test viable solutions, and apply innovations to a real-world project. Through the project we seek to marry competition and curriculum into collaboration and seek partnerships for engagement with communities of residents, developers and

building professionals. Moreover the project provides a model for affordable, sustainable housing that will benefit the local State College community and is appropriate for anticipated future projects.

Another recent project organized through the Energy Efficient Housing Research group (EEHR) and formalized under the *Sustainable Housing Initiative* included collaboration with partners from Penn State's Office of the Physical Plant (OPP) and Residential Life and Food Services (Res. Life) to investigate more sustainable and lower-energy design and construction of campus residence halls. Introduced in 2010, students enrolled in ARCH 412: Integrative Energy and Environmental Design have participated in an applied research and design project to promote strategies for both renovation of existing residence halls and the design and construction requirements for new residence halls at University Park and on Penn State Commonwealth campuses. Through a series of interactive and collaborative workshops, the students are provided an opportunity to lead facilitated discussions with industry partners including Penn State sustainability policy coordinators, primary decision-makers at OPP and Res. Life, and OPP construction managers. The students have seen elements of their final reports realized in actual construction projects and their recommendations are being considered for inclusion in upcoming RFPs for new residence hall projects. In Fall 2014, students in ARCH 412 and working on the aforementioned "Living Green" project served as consultants to undergraduate students in ARCH 441 providing them feedback on LEED/Sustainability possibilities for their studio design projects for a new residence hall on Penn State's Behrend (Erie) campus.

EEHR/Hamer Center engaged scholarship opportunities leverage community connections, inform educational and research initiatives, and provide students with hands-on activity and settings for interaction that promotes professional responsibility and conduct.

Similarly, one of the notable elements of the Design Thesis is that students frame their final work as an architectural contribution to an area of particular interest that invariably includes social, cultural and civic issues as an integral part of their design research. Examples of topics addressing community issues include the following from last year: intergenerational housing design strategies, architecture as an agent of activism in New Orleans, contributing to revitalizing small towns via architectural interventions, and understanding implications for an architectural intervention at the US-Mexico Border.

The involvement of our faculty in local community organizations such as the Redevelopment Authority (RDA), appointed by the Mayor of State College, and the Discovery Space of Central Pennsylvania—a hand-on children's science center—expose students to local civic and public issues. Professors Haider, Muramoto, and Shaffer have contributed significantly to interior and exhibit design of the Discovery Space. This faculty involvement is further enhanced by substantial faculty research grants from external agencies that address community and public concerns, such as sustainability, public space, active living and the built environment, and health and place.

I.1.5 Long-Range Planning

Multi-year planning and data collection follow complex and extended processes at various levels that include the following:

- Strategic plans: assessment and implementation: The University has a 5-year strategic planning cycle. This, in turn, mandates the same at the College, School and Departmental levels. We have included, as appendices 4-6, the long-range strategic plans for the college, the school, and the department. In addition to the formal reporting of activity to the administration, we report annually to our alumni and donors through the Stuckeman Annual. As well, we report to the Stuckeman School Advisory Board. The accomplishments of the strategic plans are highlighted in these reports.
- Advisory boards

- Alumni survey
- Activities and policy reviews of Centers (Hamer and Stuckeman)
- Stuckeman School's role in future planning
- Means of faculty input (committees, faculty meetings, retreats, etc.)
- Faculty expertise, development, and expectations
- Student input and survey
- NAAB annual reports, VTR, and APR

Many of these are discussed in more detail in the next Self-Assessment section. This section focuses on long-term planning processes at Penn State and the Department's participation is based on its mission and culture, the mission and culture of the institution, and the five perspectives.

Higher education across the nation is facing many challenges and Penn State is no exception. Nearly every aspect of higher education is being impacted as we face global, national, and state economic recession. Penn State has relied on ongoing, University-wide, participative strategic planning for twenty-five years. This process can continue to help us establish priorities, make choices, and enhance excellence in the midst of changes that are bringing both increased challenges and greater opportunities.

Looking forward at both challenges and opportunities, Penn State has highlighted critical issues in its current strategic plan ,"Our Commitment to Impact": The Penn State Strategic Plan for 2016 to 2020, in six foundations:

1. Enabling Access to Education
2. Engaging Our Students
3. Fostering and Embracing a Diverse World
4. Enhancing Global Engagement
5. Driving Economic Development
6. Ensuring a Sustainable Future

With five thematic priorities:
1 Transforming Education
2 Enhancing Health
3 Stewarding Our Planet's Resources
4 Advancing the Arts and Humanities
5 Driving Digital Innovation

The central administration mandates that every budget unit create and submit a strategic plan. The University has a five-year strategic planning cycle with annual updates and mandates the same at the College, School and Department levels. The College Strategic Plan identifies goals generally based on the theme of prioritization for excellence as articulated by the University:

Aspirational Goal: Making the Arts and Design Central at Penn State
Supporting Goal 1: *Create Transformative Experiences for Students*
Supporting Goal 2: *Engage Communities Through Research, Curricula, and Arts Presentation*
Supporting Goal 3: *Lead in Technology in the Arts and Design Disciplines*
Supporting Goal 4: *Maximize the Visibility of the Arts and Design at Penn State and Beyond*

The H. Campbell & Eleanor R. Stuckeman School of Architecture and Landscape Architecture 2016-2020 Strategic Plan enumerates the following goals:

- Develop a School Governance structure
- Increase the gender, ethnic, racial, economic and cultural diversity of the school
- Identify curricular/programmatic opportunities for collaboration/connections between Architecture and Landscape Architecture

- Identify additional opportunities to build collaboration/connections between Architecture and Landscape Architecture
- Strengthen our significance and reputation in design-related scholarship
- Strengthen our significance and reputation in design-related role of technology
- Inclusiveness [Provide open, ongoing, collaborative processes to increase spatial collaboration]
- Openness [Identify and reduce barriers to spatial collaboration]
- Flexibility [Create flexibility in collaborative spaces to use the building as efficiently as possible]
- Provide high quality and efficient staff support for both units and SALA
- Secure resources to support SALA programs

The Strategic Plan developed by the Architecture Department not only incorporates many of the goals of the institutional plans, but also identifies some new ones that respond to the nature and state of architectural education today:

- Produce substantive design scholarship through research and creative accomplishment.
- Build on our excellent, student-centered program.
- Strengthen graduate education.
- Enhance visibility, ranking and reputation through targeted marketing.
- Analyze, assess and reformat Stuckeman Family Building to promote flexible, open and shared equitable use of the facility to promote increased instructional flexibility/efficiency, intensified research focus for faculty, community interaction and curricular nimbleness.

ACTION PLANS

STUCKEMAN SCHOOL OF ARCHITECTURE AND LANDSCAPE ARCHITECTURE STRATEGIC PLAN

Mission Statement: The mission of the H. Campbell and Eleanor R. Stuckeman School of Architecture and Landscape Architecture is:

- To educate future architects and landscape architects
- To lead research and thinking about the future of the design professions
- To contribute to the intellectual life and outreach of the university
- To promote the sustainability and improvement of the quality of life in the build and natural environment

Vision Statement: The H. Campbell and Eleanor Stuckeman School of Architecture and Landscape Architecture, building on the excellence of our undergraduate professional programs, recognizes the DESIGN is a signifier for the great variety of means and methods with which we respond to the world and improve people's living environments. In additions to disciplined culture that is strong in the traditional visual, tactile, and technological skill sets, the new Stuckeman School community will flourish from an immersive exposure to:

- **A collaborative learning system** that recognizes and rewards effort in devising more holistic solutions through linked studios, double majors, collaborative minors, multidiscipline grad programs, immersive public scholarship, and increasing joint initiatives.

- **World engagement** that more effectively integrates our students, our service, and our scholarship within the global community. This must expand beyond traditional programs and emphasize the challenges beyond comfortable borders (the West) through increased travel programs and alternative studio sites, connecting to international research communities and external funding, addressing universal problems, achieving international excellence, and pursuing intra and inter-institutional dissemination/sponsorship of experiences.

- **People, programs, facilities and technologies** that reflect a diversity of cultures, disciplines, perspectives and methodologies. An enriched Stuckeman School environment invests in increased cultural and ethnic diversity in our scholarly community. We are rededicated to knowledge producing scholarship at the doctoral, masters, and undergraduate levels. This vital environment must always be supported and renewed by ample collaborative, skilled, experimental and social spaces.

The Stuckeman School will seek to transcend institutional barriers, capitalizing on Penn State's Strength in multiplicity, in order to engage the world.

2014 DEPARTMENT OF ARCHITECTURE STRATEGIC PLAN (Included in Section 4, Supplemental Info)

Vision Statement
The Department of Architecture at Penn State has a very successful undergraduate BARCH program with significant international reputation and a long history. Our aim is to elevate the success of the undergraduate program and to focus on and boost graduate education. We have already come together and established four faculty research clusters, a new professional MARCH program, and a PhD. The faculty research clusters will serve as the foundation of our graduate research offerings. In order to ensure our continued success, and our ability to offer multiple programs, we will find curricular alignments among our programs and with Landscape Architecture and Architectural Engineering, among other disciplines.

During the next five years, we will align the upper years of our undergraduate program with the final year of our professional MARCH program, the first year of our post-professional MS program, and the course-work in our PhD program. This alignment will ensure our ability to offer these programs by efficiently allocating faculty resources. In addition, it will provide a streamlined path for excelling current students to continue from one program to the next. For example, our BARCH, to our IUG MS in ARCH to our PhD in 10 years; or, our Pro MARCH to our PhD in 8 years; or, our post-pro MS to our PhD in 5 years.

As a part of this initiative, we need to harness the resources, the energy, and the infrastructure of Stuckeman endowments and the Hamer Center. In that light, the alignment of our foci and aims with the SCDC endowment, the CDR endowment, Hamer Center, and the Stuckeman Professorships is imperative. It is instrumental that the infrastructure of SCDC, CDR, and HC be motivated by our research and our research clusters. These resources and the mandate they bring to the table are unique and should be utilized to support our research endeavors.

A thriving dissemination record will also support a thriving graduate education. The world must be aware of what we are doing. We are already well on our way, and need to maintain the productivity and the dissemination record.

Lastly, we need to utilize everything at our disposal to have as many multi-legged, multi-functional departmental/school activities as possible. Everything must count as many things. We must strive to make each event have curricular components for the students, dissemination components for the faculty, promotional components for the School, and outreach components for the University.

Our facilities must also help energize and accommodate our work. We need to transform our facilities to better serve our educational, research, dissemination, and public events aims.

Architecture Program Mission
The mission of the architecture program is to serve as a leading national and international studio-centered program in the art and science of architecture that is responsive to the most important social, environmental, technological, and cultural challenges of the twenty-first century, and to achieve

excellence in teaching, research, design, outreach, advising, and service to society. In support of this mission, our aim is to:

- Educate undergraduate and graduate students in the discipline of architecture and to prepare them for a life of creative engagement and personal fulfillment in the practice of architecture and related fields.
- Encourage the production of exemplary works of architectural design, theory, critical analysis, and research in a studio-centered learning environment.
- Increase the cultural, religious, ethnic, and gender diversity in the student body, the faculty and in the curricular subject matter.
- Provide an educational environment that encourages the cross-fertilization of knowledge from all of the arts and sciences, where students and teachers are motivated to participate in the most urgent contemporary social, cultural, and environmental issues.
- Educate in the areas of ethical behavior, critical thinking, life-long learning, and service to society.
- Develop a teaching/learning environment that encourages collaboration and teamwork, as well as individual research and creative activity.
- Serve the regional area, the Commonwealth of Pennsylvania, the nation, and the international community by increasing public awareness of architecture.

Institutional Long-Range Planning and The Five Perspectives

The long-range planning of the Department of Architecture is consistent with the University, College and Stuckeman Strategic Plans. The goals and strategies identified in these plans and their relationship to the five perspectives are briefly discussed below:

Collaboration and Leadership: *The program must describe its culture for successful individual and team dynamics, collaborative experiences and opportunities for leadership roles*.

The Stuckeman School of Architecture and Landscape Architecture at Penn State was founded on the principle of collaboration and leadership. Collaboration, in that it brought together two independent departments under one roof with a common mission of design excellence, and leadership, in that it set a goal of national prominence for us. Our Strategic Plan, in turn, recognizes the value and the strength of collaborative research and the associated enhanced visibility. With a focus on graduate education, we are highlighting collaboration among faculty and students through the invention of our four research clusters in “Culture, Society, Space”, “Design Computing”, “Material Matters”, and “Sustainability”. Through these research clusters, we are able to have faculty and students collaborating and working in teams to produce design scholarship and publications. We are already seeing significant accomplishments in this arena.

In addition, faculty and students use existing opportunities for critical exchange and collaboration between related disciplines in the University. The Stuckeman School Strategic Plan embodies the importance of scholarship in order to strengthen our significance and reputation in design-related scholarship and in design-related role of technology. The Department in its Strategic Plan has stressed the need to acknowledge the complexities of contemporary architecture, the University, and Society, and to enhance the quality of the program through faculty pursuits in research and creative achievements. Strategies toward reprioritizing research, creative, and professional activity in the department, include: decreasing demands on faculty time for departmental service assignments, realigning teaching obligations in order to better accommodate faculty interests in the studio and classroom, increasing support and incentives for faculty who seek external research funding. Our graduate programs will cultivate new synergies in educational and research endeavors within the University, and will further enhance our ability to advocate design education as a powerful paradigm for synthesizing knowledge in teaching, research, scholarship and outreach. The underlying spirit of long-range planning is to support liberal education through architecture and continue to explore new and innovative models for professional

and post-professional education at Penn State. In this context, two student organized national conferences in, “The Nature of Spatial Practices” by graduate students and the Quad Conference “From Bytes to Built," by the AIAS are extremely encouraging.

Design**:** *The program must describe its approach to developing graduates with an understanding of design as a multidimensional process involving problem resolution and the discovery of new opportunities that will create value***.**

Acquiring design skills in a changing context requires critical thinking skills, and instilling the desire for lifelong learning demands strategies to prepare students to thrive in a global and diverse environment. The Stuckeman School Strategic plan states “collaborating with an increasingly diverse range of professionals, communities, and individuals, we (students, alumni, staff, and faculty) aspire to become global citizens participating in the discovery and making of responsible living environments.” The plan envisages design engagement that more effectively integrates our students, our service, and our scholarship within the global community. This must expand beyond traditional programs and emphasize the challenges beyond comfortable borders through increased travel programs and alternative studio sites, connecting to international research communities and external funding, addressing universal problems, achieving international excellence, and pursuing intra- and inter-institutional dissemination and sponsorship of experiences. In this context all five of our Strategic initiatives feed directly into “Design” as a complex and multi-dimensional process that is about a particular type of problem-solving, one that is invested in ideas and concepts that add value to our daily lives within a democratic and civil society.

Professional Opportunity**:** *The program must describe its approach for educating students on the breadth of professional opportunities and career paths, including the transition to internship and licensure.*

The architecture program at Penn State is structured to prepare students with the theoretical background, professional, and practical skills necessary to become licensed architects in an increasingly changing world. There is one University goal that directly supports this perspective: “Realize Penn State’s Potential as a Global University”. The Stuckeman School and Department strategic plans offer specific approaches and information on this perspective. The University affords all necessary support to the Department in complying with IDP and NCARB requirements. The Department, in turn, provides wide-ranging annual reviews of accreditation status and compliance with all conditions and procedures. The Stuckeman School strategic plan stresses the vital need to advance a vision that addresses increasingly complex problems in a global world, and consistent with the AIA, NCARB, and other professional regulatory architectural organizations in general. The Department plan calls for recognizing the necessity to enhance students’ readiness to contribute to a global marketplace of ideas and innovation through vigorous pursuit of international professional partnerships, faculty exchanges, and study abroad. The Stuckeman School Strategic Plan dwells on the imperative need to identify additional opportunities to build collaboration or connections between Architecture, Landscape Architecture, and other allied disciplines. This perspective is particularly useful in incorporating the professional community into the long-range planning process. Departmental Strategic Plan goals and initiatives in this area are multifaceted and include developing alumni relations, close interaction with the professional advisory boards, and lectures on critical architectural practice vis-à-vis diverse communities and the role of design in shaping the built environment in this context. To this end, the Stuckeman Endowment has an implied mandate to work closely with professional bodies such as the AIA and ASLA. The Stuckeman School Career Day provides a useful forum to faculty and students for interaction with the profession. The Stuckeman School Professional Advisory Board, which comprises faculty, practitioners, and students from architecture, landscape architecture, planning, and Graphic Design, has become an additional resource for the architecture program.

Stewardship of the Environment**:** *The program must describe its approach to developing graduates who are prepared to both understand and take responsibility for stewardship of the environment and natural resources.*

One of the goals of the Stuckeman School Strategic Plan points directly to this matter: "To promote the sustainability and improvement of the quality of life in the built and natural environment". In addition, two of the Department's five points, "Strengthen Graduate Education", and "Produce substantive design scholarship through research and creative accomplishment" enhance the students' engagement in environmental stewardship. As a part of our graduate enhancement, we have devised one of our four research clusters to be "Sustainability." This research cluster influences the education of our students both directly through courses, and indirectly, through student involvement in the production of research. This year alone, we have had multiple co-authored papers in the sustainability cluster, multiple student and faculty presentations at national conferences, and a national placement (second prize) for our graduate students in the Department of Energy's "Race to Zero" residential design competition. In addition, as a part of our Strategic Plan that ended in 2014, we had a point that suggested including sustainability across the board in all of our classes. We accomplished this and therefore in the new Strategic Plan have included this under "Build on our excellent student-centered curriculum". This is significant, in that it includes environmental stewardship in every aspect of our lives, not limited to a class in sustainability. In effect, we are teaching environmental stewardship in our theory courses, in our programming sessions in studio, and in our courses in structural and environmental systems. In essence, making stewardship of the environment a foundational tenet of our program.

Community and Social Responsibility**:** *The program must describe its approach to developing graduates who are prepared to be active, engaged citizens able to understand what it means to be professional members of society and to act ethically on that understanding.*

The University's two goals, namely "Maintain Access, Affordability and Enhance Diversity" and "Serve the People of the Commonwealth and Beyond," relate closely to this perspective. The College Strategic Plan echoes this spirit by reiterating that one of its primary goals is to "Enrich the lives of the University and the region by celebrating and disseminating the arts through our commitment to outreach." The Stuckeman School Strategic Plan embodies the importance of identifying curricular or programmatic opportunities for collaboration and connections between Architecture, Landscape Architecture, and beyond the School and College. The intent is to strengthen our significance and reputation in design-related scholarship and in design-related role of technology. There is considerable emphasis on increasing the gender, ethnic, racial, economic and cultural diversity of the school**.** This must expand beyond traditional programs and highlight the challenges beyond comfortable borders through increased travel programs and alternative studio sites, connecting to international research communities and external funding, addressing universal problems, achieving international excellence, and pursuing intra- and inter-institutional dissemination and sponsorship of experiences. The Stuckeman School Hamer Center for Community Design Assistance has been an effective means of engaging architecture students in service learning opportunities. The Departmental plan stresses the need to increase educational opportunities that expose students to diverse cultural conditions. Another area that the plan underscores is promoting sustainability and stewardship of the built environment and the need to educate our students to become environmentally conscious designers, architects, and citizens.

I.1.6 Assessment

A. PROGRAM SELF-ASSESSMENT

PROGRESS TOWARD MISSION AND STATED OBJECTIVES

Our perception of the strengths and weaknesses of our program is directly influenced by the reactions of knowledgeable visitors. The comments and opinions of our guest jurors, guest speakers, visiting accrediting teams, alumni visitors, and others continually remind us of how we are perceived by "outsiders." One of the most common observations we hear is a positive reaction to our students' mastery of "the art and craft of making." A member of the 2005 accrediting team called it "an ethos of craft." Visiting parents and prospective students often remark on "how much stuff" our students make. Guest critics have remarked on the ability of our students to "put buildings together," and to understand the building as an artifact. The home page of our website describes this tradition as follows:

Our strong traditions of drawing, model-making, community outreach/service learning, and hands-on construction prepare our students to both explore non-traditional means of building delivery (such as design-build and digital fabrication) and to practice more conventionally, from behind a desk and a computer screen, armed with an intimate knowledge of materials and building processes. If we were to claim that there is one thing the Penn State Architecture Program does as well as any other program in the country, it would be this: the art and craft of making.

The Architecture faculty is deeply committed to providing architectural education that will enable our graduates to achieve leadership positions in the responsible design of the built environment. The faculty views the existing rigor in our design studios and the emphasis on the development of critical thinking abilities as an invaluable asset. The essence of the studio sequence can best be characterized by faculty's consistent endeavors to find answers to these seemingly simple questions: How can social, technological, and aesthetic issues be meaningfully integrated into design instruction? How can the limited studio time best be spent and toward what goals? How can studios be made to interrelate so that knowledge is passed from one year to another? The answers to these questions are complex and they demand a tremendous amount of flexibility, innovation, and experimentation in design education.

With the diversity of the faculty in the program, our studios endeavor to develop an approach that instills in students a sense of critical assessment of generative ideas. The intent is to encourage students to develop alternative designs and sharpen their judgment capabilities. The program has been very successful in developing a reflective design process in its students to prevent overly arbitrary design decisions. Members of our faculty believe the studio sequence works well, and there is good coordination between levels in terms of providing exposure to design issues. There is also a strong consistency in our emphasis on architectural drawing and representation as a mode of architectural thought and expression. Information technology is well integrated into the program. The faculty is devoted to teaching and works hard to consistently monitor and improve the quality of the program. Faculty members regularly involve students in their professional projects, research, or competition entries. Participation of more thoughtful practitioners as part-time studio instructors has added to the program's diversity and strengthened its connection to the profession.

Continuing challenges include the need to emphasize accessibility, the need for greater diversity in the Department, the on-going struggle to integrate design with technology, and the need to establish collaboration with other disciplines. Despite these challenges, which we view as minor obstacles, the faculty takes pride in the overall quality of the program. We believe we are educating students to become responsible and creative professionals in architecture.

PROGRESS AGAINST DEFINED MULTIYEAR OBJECTIVES

Self-assessment is a key element in any long-range planning endeavor. The Architecture Department has in the past few years conducted an analysis of the program's strengths and weaknesses via faculty and student

participation. This analysis is guiding, and will continue to guide, our Strategic Planning process. Self-assessment also informs curricular change and curriculum development, as well as the learning culture of a program. The groundwork for long-term planning has been established and the Curriculum Committee and Design Coordinators Committee will continue to work toward implementation.

The current economic uncertainties pose an enormous challenge to many institutions of higher learning including Penn State. In this context, program self-assessment and long-range planning take on added significance for professional architecture programs. Reduced funding and external pressures to cut back on essential elements of programs is a real threat and we need to be strategic about the way we utilize our existing resources.

The Architecture Department within the Stuckeman School is in a good position to weather this storm due to a large endowment of $20 million by a critical benefactor of the Department, Cal Stuckeman. The Stuckeman Endowment has promoted cooperation and joint efforts between the departments under the Stuckeman School of Architecture and Landscape Architecture. Recently, Graphic Design merged with the Stuckeman School as a separate program. In addition, with the Stuckeman Endowment fully vested, we are now able to hire 4 additional faculty members each year, through the Stuckeman Endowed Professorships (shared with the Department of Landscape Architecture). Some of these faculty members will be teaching required courses, and others will bring an enhanced educational experience through electives. The endowment also provides resources for enhancement in many areas through faculty grants.

Our current strategic plan highlights our interest in the graduate programs, which indirectly connects to added research and creative activity among our faculty. We are well on our way towards this goal. We have maintained the robust character of our post-professional Master of Architecture degree, while adding a PhD degree as the terminal degree for students interested in research. In addition, we added our professional Master of Architecture degree, which is currently in candidacy status. We have been able to have a robust cohort of students in this program for each of the two past years, and are looking forward to another great incoming group. We have been able to increase the number of applicants into this program from 36 to 49 to 83 to 97 this year, a major step forward. We have also, through added concentration on research and creative activity, been able to produce fifteen new books/book contracts in the past four years. This is a major milestone for our faculty accomplishments.

PROGRESS SINCE LAST VISIT

Our initial visit was for this program was for initial candidacy, and as such no SPC were reviewed. In Fall 2015, we had a visit for the continuation of candidacy. We tried to demonstrate in this visit our commitment to the SPC's and the fulfillment of the criteria. In addition, we displayed the full integration of the Master of Architecture program within our academic environment. Under conditions and SPC's not yet met, here were four items. Each item is listed below with a description of progress to date:

> II.4.5 ARE Pass Rates: The first cohort of this program has just graduated and will be able to sit for the ARE in three years, at which point, we will be able to provide the pass rates. It is important to highlight that our BARCH pass rates are available and document a very strong record.
>
> B.1. Pre-Design: This criterion is met in our first semester of the third year studio, as a part of a year-long comprehensive project. At the time of the visit in Fall 2015, the first cohort was just enrolled in this class and we did not have any student work towards this criterion. At this point, we do have documents of the student work from the third year studios, and will be able to demonstrate at the next visit.
>
> B.2. Accessibility: This criterion is met in our first semester of the second year studio. We have ensured that this material is documented more thoroughly in student projects.

B.7. Financial Consideration: This criterion is met in our first semester of the second year in Professional Practice. The faculty for this course has added to this content and also included it in the tests.

Causes of Concern: The lack of GIA (Grant in Aid) was mentioned, and we have been able to successfully deal with this issue. The provost's office has worked with us to arrange a revenue-sharing model that gives the department access to 75% of the tuition revenues generated by this program (Master of Architecture). This, in turn, has allowed us access to GIA's, and also to possible funding for a future potential enrollment growth.

STRENGTHS AND OPPORTUNITIES

Among our greatest strengths is the number of highly skilled and supportive faculty with talents in a variety of areas. Our students are uniquely committed to the program and are extremely active in the shaping of pedagogy, with a high level of participation in a variety of programs. Our building has permitted greater interdisciplinary collaboration with Landscape Architecture and a renewed connection to the activities throughout the Arts College. Our shop facilities, which we believe are among the best in the nation, enable our students to undertake challenging hands-on projects. Additionally, Penn State is fortunate to have a variety of fabrication facilities within other Departments at the University Park campus that are eager to collaborate with Architecture faculty and students.

We are actively engaged in the pursuit of technology, environment and sustainability, and collaborative practice and interdisciplinary activities are becoming a defining force for educational initiatives. The department is striving to be a leader in sustainability, digital technology, and collaborative efforts.

The Stuckeman Endowment, vested in 2012, will certainly provide us with the necessary financial support to be at the cutting edge of two areas in which we are already invested: design computing, and collaborative practice. In addition, the Endowment supports named professorships, which will bring us distinguished faculty and practitioners to enrich our students' learning experience.

ADDITIONAL STRENGTHS:

The quality of our students: Students entering the program have high levels of academic achievement.

*Student/alumni satisfaction***:** Our students believe the education they receive prepares them well for architectural practice.

*Teaching excellence***:** Members of the Architecture faculty have received College and University awards for teaching and advising excellence.

*Community engagement***:** Students in the M.Arch program have several opportunities – embedded in the curriculum and extracurricular – to participate in engaged scholarship. These engaged scholarship opportunities leverage community connections, inform ongoing educational and research initiatives, and provide students with hands-on activity and settings for interaction that promote professional responsibility and conduct. A couple of recent examples were formalized under the Sustainable Housing Initiative and organized through the Energy Efficient Housing Research group (EEHR), an outreach arm of the Hamer Center for Community Design.

These include a project in collaboration with partners from Penn State's Office of the Physical Plant (OPP) and Residential Life and Food Services (Res. Life) to investigate more sustainable and lower-energy design and construction of campus residence halls. Introduced in 2010, students enrolled in ARCH 412: Integrative Energy and Environmental Design have participated in an applied research and design project to promote strategies for both renovation of existing residence halls and the design and

construction requirements for new residence halls at University Park and on Penn State Commonwealth campuses. Through a series of interactive and collaborative workshops, the students are provided an opportunity to lead facilitated discussions with industry partners including Penn State sustainability policy coordinators, primary decision-makers at OPP and Res. Life, and OPP construction managers. The students have seen elements of their final reports realized in actual construction projects and their recommendations are being considered for inclusion in upcoming RFPs for new residence hall projects. In Fall 2014, students in ARCH 412 and working on the aforementioned “Living Green” project served as consultants to undergraduate students in ARCH 441 providing them feedback on LEED/Sustainability possibilities for their studio design projects for a new residence hall on Penn State’s Behrend (Erie) campus.

Students are also provided opportunity to participate in research on appropriate design, construction and performance verification methods for local affordable housing. Several students each year, including those enrolled in the M.ARCH program, are engaged as research assistants with EEHR. This work has attracted the attention of a State College Borough affordable housing provider, the State College Community Land Trust (SCCLT). Undertaking their first new construction project, SCCLT engaged EEHR to assist with the realization of a demonstration net zero energy ready and environmentally sustainable model for affordable housing in the region. Three methods for engagement are planned for this cross-disciplinary, multi-faculty scholarship project over the next three years:

Curriculum: Multiple opportunities for integrating this project into existing undergraduate and graduate curricula and studio coursework are underway. The project aligns nicely with the focus of the graduate programs in the Stuckeman School and will likely be incorporated into the studio curriculum. In the Spring semester of 2015, Arch 497: Energy Efficient Housing, 18 students from architecture and engineering majors worked to design, detail and document designs for the new SCCLT duplex homes. Throughout the semester their decisions were verified through community design charrettes with board members of the SCCLT and local residents.

Student Design Competition: A student design competition is an opportunity to foster engagement across disciplines and for national visibility. In the past a team student design competition proved very effective as a method for sharing ideas and initiating collaboration at the beginning of the Penn State 2007 Solar Decathlon effort. The DOE Race to Zero Student Design Competition, a sister (design-only) competition to the Solar Decathlon, was introduced last year and will be undertaken annually. Penn State’s spring 2014 submission to the competition was very successful and awarded by the judges in several categories. In Spring 2015 the SCCLT project provided an actual site, program and client for the Penn State competition entry. Approximately 30 students, enrolled in the Arch 497 course and working on the competition on an extracurricular basis developed a 60-page submission booklet documenting the design, building science analysis, and full systems engineering documentation for the SCCLT homes. Additionally the students completed a detailed set of construction documents and a 400-page supplemental volume, including a sketchbook, documented the decision-making process. This impressive package was submitted the DOE/National Renewable Energy Laboratory in March 2015 for judging. A first year M.Arch student, Kyle Macht, led the competition team.

Test Bed: The SCCLT provides a test bed for research and collaboration where faculty, students and industry partners can “plug-in and play” with new ideas, test viable solutions, and apply innovations to a real-world project. Through the project we seek to marry competition and curriculum into collaboration and seek partnerships for engagement with communities of residents, developers and building professionals. Moreover the project provides a model for affordable, sustainable housing the will benefit the local State College community and is appropriate for anticipated future projects.

*Technology***:** Computing is fully integrated into the studio; we are at the forefront of efforts to link advanced visualization to digital fabrication.

*Interdisciplinary efforts***:** often funded by the Bowers Program, the Hamer Center, and the Collaborative Design Research.

***Summer Program*:** At the end of the second year of their studies, having completed four design studios, and related technical and theoretical courses, we ask our graduate MARCH students to engage in a summer opportunity. They are provided three options to earn 6 credits in one of the three areas of: Study abroad, internship, or independent study. We provide multiple opportunities for study abroad to our students. This year, Summer 2016, the students are attending summer abroad in Korea, Japan, Rome. (In addition, they had other summer abroad opportunities in China, and Spain.) Others have elected to spend the summer as interns in architectural offices. Our Career advising office helps coordinate these efforts and also to assist faculty to provide oversight on the internships. This year, we have not had any students take on the independent study option, but we may in the future.

*Stuckeman Building***:** The building and its site demonstrate green design principles; its open spaces connect students in two majors at all studio levels and promote mutual awareness among students and faculty.

In our 2013 student survey (included in Section 4-Supplemental Information), most students expressed great satisfaction in regards to the facilities at the Stuckeman Family Building. Some wrote that the facilities were one of the main reasons they chose Penn State. The most positive comments concerned the building's openness and conduciveness to collaboration between studios, and the presence of technology throughout the building.

Our close proximity to and collaboration with the Department of Landscape Architecture—our partner in Stuckeman. Opportunities exist for more shared courses and more exchanges of expertise across the boundary between these disciplines.

CHALLENGES

Our rural location: separates us from cultural institutions and large professional organizations that help to reinforce and enrich architectural education in urban areas. We are addressing this in a number of ways: through our recommended summer abroad, through our constant search for educational opportunities beyond our campus, such as through the American Indian Housing Initiative, Rebuilding After Katrina project, and our site selections in the NE urban centers. Most recently, we have engaged Penn State's outreach program to get access to a studio space in Philadelphia and are working on a space in Pittsburgh. These two spaces will provide our students the much-needed urban experience.

Diversity: Much progress has been made, particularly in the hiring of female and minority tenure-track faculty, but more work remains. We continue to aggressively recruit minority applicants for all open faculty and staff positions. For the past several years we have been working closely with our College's Director of Multi-cultural Programs on strategies to increase the representation of minority students in the MARCH program. He regularly attends NOMA and NOMAS conferences, and this year was accompanied by one of our faculty and had a recruitment table at the National NOMAS meeting in Philadelphia.

Since we do not yet have a history of graduate student statistics, we will describe our commitment to diversity through our efforts with the undergraduate program. In 2004, the percentage of minority students in the program has increased as follows: 2004: 9.7%, 2005: 10.2%, 2006: 10.7%, 2007: 12.3%, 2008: 16.8%, 2009: 15.9%, 2010: 14.5%, 2011: 15.3%, compared with the University's average of 11.4%. (All figures are for the fall semester.) For this current recruiting year, we have instituted a strategy to increase our yield among the minority students to whom we have made admissions offers. We are contacting these students both by phone and by mail to invite them to join us at Penn State, and to answer any questions or concerns they may have about our program or university. In addition, the University provides a diversity grant through the Bunton Waller endowment, which offers a minority graduate student full tuition support and stipend for two years. Every year, we take advantage of this opportunity in order to add to the diversity of our population.

Funding: Although the Stuckeman Endowment is not directly funding the teaching and operational functions of the program, it does provide much-needed financial support in design computing and collaborative practice. In addition, the Endowment supports seven named professorships, from a career development professor for a faculty starting their career, to a number of distinguished professors at the rank of full professor. The challenge lies in bringing distinguished faculty and professionals here in such a way that they will become a part of the educational experience of our students. One way that we have been able to leverage the endowment funds towards student benefit has been through the lecture series, another Stuckeman Endowment funded activity. You will see a list of recent lecturers elsewhere in this document.

*Communication***:** When asked about the communication between students and faculty in the student survey, most students believed the system in place was a good start, but needed improvement. For example, many students wrote their student representative was capable, approachable, and carried out the responsibilities, but did not relay information from meetings with the Department Head. They suggested communication in general be more transparent. Department Head is working with student representatives to address the flow of information from the reps back to the student body.

HOW SELF-ASSESSMENT PROMOTES STUDENT SUCCESS

Self-assessment at Penn State is a continuous process that occurs at the University, College, and Department levels. Self-assessment begins with the University strategic plan. The University follows a five-year planning cycle, and as mentioned in the Long Range Planning section, this mandates strategic planning cycles at the College and the Department levels. In addition, since the formation of the Stuckeman School, the School and its two departments have engaged in off-cycle planning. The current strategic Plan, to become official in July of 2015 has, for the first time, incorporated the departments as well as the School and the Endowment.

At the Department level, self-assessment is based on consistent reviews of curriculum, promotion and tenure procedures, search processes, lectures, exhibitions and symposia, and facilities planning via a committee structure that includes faculty, staff, and students. In addition, formal performance reviews of staff and faculty, as well as student evaluations of faculty teaching constitute an important part of our self-assessment procedures. The Department uses the preparation process for the APR as an opportunity to generate and augment critical data for self-assessment. To this end, surveys are used as an instrument to gather important information from both students and alumni about the overall effectiveness of the Architecture Department.

The following is a list of Self-Assessment Procedures used by the Department of Architecture, College of Arts and Architecture, and the University. Where possible we have included a description of the type of data these procedures are intended to provide.

Department-Level Forms of Self-Assessment

Public Studio Reviews and Public Exhibitions of Student Work: Our faculty members regularly serve as guest critics for other studios. Also, the openness of the building and our frequent displays of student work allow for all faculty and students to easily view the performance of students in all studios. This general awareness of the quality of work throughout the Department and School is an informal but effective method of continual self-assessment.

NAAB Annual Reports and Accreditation Visits: These processes have been and will remain the catalyst for significant self-assessment, changes, and enhancements to the Architecture program at Penn State.

Alumni Survey: The department solicits input from past graduates of the BARCH program through an alumni survey. More than half of all graduates from the previous three to five years are randomly chosen to participate in a telephone survey. The questions focus on overall quality of advising in the program and

how well the Penn State degree prepared graduates for a professional career in architecture. The survey also collects information on professional status of alumni after graduating for the program. The comment section allows alumni to provide insightful suggestions and critiques about the architecture program at Penn State that can facilitate necessary adjustments in relevant areas. The survey helps the Department target areas that need attention, and enhance those that are strong. In addition, the Department Head and the Director of Graduate Studies hold exit interviews, in addition to regular meetings with each different cohort of each graduate program. These serve as open platforms for ideas, conversations, and critiques. We find these venues critical in day-to-day improvements to the program.

Student Survey: The Department is consistently making changes and adjustments to enhance the quality of the curriculum, advising process, and facilities. In addition to year-level class meetings with administrators and faculty, the anonymous student survey allows the department to obtain systematic information about the program from the students' perspective. The survey questionnaire is based on five themes critical to the quality of the architecture program: curriculum, advising, facilities, student participation, and diversity. Questions provide both quantitative data about specific issues of interest and qualitative assessment related to the five themes. For instance, in the curriculum section, the faculty is always interested in the students' assessment of the effectiveness of our studio sequence and range of architecture elective courses. Similarly, in the diversity category, we believe it is vital to find out whether we have been successful in maintaining a welcoming and inclusive climate for all students. While the survey is not mandatory, the participation rate is more than 85%. The responses are a useful tool for the Department to address students' issues and their perceptions of the architecture program. As such, these responses become an integral part of departmental discussions and policy making.

The Architecture Alumni Group: The Board of Directors of this group meets at least twice per year on campus. This group serves as a type of Advisory Board to the Department. The current membership of the board is:

Frank E. Dittenhafer II [1978]
Katherine Melluish (2002)
Marilia B. Rodrigues (2002)
David Schrader (1991)
Jessica Malarik Fair (2004)
Steve Cromity Jr. (1990)
Bob Holland (1973)
Peter Margittai [1993]
Chantel Duriez (2015)
Mitch Collin

Ex-Officio Board Members

Department of Architecture Head | Mehrdad Hadighi
Faculty Representative | Katsu Muramoto and Loukas Kalisperis
Alumni Director | Joyce Hoffman
Stuckeman School Director | Kelleann Foster

Stuckeman School Professional Advisory Board: This group comprises faculty, practitioners, and students from Architecture, Landscape Architecture, and Graphic Design and has become an additional resource for the architecture program. The intent of this Board is to broadly address the current state of the design professions and its implications for curricula in the School. The Advisory Board's last two years have been productive and meetings have focused on listening and learning about the Stuckeman School.

Department Faculty Meetings: The entire faculty of the Department meets approximately once a month. This is an open forum for discussion, committee reports, and decision-making, chaired by the Department Head. The Department Head proposes agenda items, both informational and propositional, for discussion

and action, to which the faculty contribute. All proposals from the Curriculum Committee and most other committees must be distributed in written form prior to the meeting, and are then discussed and voted upon by the faculty as a whole. (Only tenured or tenure-track faculty vote on matters pertaining to tenure policy or curricular changes.) Minutes of the meetings are distributed prior to the next meeting.

Annual Faculty Performance Evaluations: Tenured faculty and tenure-track faculty not undergoing a periodic Promotion and Tenure Review are evaluated by the Department Head on an annual basis utilizing a Department Annual Report.

Curriculum Committee: Please see B. below.

Advising: Graduate advising is conducted through the Graduate Programs Coordinator and the Department Head. The Department and the Graduate School track student progress, collect statistics on incoming student characteristics (national test scores, GPA, minority status, how the student entered the program, etc.), identifying "problem areas" in our admission requirements and processes, course sequence, or our curriculum and then proposing solutions to these "problems."

Design Studio Coordinators' Committee: The faculty members of the Coordinator's Committee are appointed annually by the Department Head, and include the Coordinators of each design studio year level. The Committee conducts reviews of studio project proposals, coordinates studio schedules, monitors conformance with the NAAB Student Performance Criteria and the Department's Studio Culture Policy, makes studio facilities recommendations, and advises the Department Head on other issues related to the design studio sequence. The responsibilities of the Design Studio Coordinators are as follows:

- Meet regularly with studio faculty to coordinate the development of appropriate statements of pedagogical intent for the studio year level, which are then developed as studio project programs, semester project schedules, jury dates, reading lists, research materials and shared presentation requirements for each semester's studio so as to achieve the curriculum objectives defined for that studio year level.

- Participate as a member of the Coordinator's Committee; to collect and coordinate all individual faculty studio programs, submitting them prior to the start of the semester for inclusion in the course binders maintained in the main Department administrative office.
- Coordinate the work and schedule of the studios with that of parallel courses, endeavoring not only to avoid conflicts in due dates, but also to maximize the potential benefits between courses; this requires coordinating the use of limited facilities (such as the woodshop, laser cutter, plotters and other "output devices") to avoid conflicts with other studios and courses.
- Coordinate the work of the faculty assigned to the studio year level; to coordinate and lead discussion among the year level studio faculty regarding common grading standards, NAAB Student Performance Criteria and measures of student progress.
- Coordinate the selection and mounting of exhibitions of studio work each semester, as well as organize and supervise the end-of-semester juries and exhibits of design studio projects.
- Coordinate with the Department's archivist for the archiving of selected projects from each studio section at the end of each semester, as well as the compilation of the written materials utilized in the course.

Facilities Committee: This committee performs regular reviews of Department and School facilities and makes recommendations to the School Director for changes and improvements. A detailed list of facility improvements is prepared each spring, and most improvements are accomplished over the summer months, when there are few students and faculty in the building.

Computing/Technology Committee: The purpose of this committee is to make recommendations to the Department Head regarding strategic directions in technology utilization as they affect teaching, practice, faculty research, etc. The committee also monitors student usage of existing technology and makes recommendations for annual purchases and advises the Department Head on the use of funds from the Stuckeman Endowment for Design Computing.

The Career Fair: The steady growth in the number of firms participating in the Career Fair gives one indication of the demand for our graduates. The participating firms present their work, and also provide constructive criticism of our students' work, the quality of their resumes and portfolios, interview skills, our curriculum, etc. This year, we nearly doubled the number of firms at our career fair.

NCARB Architecture Registration Examination Pass Rates: The NCARB data for ARE pass rates by school is periodically reviewed to determine if there may be particular areas of professional knowledge pertinent to the ARE that our curriculum is not addressing.

Benchmarking: The Department Curriculum Committee conducts benchmarking as part of its research for proposed curricular changes. It has explored faculty-student ratios, program size, program budget, etc.

The Archive of Student Work: The archive is an ongoing means by which we measure the work of students over the years.

The Student Representatives: The student representatives have regular monthly meetings with the Department Head. This provides the Department with regular feedback on a variety of issues important to students.

The Course Binders: These are maintained and reviewed constantly, not just for NAAB visits. They serve as a resource for new faculty, for the curriculum committee, for academic advisors, and others who need to have detailed information regarding course content.

B. Curriculum Assessment and Development

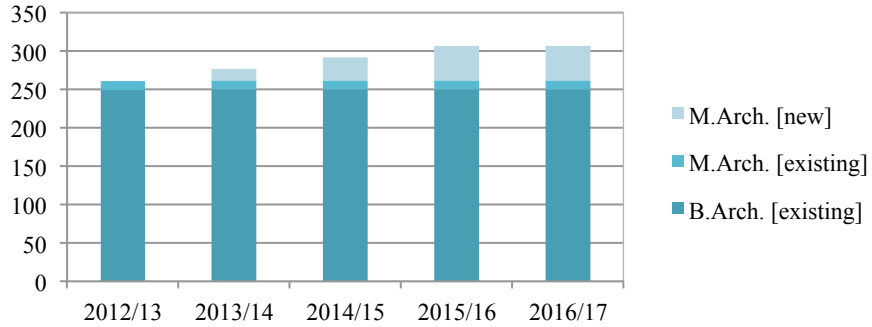
The faculty members of the Curriculum Committee are appointed annually by the Department Head. The Graduate Programs Coordinator is a member of the committee. The Curriculum Committee continually conducts rigorous evaluations of the curricula, and proposes revisions to the curricula when necessary to address changes in architectural practice, educational philosophy, building, design, and teaching technologies, changes in University policy, etc. Major modifications to the curricula and all new courses are voted on and forwarded to the full architecture faculty for approval. Curricular changes approved at the Department level are followed by a proposal to the University Faculty Senate. The Senate Proposals are reviewed at the College level for conformance with University policy and College goals, and are then forwarded to the Senate Committee on Curricular Affairs. This committee has the final decision on all curricular decisions in the University.

Part One (I): Section 2 – Resources
1.2.1 Human Resources and Human Resource Development

The Department of Architecture and the Department of Landscape Architecture, two independent departments in the College of Arts and Architecture, together, formed the School of Architecture and Landscape Architecture in 1997. The Stuckeman Endowment and the completion of the Stuckeman Family Building that houses the operations of both departments, promoted cooperation and joint efforts between the departments under a newly named Stuckeman School of Architecture and Landscape Architecture. The School's current director, Kelleann Foster, has continued to refine the school's governance structure to reflect the director position, which was added in 2010. In the attached "Stuckeman School Governance Document," included in Section 4-Supplemental Information, you will see results of this ongoing effort. The departmental operations and its governance have remained intact throughout the transition.

The MARCH program operates within the same governance structure under the umbrella of the Department of Architecture. Department of Architecture graduate faculty are not unique or isolated, rather a part of the larger faculty of the department. The Graduate School policies govern the selection of graduate faculty. Faculty have opportunities to engage teaching in the graduate and the undergraduate programs, alike. The students, as well, have access to the same governance structure and opportunities such as having student representatives and being members of committees, as do the rest of the Department's students.

Enrollment and Resources
The Stuckeman School is home to approximately 500 students, 310 of whom are in the Department of Architecture. Given that the professional MARCH program has joined our three other programs, the professional accredited BARCH, the post-professional MARCH, and the PhD, it will be sharing in most of the resources. We anticipate 10-12 additional students in each cohort of the professional Master of Architecture degree program for a total of 30-36 students in residence at a time. This cohort would combine with the cohort of 10-12 students in the existing post-professional M.Arch., and the new PhD program. The combined total number of graduate students in residence will be 50–66, a number we consider both viable and desirable.
The following chart describes the projected total enrollment increases in Penn State Architecture degrees programs:



Effects On Existing Programs
The additional graduate students positively impact our other graduate and undergraduate programs. These graduate students fill out our current graduate courses. In the 'preparatory' courses, they bring an elevated level of discourse, drawing on the diversity of their undergraduate preparation. In some of the 'preparatory' lecture classes, the extra cohort of students increases enrollment from 55 to 65, which is easily accommodated. In other cases, we will offer special courses for the MARCH students, in order to take advantage of their accelerated learning. In the architectural design studio courses, the extra cohort would require a separate section and, therefore, an additional instructor.

Faculty
Over 30 faculty members are based in the architecture program, six of whom are in visiting or adjunct positions. Seventeen architecture faculty members are tenured and seven are full professors. Please refer to the following chart on tenure and promotion. See Penn State Policy HR23 for promotion and tenure policy.

STANDING APPOINTMENT	LAST	FIRST	TITLE
	AESCHBACHER	PETER	ASSOC PROF ARCH/LARCH
	BELCHER	NATHANIEL	PROFESSOR ARCHITECTURE
	COOPER	JAMES	ASSOC PROF ARCHITECTURE
	COSTANZO	DENISE	ASST PROF ARCH
	DAVIS	FELICIA	ASST PROF ARCH
	GORBY	CHRISTINE	ASSOC PROF ARCHITECTURE
	HADIGHI	MEHRDAD	DEPARTMENT HEAD
	HAIDER	JAWAID	PROFESSOR ARCHITECTURE
	HENN	REBECCA	ASSOC PROF ARCHITECTURE
	IULO	LISA	ASSOC PROF ARCHITECTURE
	KALISPERIS	LOUKAS	PROFESSOR ARCHITECTURE
	KALSBEEK	JAMES	ASSOC PROF ARCHITECTURE
	LINDBERG	DARLA	PROFESSOR ARCHITECTURE
	MURAMOTO	KATSUHIKO	ASSOC PROF ARCHITECTURE
	PIHLAK	MADIS	ASSOC PROF ARCH/SoVA
	POERSCHKE	UTE	ASSOC PROF ARCHITECTURE
	SHAFFER	MARCUS	ASSOC PROF ARCHITECTURE
	STAUB	ALEXANDRA	ASSOC PROF ARCHITECTURE
	WILLIS	DANIEL	PROFESSOR ARCHITECTURE
	WINES	JAMES	PROFESSOR ARCHITECTURE
	WING	SCOTT	ASSOC PROF ARCHITECTURE
Total			21

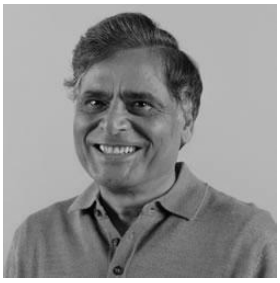
Multi-Year Fixed Term	LAST	FIRST	TITLE
	BRAASCH	CATHY	ASST PROF ARCH
	NAZARIAN	SHADI	ASSOC PROF ASSOC. PROF.
Total			2
Annual Fixed Term	**LAST**	**FIRST**	**TITLE**
	GURSOY	BENAY	ASST PROF ARCHITECTURE
	RUESCAS	JUAN	ASST PROF ARCHITECTURE
	SABBATINO	MICHELANGELO	VISITING PROFESSOR
	STEINER	HADAS	VISITING PROFESSOR
	SUTHERLAND	ERIC	VISITING ASST PROF
	WEINREBB	ROSS	INSTR ARCHITECTURE
	WOOLLENN	MALCOLM	INSTR ARCHITECTURE
Total			4
Stuckeman Professorships	**LAST**	**FIRST**	**TITLE**
	DUARTE	JOSE	STUCKEMAN CHAIR IN DESIGN INNOVATION

Matrix for Architecture Faculty Credentials

(Please see Faculty Resumes included in Section 4-Supplemental Information.)

Faculty Member	Summary of Expertise, Recent Research, or Experience	Courses Taught: Fall 2014 – Spring 2015	Courses Taught: Fall 2015 – Spring 2016
Aeschbacher, Peter Associate Professor 	The practice and history of community design; University-Community partnerships; small parks, public space, and everyday urbanism. Worked closely with marginal populations, including community-based projects for at-risk youth in Los Angeles; worked on community projects in South Africa.	ARCH 510: Introduction to Architecture and Planning Theories	ARCH 210: Introduction to Architecture and Planning Theories A&A 121: Design Thinking
Belcher, Nathaniel Quincy Professor 	Brazilian architecture and modernism; avant-garde practices in diverse cultures; African American architecture, urbanism, artifacts and culture. Dresser Trunk Project, Traveling Exhibition 2007-08. Licensed Architect: PA, FL, LA, OH	441-442: Architectural Design Analysis ARCH 100: Architecture and Ideas	441-442: Architectural Design Analysis
Boothby, Thomas E., P.E., PhD. R.A. Professor 	Architect/Structural Engineer, Wilson and Company, Albuquerque, NM, 1986-89; *Stone and Iron In the Gilded Age:* American Structural Design from 1870 to 1900. To appear in 2014, ASCE Press, Washington DC. Licensed Architect: PA, WA Professional Engineer: PA, CA, NM, MD, WA, NJ	AE 422: Architectural Structural Systems II AE 308: Fundamentals of Structural Analysis AE 401: Steel and Wood Design AE 497A: Ancient and Medieval Structural Design AE 597B: Historical Methods of Structural Design	AE 422: Architectural Structural Systems II AE 308: Fundamentals of Structural Analysis AE 401: Steel and Wood Design AE 497A: Ancient and Medieval Structural Design AE 597B: Historical Methods of Structural Design

Faculty Member	Summary of Expertise, Recent Research, or Experience	Courses Taught: Fall 2014 – Spring 2015	Courses Taught: Fall 2015 – Spring 2016
Braasch, Cathy Instructor 	Intersection of architectural design and urban landscape, duration and creative production in built environment; Founder, Braasch Architecture 2006-present; Associate, Stoss Landscape Urbanism 2010-2012; Licensed Architect: NY, PA, NCARB	131s: Basic Design Studio I 132: Basic Design Studio II 522: Visual Communications	131s: Basic Design Studio I 132: Basic Design Studio II 522: Visual Communications
Cooper, James G., PhD Associate Professor 	Michelangelo and his architecture, drawing and precedent; architectural and urban design of fin-de-ciecle Vienna; and the works of Mies van der Rohe Several articles published in Architectural History journals	121: Visual Communications 231: Architectural Design I 232: Architectural Design II Fall: sabbatical	121: Visual Communications 231: Architectural Design I 232: Architectural Design II
Costanzo, Denise R., PhD Assistant Professor 	History of architecture, architectural practice, education, and discourse since 1900. Several publications in various architectural journals and books.	Recipient of a 2014 Rome Prize Fellowship in Modern Italian Studies from the American Academy in Rome.	512A: Research Methods for PhD students 501/502: Analysis of Architectural Precedents 311W: Architectural Theory
Davis, Felecia Assistant Professor 	Development of lightweight textile structures including structures and objects made with computational textiles. Lectured, published and exhibited her work in textiles, computation and architecture internationally	231: Architectural Design I 232: Architectural Design II 497: Topics in Design Computing	231: Architectural Design I 232: Architectural Design II

Faculty Member	Summary of Expertise, Recent Research, or Experience	Courses Taught: Fall 2014 – Spring 2015	Courses Taught: Fall 2015 – Spring 2016
Gorby, Christine Associate Professor 	Design, history, and theory in the built environment; gender studies. Licensed: R.I.B.A, A.R.C.U.K	316: Human Settlements and Cities 331: Architectural Design III 332: Architectural Design IV 497: Interior Architecture	ARCH 316: Human Settlements and Cities 331: Architectural Design III 332: Architectural Design IV 497: Contemporary theory
Hadighi, Mehrdad, RA Head, Professor 	Drawing parallels between 20th century art, theory and criticism and the constructive principles of architecture. Several publications in various architectural journals. Licensed Architect: NY	Department Head	Department Head
Haider, Jawaid, PhD Professor 	Design for children; architectural design education; comparative theoretical perspectives in architecture. Several scholarly publications and research grants in areas of interest. Licensed Architect: Karachi	312: Critical Postcolonial And Contemporary Perspectives in South Asian Architecture 491: Architectural Design VII – Thesis 492: Architectural Design VIII - Thesis 511: Theoretical Perspectives in Architecture 591: Architectural Research 600: Thesis	On Leave

Faculty Member	Summary of Expertise, Recent Research, or Experience	Courses Taught: Fall 2014 – Spring 2015	Courses Taught: Fall 2015 – Spring 2016
Henn, Rebecca L., PhD, RA, LEED AP Associate Professor 	Studies industry drivers of green building. Principal, Celento Henn Architects + Designers; Published book titled "Constructing Green: The Social Structures of Sustainability" (MIT Press 2013), with Andrew J. Hoffman. Licensed Architect: NY, PA	533: Architectural Design III 332: Architectural Design IV 311W: Architectural and Planning Theories	533: Architectural Design III 311W: Architectural and Planning Theories Spring leave
Iulo, Lisa D., RA, Professional Planner, LEED AP Associate Professor 	Building and planning for a sustainable future. Several publications in sustainability-themed journals; Forum presentation at American Solar Energy Society annual conference, 2013. Licensed Architect: NJ, NY, PA Licensed Professional Planner: NJ	431: Architectural Design IV 432: Architectural Design V 497: Integrative Energy and Environmental Design 412: Integrative Energy and Environmental Design	431: Architectural Design IV 432: Architectural Design V 497: Integrative Energy and Environmental Design 412: Integrative Energy and Environmental Design
Kalisperis, Loukas, PhD Professor 	Integrating digital technology in design; digital design representation and fabrication techniques. Several publications in architectural journals in the U.S., U.K., Greece, and Spain. Licensed Architect: Greece	231: Architectural Design I 232: Architectural Design II 481: Digital Design Media 543: Topics in Digital Design	Sabbatical

Faculty Member	Summary of Expertise, Recent Research, or Experience	Courses Taught: Fall 2014 – Spring 2015	Courses Taught: Fall 2015 – Spring 2016
Kalsbeek, James Associate Professor 	The mnemonic function of architecture; the architecture of Rome; reclamation, reuse, and demolition; Palliative care of buildings. "The Weight We Carry: The Hazardous Legacy of our Past and The Rehabilitation of Lead Contaminated Sites." (Stuckeman Fund for Collaborative Design Research, 2012) Licensed Architect: OH	131s: Basic Design Studio I 132: Basic Design Studio II 497e: Building Material Reclamation & Reuse 497g: Building & Time	131s: Basic Design Studio I 132: Basic Design Studio II 497e: Building Material Reclamation & Reuse 497g: Building & Time 510: Architecture and Planning Theories
Lindberg, Darla V. RA Professor 	Architectures of complexity and general systems theory applied to interdisciplinary conditions of resilient building/bio/agro ecologies; building physics and systems design related to disease spread dynamics. *Examining Policy Resistance and Infectious Disease with Dynamic Network Conditions at the U.S./Mexico Border*, (National Institutes of Health/Fogarty International Center grant, 2010-2013. Licensed Architect: ND, NCARB	491: Architecture Design Thesis I 492: Architecture Design Thesis II 542: Topics in Community Design	491: Architecture Design Thesis I 492: Architecture Design Thesis II 542: Topics in Community Design 520: Research Methods

Faculty Member	Summary of Expertise, Recent Research, or Experience	Courses Taught: Fall 2014 – Spring 2015	Courses Taught: Fall 2015 – Spring 2016
Ling, Moses, PE, RA Associate Professor 	Expertise in architectural engineering, environmental control systems. Principal, Ling Partnership, Consulting Engineers, State College.	AE 211: Introduction to Environmental Control Systems AE 424: Environmental Control Systems	AE 211: Introduction to Environmental Control Systems AE 424: Environmental Control Systems
Muramoto, Katsuhiko Associate Professor 	History and theory of architectural representation; design-build architecture; history and theory of 20th century Japanese architecture. Co-founder of architectural design studio, Cover, LLC Licensed Architect: Osaka, Japan	317: Theory of Modern Japanese Architecture 600: Thesis Research 531: Architectural Design I 521: Visual Communications	317: Theory of Modern Japanese Architecture 531: Architectural Design I 521: Visual Communications
Nazarian, Shadi Associate Professor 	Glass Science and Technology; light emitting fibers and polymers that provide alternative readings of surfaces and spaces. "Introversions": a multimedia, interactive & site-specific installation at the CFA Amherst-NY concerning the threshold of vision and perception, of real and virtual, of art, architecture, and technology (2008)	231: Architectural Design I 232: Architectural Design II 130A: Basic Design and Research 497: Special Topics: Liquid Thresholds	231: Architectural Design I 232: Architectural Design II 130A: Basic Design and Research 497: Special Topics: Avatar

Faculty Member	Summary of Expertise, Recent Research, or Experience	Courses Taught: Fall 2014 – Spring 2015	Courses Taught: Fall 2015 – Spring 2016
Pihlak, Madis Associate Professor 	Design computing; pedestrian friendly site and urban design; digital expression. Project Architect, Gensler Chicago, 1992-present.	ARCH 596 / LARCH 497: Emerging Digital Media 130A: Basic Design and Research 491: Architectural Design Studio	491/492H: Architectural Design Studio
Parfitt, Kevin M., P.E., F.AEI Associate Professor 	Building performance and failures; forensic techniques; structural engineering; computer-aided design; automated quality control; professional practice. P/L Consulting Engineers, State College, PA, 1984-2001; "Why Buildings Fail: Are We Learning From Our Mistakes?" Buildings - Special Issue on Building Failures, Vol 2, no. 3: 326-331 (Sept. 2012). Professional Engineer: PA, NY, NJ, MD, VA, OH	AE 210: Architectural Structures I	AE 210: Architectural Structures I
Poerschke, Ute, PhD, LEED AP Associate Professor 	Architectural design as a process of integration; theory of functionalism; relationship of architecture and technology; energy simulation as part of the design process. *Functions and Forms. On Architectural Theory of Modernism* Licensed Architect, Registered Urban Planner: Bavarian Chamber of Architects	331: Studio (coordinator) 534: Architecture Design Studio IV 480: Technical Systems Integration	491: Fifth year option Studio 534: Architecture Design Studio IV 480: Technical Systems Integration

Faculty Member	Summary of Expertise, Recent Research, or Experience	Courses Taught: Fall 2014 – Spring 2015	Courses Taught: Fall 2015 – Spring 2016
Shaffer, Marcus Associate Professor 	Works, theories, and practices that engage *the Machine* as an architectural extension of our impulse to examine and remake the natural world. "Rise Tectonic Machines! Construct the Exigent City!" (RISD Arch/ORO, 2013); "Developing Digi-mechanical Formwork for Construction in Environments of Displacement Machine" Book Vol. 1 (forthcoming)	532: Architectural Design II 491/492H: Architectural Design VIII - Thesis	Fall sabbatical 352: Architectural Design II 203: Building Materials and Construction II
Staub, Alexandra, PhD Associate Professor 	Soviet urban paradigms and their implications for the formation of community. Several publications in various journals and books.	331/332: Architectural Design III/IV 520: Methods of Inquiry in Architecture and Urban Design 550 Ethics in Architecture 600: Thesis Research	331/332: Architectural Design III/IV 520: Methods of Inquiry in Architecture and Urban Design 550: Ethics in Architecture 600: Thesis Research
Willis, Dan, RA Professor 	Relationship between architecture and technological change; theories of details and construction methods; theories of drawing and representation. "Architecture and Energy: Performance and Style", ed.; Grant recipient: Department of Energy EEB Hub Grant. Licensed Architect: PA	596: Graduate Level Independent Study 451: Architectural Professional Practice 204: Materials and Building Construction II	204: Building Materials and Construction II 491: Fifth year option studio 451: Architectural Professional Practice

Faculty Member	Summary of Expertise, Recent Research, or Experience	Courses Taught: Fall 2014 – Spring 2015	Courses Taught: Fall 2015 – Spring 2016
Wines, James 	Lifetime Achievement, Cooper-Hewitt National Design Awards SITE founder/president; designed/built 150+ worldwide projects. 2011 ANCE Award for an International Architect (Italy).	491: Architecture Design Thesis I 492: Architecture Design Thesis II 550: Ethics in Architecture 497: Special Topics: "Line Around an Idea"	Fall Sabbatical 491: Architecture Design Studio IX 497: Special Topics: "Line Around an Idea"
Wing, Scott, AIA Associate Professor 	Bridging architectural technology and poetic intention from urban scales to the detail; learning by making through design/build; ethical dimensions of design. *Interdisciplinary Collaborative BIM Studio*, Publication in conference proceedings. Licensed Architect: PA	492: Architecture Design VII – Thesis (BIM/IPD option) 331: Architectural Design III	Associate Dean for Graduate and Undergraduate Education

Faculty Workload
Faculty distribution of effort between teaching and other responsibilities varies with the individual faculty member, but on average 60% of their time is dedicated to teaching (and related preparation time), and 30% to research and creative activities, and 10% to service and community outreach. Since the 2004/05 academic year, the Department of Architecture has retained an average of 24.33 FTE faculty. On average this figure includes 21 FTE tenure/tenure-track faculty, three multi-year full time fixed term faculty, three annual full time fixed term faculty, two part-time instructors, and three Stuckeman Professors.

Faculty-Student Ratio
Our current Faculty/student ratio is primarily determined by the cohort size. Our first MARCH cohort was 8 students and the second was 11, hence the faculty /student ratios of 1/8 and 1/11. We intend to keep this ratio around 1/12.

Please see Section 4-Supplemental Information for the Teaching Assignment Course Matrix for Academic Year 2013/2014 and 2014/2015 and 2015/2016.

The ultimate goal is for some of the faculty workload to be transferred to graduate teaching assistants in their advanced years. The opportunity provided by the teaching assistantships will, in turn, assist in advancing the students' education and our recruitment possibilities. This year, we taught studios in the first year of the Architectural Engineering department with the aid of four of our graduate students. We also engaged graduate students in teaching the first year architecture students, with great success.

Faculty and Staff Professional Development Opportunities

The Department of Architecture supports faculty development and provides funding for conference attendance and other development opportunities. Recently, with added emphasis on faculty research, creative activity, and publications, the department has significantly increased its financial support for faculty presentations. During the academic year 2013/14, we supported 17 faculty with funding to travel to conferences at a total of $34,430. All faculty are encouraged to submit funding requests to the Department at the beginning of each semester, and all are reviewed collectively. During the past year, all requests were funded, most in full, and a few partial. In addition to the Department funding, the Department Head has committed an additional $15,000 per year to support faculty publications from his Stuckeman Chair of Integrative Design.

All tenure-track faculty are eligible for a one-semester release from teaching during the tenure-track period. This release allows junior faculty to focus upon their research, creative work, or professional practice. Tenured faculty members with at least seven years of service to Penn State are eligible to apply for a one or two semester sabbatical leave. Professors granted a one-semester sabbatical receive their full salary during the sabbatical; those on a two-semester leave receive two-thirds of their regular salary.

It is the practice of the Department to assign teaching responsibilities and committee work in a way that permits faculty to pursue professional practice, research, or creative work. Faculty members may use external grant support or professional commissions to “buy out’ of course assignments to pursue research/creative work. Faculty service on professional bodies, government or community boards, is encouraged. This service to the profession, to society, and the University is evaluated during annual and promotion and tenure reviews. The departmental service expectations for professors who engage in these activities, or who help to arrange and host conferences and symposia, are adjusted accordingly.

Support for faculty developing new courses is available in the form of College “Incentives and Innovations” grants. Support is also available for transforming traditional courses to web-based delivery methods through the College “eLearning” initiative, and through the University’s World Campus and Campus Course Exchange. Innovative courses can also compete for support from the Bowers Program, the Stuckeman Endowment for Design Computing, Schreyer Honors College, and from the Institute for the Arts and Humanities.

Faculty research and creative work is supported by the College Faculty Research Grant program, and by grant programs of the Institute for the Arts and Humanities. The Stuckeman School offers many grant opportunities to faculty through the Hamer Center for Community Design Assistance and the Stuckeman Center for Design Computing. The Stuckeman School offers the following research grant opportunities to faculty through an internal competition every year:

- The H. Campbell and Eleanor R. Stuckeman Fund for **Collaborative Design Research** to promote collaboration in design innovation. The purposes of the Stuckeman Fund are: 1) to provide seed funds for projects of special promise, likely to achieve external support by agencies beyond Penn State; 2) to enhance funding from sources external to Penn State; and 3) to support research and scholarship efforts of faculty. Up to $50,000 per project is available.

- The H. Campbell and Eleanor R. Stuckeman **Fund for Design Computing** promote design research, theoretical investigations and/or academic opportunities under the general heading of design computing. The purposes of the Stuckeman Fund are: 1) to provide seed funds for projects of special promise, likely to achieve external support by agencies beyond Penn State; 2) to enhance funding from sources external to Penn State; and 3) to support research and scholarship efforts of faculty. Up to $50,000 per project is available.

The following tables show a sampling of Stuckeman School, Bowers Program (an endowment that funds collaborative projects in Architecture, Landscape Architecture, and Architectural Engineering), and College of Arts and Architecture grants that architecture faculty have secured in the past few years. The list is not exhaustive but signifies the faculty's widespread efforts to consistently engage in professional and research activities despite high teaching loads.

Project Title (Collaborative Design Research Grants)	Faculty	Fiscal Year	Budget
Using focus groups to refine the Irvine Minnesota inventory for youth	Bose	2009/10	$2,927.45
Hybrid of Research and Exhibition	Baek/Muramoto	2009/10	$11,200.01
Mapping Design Domains and Opportunities	Willis	2009/10	$4,000.00
Vysehrad, Re-visions and recollections	Rusnak	2009/10	$5,670.00
Building integrated wind energy: connecting aesthetics and performance	Poerschke	2010/11	$9,104.06
Design/Praxis	Szczygiel	2010/11	$5,000.00
Fabricated Landscapes	Burkholder	2011/12	$5,500.00
IPD in Academia-Beyond Just Bim	Wing	2012/13	$5,000.00
The Weight We Carry-The Hazardous Legacy of our Past and the Rehabilitation of Lead Contaminated Sites	Kalsbeek	2012/13	$14,968.00
CROMA Analysis	Cardoso Llach	2013/14	$34,858.00
Digitize Portions of the A.E. Bye Landscape Architecture Archives (multi-year)	Henderson	2013/14	$11,100.00
Digitize Portions of the A.E. Bye Landscape Architecture Archives (multi-year)	Henderson	2014/15	$11,100.00
Sustainable Housing Initiative	Iulo/Belcher	2014/15	$22,000.00
Visualizing Data on Climate, Energy Use & Arch	Muramoto	2014/15	$20,700.00

Project Title (Stuckeman School Design Computing Grants)	Faculty	Fiscal Year	Budget
National Begin Design Studio Conference	LaCoe	2011/12	$16,000.00
Schoolyard Wetlands	Cole	2011/12	$14,000.00
Anatomy of a Green-House: Teach Green with Augmented Reality at the Discovery Space of Central PA	Muramoto	2012/13	$14,589.00
Stuckeman School Printing	La Coe	2013/14	$6,514.00
Urban Design Studio: Approaches to Design Thinking using iPads	Pihlak	2013/14	$12,152.00
Liquid Thresholds	Nazarian	2013/14	$31,344.00
Builders of the Vision	Cardoso	2014/15	$4,500.00

Project Title (Other Faculty Grants)	Faculty	Fiscal Year	Budget
Architecture Machines	Marcus Shaffer	2008/09	$8,505.00
Sense-equipped ego: and Empathy: The Communal Spatiality in R. Neutra's Residential Architecture	Baek	2009/10	$7,190.00
Spatial Guidelines for Community-scale Renewable Energy Solutions	Iulo	2009/10	$9,000.00
The Poetics of Work	Willis	2009/10	$14,000.00
	Staub	2009/10	$7,000.00
	Costanzo	2010/11	$3,000.00
	Poerschke et. Al.	2010/11	$52,666.00
Constructing Green: The Social Construction of Green Building	Henn	2010/11	$6,000.00
Active Living in Small Town Environments	Haider	2010/11	$19,600.00
The Pompei Forum Project	Cooper	2010/11	$12,500.00
Incentives & Innovations	Gorby	2010/11	$15,000.00
The Ancient Maya Landscape: Early Perceptions & Modern Interpretations	Murtha	2010/11	$8,215.00
Center for Design Research & Innovation	Henn	2011/12	$4,000.00
American Architects, Postwar Rome, and a Liberal Academy	Costanzo	2012/13	$14,720.00
Pioneer	Burkholder	2012/13	$9,720.00
The Modern Architecture Genealogy	Foxman	2013/14	$10,000.00
Garden of the Agri-Horticultural Society of Punjab in Lahore (1860-1883) Global Protection of an Urban Landscape	Rehman	2013/14	$7,670.00
Understanding Micromobile Infrastructures	Henn	2014/15	$7,275.00
Contested Identities: Housing and the Politics of Cultural Representation	Staub	2014/15	$7,300.00
Landscape Materiality: Innovation and Convention from Modernism to the Present	Baird	2014/15	$5,760.00
Incentives & Innovations	Henn	2014/15	$2,000.00
	Hunt	2013/14	$3,000.00
	Tamminga	2014/15	$3,000.00
PSIEE	Belcher	2014/15	$22,000.00

In addition to research funding, continuing education opportunities are also available for faculty at Penn State. The University provides a 75% tuition discount for full-time employees and their immediate family members. Courses designed to improve faculty teaching are offered by the Center for Excellence in Learning and Teaching (CELT). Courses to assist faculty in mastering the University's web-based course-management system (Angel) are offered annually at no charge. The Department provides substantial support for faculty participation in educational seminars directly related to an instructor's teaching or advising responsibilities.

Student Support Services
Consistent with Penn State's land-grant mission, University Office of Student Affairs assists in the general personal development of the student by offering services and programs that support and augment the formal classroom experience. Student Affairs services include personal and educational counseling, career development and placements, diagnosis and remediation of learning problems, general personal assistance, and financial aid, and health services.

A multi day orientation program is conducted by the University, College, and the Department during each

summer to assist with introductions and to impart basic information on the structure, goals, and objectives of the program. The students receive counseling from the Graduate Programs Coordinator, and Department Faculty at this event.

The Department encourages close interaction between faculty, staff, and students. The Graduate Programs Coordinator serves as the advisor and organizes discussions among the graduate cohort and faculty. In the advanced years, the students may select courses among offerings of four research clusters, which brings them in contact with the faculty members associated with each of the four clusters and the research conducted by their students and faculty.

Design studio faculty members contribute to advising students informally. The Graduate School provides a wealth of resources to the graduate students and faculty on their website. All Graduate School policies related to students, faculty, thesis, good standing,.. is available online. The Graduate Programs Coordinator is also a great resource for students needing academic advice.

All faculty members play a significant role in career advising students by sharing portfolio and resume examples, and by making introductions through their connections with alumni, former employers and graduate programs. They also spend a significant amount of time counseling mid-career alumni and writing letters of recommendations for students seeking graduate education, internships or employment in architectural firms around the world. Resume and letter of introduction writing, portfolio presentation, professional interviews, salary and benefits, the architectural registration examination, the Intern Development Program, and transition to and from academia to office are covered in design studios and the Professional Practice course. Additionally, the professional practice course includes architects and recent graduates as guest speakers, as well as a required field trip to architects' offices. Professor Robert Holland, AIA NCARB, served as the Department IDP Coordinator from Fall Semester 2008 through Spring Semester 2013. Professor Nathaniel Belcher, AIA NCARB, became the School ALA, Architectural Licensing Advisor (formerly IDP Coordinator) in Summer 2013. He attends the IDP conferences each summer and in turn provides all students in a Fall session with access to the State IDP coordinator, and an NCRAB official. In the same session students are introduced to IDP and are asked to register for the free IDP registration. They are also introduced to IDP credit earning and registration. In addition, beginning in 2012, the Stuckeman School has retained a career advisor on staff. This position has been filled by Kristin Barry, who has met with each student in order to establish a contact and to start career preparation, such as resume and portfolio preparation, at an earlier stage of the students' careers.

The Department organizes a spring Career Day for architecture students. For the last three years, the Career Day activities have been organized by Professor Katsu Muramoto, with assistance from career advisor, Kristin Barry, and were held over three days. The event provides students an excellent opportunity to prepare portfolios and interview with many reputable firms in the country—many with branch offices worldwide. Career Day activities include assisting firms with internships and helping students in career placement. The departmental website also includes space for firms to post employment opportunities.

The Department also has a very long-standing and committed alumni group. This group provides mentorship, scholarships, as well as employment. We believe that a committed alumni group is another way to retain our students.

Support for Student Organizations and Honorary Societies
The Department of Architecture provides financial support every academic year to student professional organizations, including the student chapter of the National Organization of Minority Architects (NOMA). In addition, the Department provides additional funding for special events, which includes financial support to allow student leaders to attend conferences and professional meetings. AIAS officers receive funding to attend chapter and national meetings. Two years ago in March, students received full support to organize a significant AIAS Quad Conference. This conference, run by the Penn State Chapter of the American Institute of Architecture Students, with over 275 students attending from across the northeast

region, included sixty Stuckeman School students. The theme of the conference was "From Bytes to Built," with a focus on craft, hands-on workshops, and digital fabrication.

Support for Student Conference Attendance/Research Grants/Awards
The Department also supports students' development through financial support for conference attendance. In 2015/16, 12 graduate students traveled to conferences for presentations, and were supported with $6170.00 department funding, $1500.00 endowment funding, $3215.00 college funding, as well as $3000 of funding from outside of the College, for a total of $12,535.00.

During the last academic year, the twelve students mentioned above received funding to participate in the following conferences, and present their scholarly, research, or creative work at these venues:

- 2016 Race to Zero, Golden, Colorado, April 15-18
- EAAE/ARCC International Conference 2016, Lisbon, Portugal, June 14-19
- REHAB 2015, Porto, Portugal, July 21-25
- Critical Mass, Charlotte, North Carolina, April 7-9, 2016
- ARCHTHEO'15, Theory & History of Architecture Conference, Istanbul, Turkey, November 4-8, 2015
- World Expo & Iran's Pavillion Conference, Tehran, Iran, December 17-27, 2015
- Fuse DIS 2016: Designing Interactive Systems, Brisbane, Australia, June 3-9
- SIGGRAPH, Los Angeles, California, August 7-14, 2015
- Public Scholarship, Community Engagement Practice, and Sustainability Colloquium, Philadelphia, Pennsylvania, October 29-31, 2015
- EDRA47, Raleigh, North Carolina, May 18-21, 2016
- Architecture & Resilience on a Human Scale, Sheffield, UK, September 9-13, 2015
- The First International Symposium on Sustainable Human-Building Ecosystems, Pittsburgh, Pennsylvania, October 4-6, 2016

Architecture students at Penn State have many opportunities to apply for research grants and compete for awards for creative work. This year, graduate students have been successful in acquiring the University Summer Discovery Grant, which provides funding for travel and supplies to initiate research in the summer that the student intends to pursue the following academic year with a faculty advisor. This year, we had three participants in the University Graduate Exhibition, which yielded a second place prize to one of our students. A Penn State students has also been recognized with a third Prize for her entry in the Stewardson Competition, which is a design competition among the six architecture schools in Pennsylvania. Most of our graduate students receive assistantships from the Department, ensuring a relationship among the graduate students and faculty through research and teaching. Many of our

graduate students are involved in faculty research and publication projects, as well as community engagement projects. The Department encourages student participation in these research and creative endeavors as they offer different opportunities for acquisition of new abilities and knowledge beyond the traditional classroom

I.2.2 Physical Resources

The Stuckeman Family Building is the home of the School of Architecture and Landscape Architecture. Construction was completed in 2005 and is currently in full compliance with all applicable building codes. The openness of the Stuckeman Family Building is a tangible expression of the potential for collaboration between the faculty, staff, and students of the Departments of Architecture and Landscape Architecture. Stuckeman will continue to foster openness to collaboration through the creative use of our unique environment.

The Department of Architecture is housed within the Stuckeman Family Building, and shares it with the Department of Landscape Architecture. 2015 marked the tenth anniversary, and the facilities committee has engaged a thorough analysis of the building and how it is being used. They will finalize their recommendations to the School at the end of this semester, and recommended changes will go into effect this summer.

The Stuckeman Family Building is the first Penn State building designed to meet the national criteria for certification as environmentally friendly, sustainable architecture adhering to the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED™) Green Building Rating System, The 111,000-square-foot, $27.5 million facility earned a LEED Gold Rating, making it one of the first buildings on any college campus to earn that distinction. The energy efficient design is projected to reduce the building's annual energy costs by 35 percent compared to a conventionally designed structure.

The 5-level building, adjacent to the Palmer Museum of Art and the Arts Building, has a recycled copper exterior and brick and energy-conserving glazed windows with exterior sun-control louvers, which minimize glare inside. Interior sustainable features include lighting controls with automatic daylight and occupancy sensors and an HVAC system that provides natural ventilation in appropriate weather conditions. Integrated landscape and parking design filters storm water run-off to minimize pollutants. Nearly 80 percent of construction waste has been recycled.

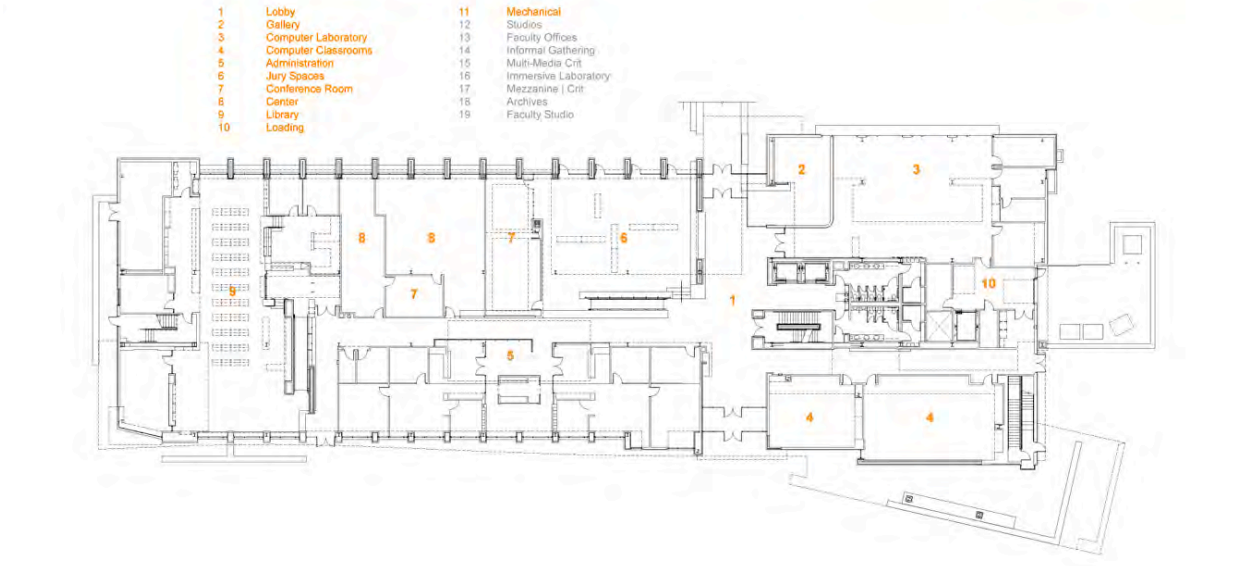
The new facility is a model not only of sustainability, but also of collaboration among architects, landscape architects and the building's end-users. An advisory committee composed of architecture and landscape architecture faculty and students, as well as other University representatives, played an integral role throughout the design process. In alignment with the spirit of collaboration with which the building was designed, the building's open plan design studios, which can seat 560 students on two floors, encourage collaboration between the disciplines. "Every step of the way, the collaboration between the architects and landscape architects, as both designers and client, was evident. The result is a building that clearly expresses and enhances the mission of Stuckeman, from collaborative training between the disciplines to enhancement of environmental stewardship" said Richard DeYoung, senior principal of WTW Architects.

"Environmentally Friendly" and Other Building Facts

1. 87% of the materials used were harvested within a 500-mile radius around State College
2. 30 tons of copper was used, covering 49,000 square feet. The copper comprises 95 percent recycled content from Revere in Rome, New York—the company that makes pots and pans.
3. 79% of the construction waste was recycled, resulting in 605 tons of recycled materials.
4. The steel is composed of 94% recycled steel products—mainly cars—from Ohio Steel Company.
5. All the plywood sheeting and wooden handrails, floors and doors are made of Forest Stewardship Certified Lumber, meaning replacement trees were planted after the harvesting of the lumber.
6. The bluestone used in the building and surrounding walls/seating is native to Pennsylvania.
7. First floor rest rooms include showers—evidence of Penn State's sensitivity to fuel conservation, because the presence of showers means building users can ride their bikes here and then shower before work/school.
8. The windows in the studios automatically open and close with changes in temperature and humidity, reducing the need for heating and cooling mechanically.
9. The studios feature motion-sensor lights.
10. The studios on the upper floors of the building's east side afford a 180-degree view from Bald Eagle ridge to Mount Nittany.
11. The building provides high-speed connections to Penn State's computer backbone and telephone, cable television, and satellite receiving capabilities.
12. There are multimedia systems in classrooms, centers, and labs as well as ports throughout the building for Internet connections.
13. The building has security provisions and is accessible 24 hours for student and faculty access.

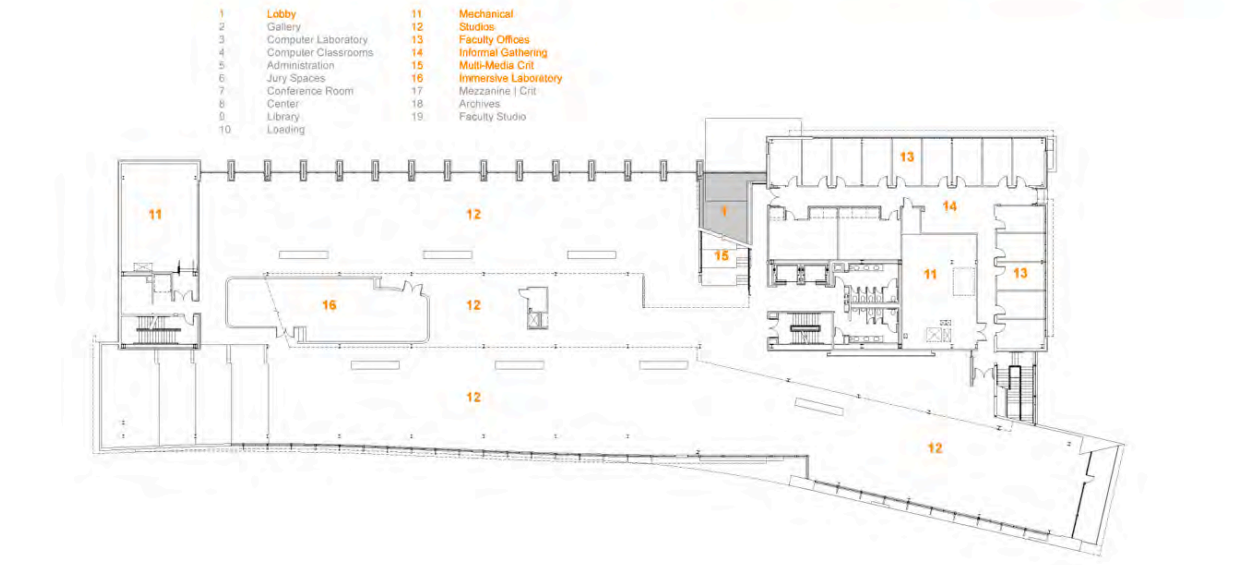
Ground Level
Floor Plan

The Pennsylvania State University
School of Architecture & Landscape Architecture



Level Two
Floor Plan

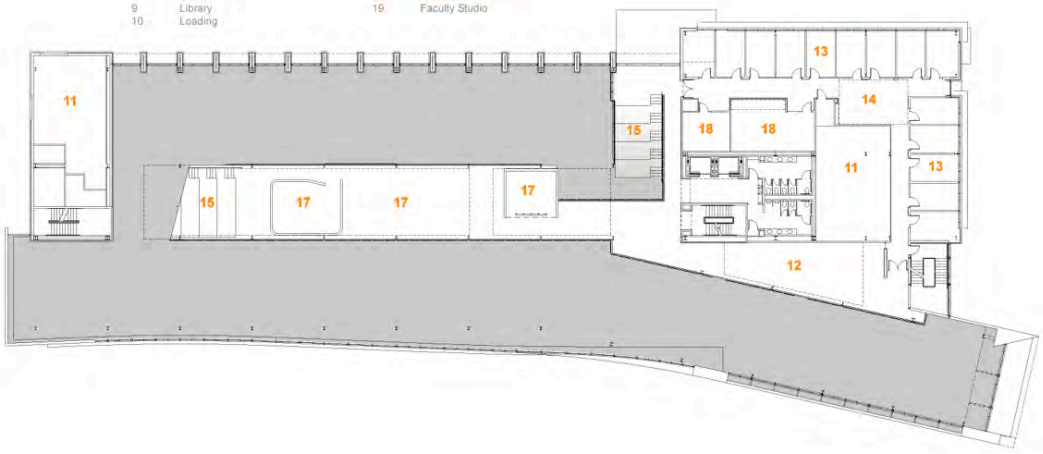
The Pennsylvania State University
School of Architecture & Landscape Architecture



Level Three
Floor Plan

The Pennsylvania State University
School of Architecture & Landscape Architecture

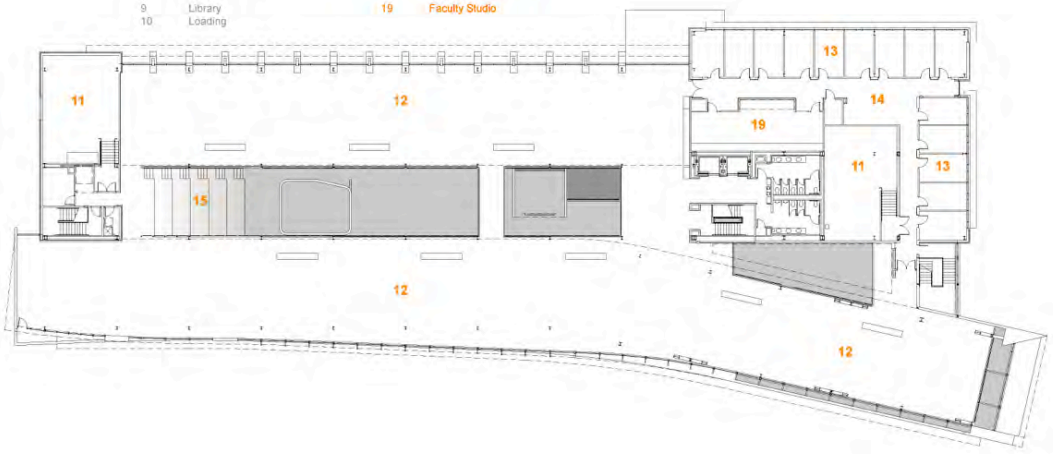
1	Lobby	11	Mechanical
2	Gallery	12	Studios
3	Computer Laboratory	13	Faculty Offices
4	Computer Classrooms	14	Informal Gathering
5	Administration	15	Multi-Media Crit
6	Jury Spaces	16	Immersive Laboratory
7	Conference Room	17	Mezzanine | Crit
8	Center	18	Archives
9	Library	19	Faculty Studio
10	Loading		



Level Four
Floor Plan

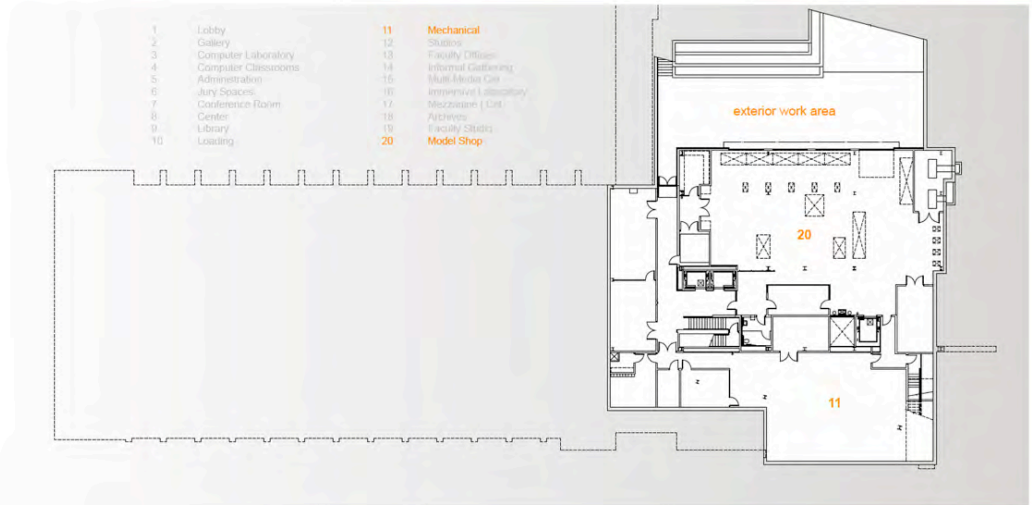
The Pennsylvania State University
School of Architecture & Landscape Architecture

1	Lobby	11	Mechanical
2	Gallery	12	Studios
3	Computer Laboratory	13	Faculty Offices
4	Computer Classrooms	14	Informal Gathering
5	Administration	15	Multi-Media Crit
6	Jury Spaces	16	Immersive Laboratory
7	Conference Room	17	Mezzanine | Crit
8	Center	18	Archives
9	Library	19	Faculty Studio
10	Loading		



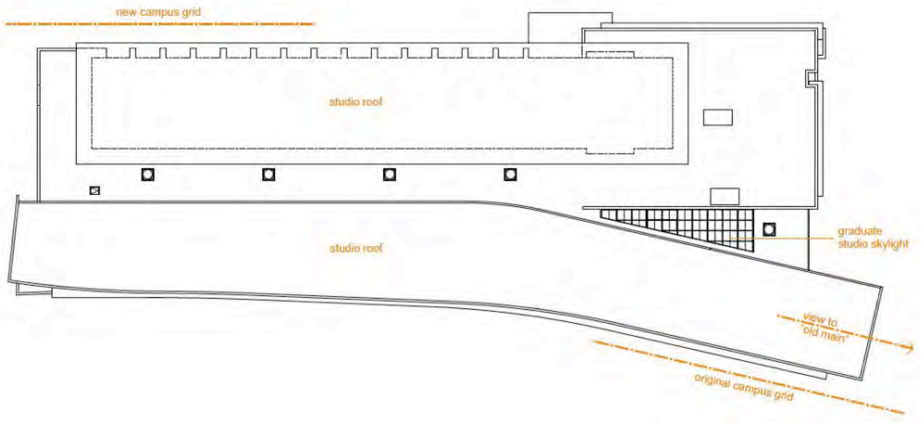
Basement
Floor Plan

The Pennsylvania State University
School of Architecture & Landscape Architecture



Roof
Plan

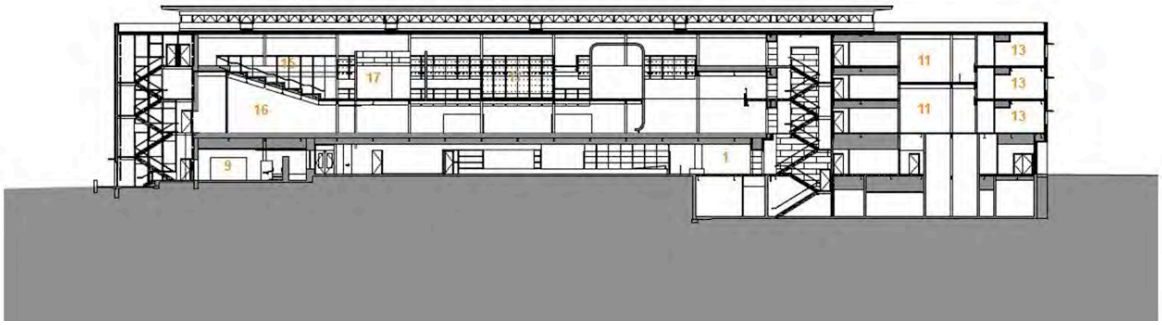
The Pennsylvania State University
School of Architecture & Landscape Architecture



Lobby | Mezzanine | Crit | Immersive Laboratory
Longitudinal Section

The Pennsylvania State University
School of Architecture & Landscape Architecture

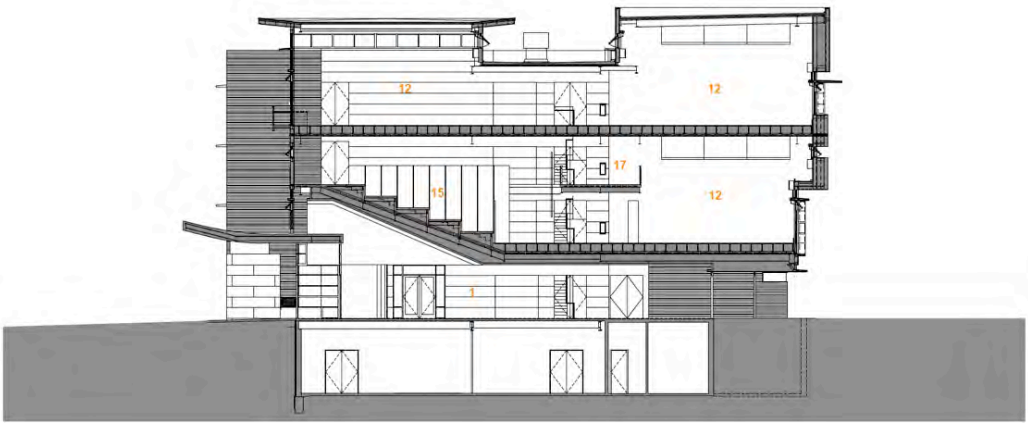
1 Lobby
2 Gallery
3 Computer Laboratory
4 Computer Classrooms
5 Administration
6 Jury Spaces
7 Conference Room
8 Center
9 Library
10 Loading
11 Mechanical
12 Studios
13 Faculty Offices
14 Informal Gathering
15 Multi-Media Crit
16 Immersive Laboratory
17 Mezzanine | Crit
18 Archives
19 Faculty Studio



Lobby | Mezzanine | Crit | Studios
Transverse Section

The Pennsylvania State University
School of Architecture & Landscape Architecture

1 Lobby
2 Gallery
3 Computer Laboratory
4 Computer Classrooms
5 Administration
6 Jury Spaces
7 Conference Room
8 Center
9 Library
10 Loading
11 Mechanical
12 Studios
13 Faculty Offices
14 Informal Gathering
15 Multi-Media Crit
16 Immersive Laboratory
17 Mezzanine | Crit
18 Archives
19 Faculty Studio



Design studios**:** The design studios are located on the second and fourth floors and include a total of 19,820 sq. ft. of space. The studios contain approximately 300 work stations organized by academic year. Individual work stations are assigned to each student on a semester basis and all stations consist of a drafting table, a studio chair, and a storage locker. The equipment is movable and allows for adaptation to a variety of class sizes, projects, methods of instruction, and review situations.

Classrooms, Seminar Rooms, and Lecture/Multi-Purpose Space: The program utilizes University wide facilities for its large lecture classes. The Stuckeman building encompasses two information technology computer classrooms and a large conference room which can be divided into two smaller rooms, two forum spaces, a 2,500 sq. ft. jury space with permanently installed projection equipment, located on the first floor, and several design review spaces on the third floor (mezzanine).

Architecture Model Shop: The architecture model shop occupies 5,250 sq. ft. in the basement of Stuckeman. It is for the exclusive use of students and faculty of the Department of Architecture and the Department of Landscape Architecture. A wide range of power, robotic, and CNC equipment as well as hand tools are provided for work with wood, metal, foam, and plastic, and is under the constant supervision and maintenance of two staff. In addition to the full time staff, students are trained and employed as shop monitors, usually as part of the Work-Study program at the University.

Before being granted access to the Model Shop, students must complete the shop safety course, given by one of the full time staff members. Students complete a tour and must pass an exam on functionality and safety procedures, as well as build a small project. The “Pencil Box” project is specifically designed to expose students to a variety of hand tools and power tools, as well as woodworking theory. After passing the exam and the projects, students have access to all facilities in the shop and are encouraged to use it as much as possible.

Technology Laboratories: The Department of Architectural Engineering plays a major role in the instructional programs of our Architecture students. Penn State’s Architectural Engineering program is one of the leading AE programs in the country. The Department maintains laboratories that are used as a resource for technology classes in group assignments or demonstrations, for independent investigation, and for sponsored research. The labs include the Structures Studio, a Materials laboratory, and an Illumination laboratory, each appropriately equipped for classes and experimentation.

Student Lounge: A furnished lounge, referred to as the “wedge” for informal student discussions and gatherings occupies 1,130 sq. ft. and is located on the mezzanine.

Willard G. Rouse III Gallery: The Gallery, located on the first floor, (686 sq. ft.) provides a premium location for internal and external exhibitions. Additional galleries on and off the campus (the HUB-Robeson Center, the Zoller Gallery in the Visual Arts Building, the Downtown Theatre Gallery, the Lipcon auditorium in the Palmer Museum of Art) are scheduled for special events and exhibits requiring careful surveillance and security.

Faculty and Administrative Offices: The offices for architecture faculty are located on the second, third, and fourth floors at the south end of Stuckeman. All full-time faculty have their own offices and a few visiting faculty are currently sharing space.

The administrative offices of the Department (1,277 sq. ft.), located on the first floor in the center of the building, are adjacent to the Landscape Architecture office with a common kitchen area in between. The Department Head’s office opens into the general office space. A storage room is adjacent to the main office reception area. Additional storage facilities are located in the basement.

Computing Facilities and Resources

Having been in our current building for ten years, we are working on a facilities plan that explores current and future needs of the School. The intent of this plan, as it relates to computing, is to place existing and anticipated digital fabrication equipment in its optimal curricular location in the building. Currently, we have a “DigiFab Lab” in the basement that allows students and faculty in the Department of Architecture and in the College of Arts and Architecture first hand experience in using cutting-edge tools as part of their creative process, including a 6-axis CNC robotic arm and a CNC router. This has been a substantial endeavor as it has required the installation of network ports, room ventilation, card access, and installation of an adequate and versatile electric service. The new electric service will facilitate the use of a 6-axis CNC robotic arm. With adequate utilities currently in place, the current facilities plan explores the expansion of our array of equipment and capabilities, including metal machining, waterjet cutting, welding, and vacuum forming. We have already begun including welding, machining, and other metal equipment, as well as vacuum forming.

The Laptop Initiative:

The Department has carefully reviewed computing options and has recommended Apple MacBook Pro as providing the most appropriate computer system to integrate with both departmental and University systems. Criteria included price/value, support, value-added features, ease of use, and upgrade options. Laptop specifications are updated annually. Students who bring other laptop brands and models of comparable performance to the recommended MacBooks can participate in the laptop initiative, although support might be limited and integration with departmental resources is not guaranteed. The Laptop Initiative is a result of cooperation between the Department of Architecture, Information Technology Services at Penn State (ITS), Apple, and Arts & Architecture Information Technology (AAIT).

Each year design studio is equipped with a “computer pod” area, provided with high-end desktop computers. Most software is available free to Penn State students, and those particular to our discipline are provided to our students on all University-owned computers. The software available to students enrolled in the Architecture program includes:

- ABB RobotStudio
- Act-3D B.V.Lumion 3.2 Pro
- Adobe Adobe CreativeCloud
- Apple iLife '11 Suite
- Apple iWork '09 Suite
- Autodesk 3ds Max
- Autodesk Alias Design 2015
- Autodesk AutoCAD 2015
- Autodesk AutoCAD Architecture 2015
- Autodesk AutoCAD Civil 3D 2015
- Autodesk AutoCAD Map 3D 2015
- Autodesk AutoCAD Structural Detailing
- Autodesk BIM 360 Glue Desktop
- Autodesk Ecotect Analysis 2011
- Autodesk Infraworks 2015
- Autodesk Inventor 2015
- Autodesk Maya 2015
- Autodesk Mudbox 2015
- Autodesk Navisworks Manage 2015

- Autodesk Project Vasari 2
- Autodesk Quantity Takeoff
- Autodesk Revit 2015
- Autodesk Robot Structural Analysis Professional
- Autodesk Showcase
- Autodesk Simulation Moldflow¨ Adviser Ultimate
- Autodesk Sketchbook Pro
- AutoDesSys bonzai3d
- AutoDesSys form•Z
- Blender
- EaglePoint Siteworks and LandCADD for Revit
- Ecografx, Inc. Land F/X
- eon LumenRT 2015
- eon The Plant Factory
- eon Vue xStream
- Esri ArcGIS Desktop 10.2.2 Advanced & Standard
- Esri ArcGIS 3D Analyst
- Esri ArcGIS Spatial Analyst
- Esri CityEngine
- FileMaker FileMaker Pro 13
- Geomagic
- Google Earth Pro
- Grasshopper 3D Grasshopper
- IntuiLab IntuiFace Composer
- Luxology MODO 701
- McNeel Bongo
- McNeel Flamingo nXt
- McNeel Penguin
- McNeel Rhinocerous 5
- V-Ray for Rhino
- MEC Soft RhinoCAM 2012
- MEC Soft VisualMill 2012
- Microsoft Movie Maker
- NREL OpenStudio
- Nemetschek VectorWorks Designer 2014
- NYU Systems SoTouch Presentation Plus
- Overwatch Feature Analyst
- Overwatch / Textron ArcGIS LiDAR Analyst
- Placeways Community Viz
- QSR International NVivo 10
- TechSmith Camtasia Studio
- Trimble Sketchup Pro 2014
- Troy Nolan Peters Solar Shoebox
- UCLA Energy Design Tools Climate Consultant
- Unity Technologies Unity 3D & 3D PRO

- US Department of Energy EnergyPlus

Software available in ITS Labs:
http://clc.its.psu.edu/labs/windows/software

PSU Software available for free:
ITS Downloads: https://downloads.its.psu.edu/
PSU WebApps: https://webapps.psu.edu/

Computing Infrastructure: The Stuckeman Family Building provides our students with a wireless environment enabling them to remain connected to the network while at their desks or as they move between classes, studio spaces, the Immersive Environment Lab, workshop, and digital fabrication facilities. When the speed of the wireless connection is not adequate due to the load on the system, hard-wire gigabit Ethernet connections (mobility ports) are conveniently located within studios and other areas of the building.

The Stuckeman Center for Design Computing Lab (2947 sq. ft.): Located on the main floor of Stuckeman, the SCDC provides students and faculty with computing research hardware.

13 Workstations

- (2) Apple 27" iMac – 3.4GHz Intel Core i7 16GB
- (6) Mac Pro – 3.2GHz Quad-Core Intel Xeon 16GB
- (1) Mac Pro – 2.8GHz Quad-Core Intel Xeon 8GB
- (1) Mac Pro – 2.66GHz Quad-Core Intel Xeon 8GB
- (1) Mac Pro – 2 x 2.26GHz Quad-Core Intel Xeon 32GB
- (1) Mac Pro – 2 x 2.26GHz Quad-Core Intel Xeon 8GB
- (1) Dell Studio XPS – 3.2GHz i5 8GB
- (1) Dell OptiPlex – 3.4GHz i7 32GB

SCDC Peripherals

- Microsoft XBox Kinect Sensor
- (1) Leap Motion Controller
- (1) PQ Labs 60" Touchscreen
- (1) Samsung 60"
- (1) Crestron AirMedia M100 Video Gateway
- (6) Dell MP5100 DLP Projectors
- (1) Epson Expression Scanner
- (1) Color Laserjet CP3525
- (1) Silver Reed SK840 Electric Programmable Standard Gauge Knitting Machine
- (1) Bernina Sewing Machine Programmable Embroidery Module BERNINA-5-Series 560E
- (1) Digital Soldering Station Weller WESD51 50W Digital Soldering Station
- (1) Clover-Mini-Iron--The-Adapter/dp/B001CEAMH4
- (1)Variable Power Supply Mastech 30V 10A HY3010E-3

Immersive Environments Lab: Immersive Environments Lab: Jointly developed with the Information Technology Services of PSU, the second generation of the Immersive Environments Lab (IEL: 1,362 sq. ft.), our visualization and tele-collaborative facility, is centrally located on the second floor. As a

visualization facility, it offers three six-by-eight-foot, panoramic, passive stereoscopic Virtual Reality displays and is supported by multi-platform graphics workstations (IBM IntelliStation Pro and Mac Pro) and software to allow 'VR-like' display of student designs. A detailed technology list follows below.

The lab gives students the capability of displaying multi-modal presentations and 3D interactive walk-throughs of their architectural designs as a full three-screen stereo panorama. This visualization system is equipped with a sophisticated video switching interface that allows students to select sources from Windows, Macs or even their own laptop.

The lab is also used for instruction purposes, critiques, and as a photography lab.

Digital Fabrication: Over the past few years, our digital fabrication capabilities have grown. Our Digifab tools are listed below.

Because of the increase in digital fabrication technologies, infrastructural updates have been made. For example, the addition of two new laser cutters in 2012 required an upgraded ventilation system in the north end of the building. The "Digital Fabrication Master Plan" is being developed to accommodate other recent acquisitions.

General Computing Facilities: As part of the general computer lab system at the University, the first floor of the Stuckeman Family Building houses two general computing classrooms with 60 workstations supported by Information Technology Services. These labs are available to our students for instruction and practice, as well as to other students in the University. Within the Windows Lab, students have access to Wacom Cintiq pen displays at each workstation.

Students have access to equipment such as digital cameras, video recorders, laptops, lighting equipment, and tablets through Media Technology and Support Services at Penn State. Computer labs and facilities are provided 24/7 by the Information and Technology Services (ITS) to the entire Penn State community.

List of General Computing Equipment in the Department of Architecture

Server Environment:

Dell PowerEdge hosting virtual guest servers with external RAID5 device for file share storage. Virtual servers include: Print chargeback server, License server, File server, DHCP server, and Windows Deployment Services. Other guest servers can be brought online as needed. All guest systems are replicated to backup drives nightly and weekly.

6 Networks (gigabit speed):

Student lab systems
Faculty and Staff
Wireless (not gigabit)
Mobility
Immersive Environments Lab (National Lamda Rail connection)
Admin

Architecture Studio Workstations
34 Workstations

- (6) Apple 27" iMac – 2.8GHz i5 8GB RAM
- (11) Apple 27" iMac – 2.8GHz i5 16GB RAM
- (17) Apple 27" iMac – 3.5GHz i7 16GB RAM

Printing Resources—
School of Architecture and Landscape Architecture Studio Plotters

- (1) HP PageWide XL5000 multifunction large-format plotter/scanner 40”
- (4) HP Designjet 3200 42”
- (2) HP Designjet 6100 42”
- HP Designjet 6200 42”
- HP Designjet t7100 3 x 42”

School of Architecture and Landscape Architecture Studio Printers

- (2) HP Color Laser 5550
- (1) HP Color Laserjet 5500
- (5) HP LaserJet 5200
- (1) HP Color Laserjet CP5520
- (1) HP 700 M712

Public labs maintained by ITS in building:

- 34 Dell OptiPlex – 3.2GHz i5 8GB
- 26 Apple 27” iMac – 2.93GHz i7 8GB
- (2) 11x17 Scanners

Shared Stuckeman School Studio Workstations

8 Workstations

- (5) Mac Pro –2 x 2.66GHz Quad-Core Intel Xeon 8GB
- (2) Mac Pro – 2 x 2.66GHz Quad-Core Intel Xeon 16GB
- Mac Pro – 2.27GHz Quad-Core Intel Xeon 16GB

Shared Stuckeman School Graduate Workstations

8 Workstations

- (6) DELL Studio XPS – 2.8GHz i7 9GB
- 27” iMac – 2.7GHz i7 8GB
- 27” iMac – 3.1GHz i5 12GB

Faculty/Staff systems:

Administrative Staff have laptop systems of i5 or higher
Shop Staff have dual boot i5 or i7 Mac systems
Faculty all have dual boot laptops of i5 or i7 configuration
All Faculty/Staff systems are on a 3-year life cycle

Digital Fabrication
Please note, this list groups hardware and software together as a workstation/unit, which duplicates some of what is listed above in the software list, but more accurately represents how the resources are used. This list also lists the features of each unit.

- Dimension Stratasys BST 3D Printer
    - 8"x8"x10" build volume
- MakerBot Replicator 2X 3D Printer
    - 9.7"x6"x6.1" build volume
- MakerBot Replicator Mini 3D Printer
    - 3.9"x3.9"x4.9" build volume
- Thermwood Model 45 CNC Router
    - 3 axis operation
    - 5'x10'x16” capacity
    - vacuum hold down
    - 7 position tool changer
- Techno LC3024 CNC Router
    - 3 axis operation
    - 30"x24"x5” capacity
- (2) Dell XPS Workstations for CNC Programing
    - RhinoCAM Software
- ABB IRB2400/16 Robotic Arm
    - S4c+ Controller
    - Dell Studio XPS Workstation for Robot Programming
    - Robot Studio Software
- (2) Universal Laser Systems X-660 Laser Cutters
    - 40 Watt Lasers
    - 18"x32" Sheet Capacity
- (2) Universal Laser Systems VLS660 Laser Cutters
    - 18"x32" Sheet Capacity
- (4) Dell Studio XPS Workstations for Laser Cutter Control
- Konica Minolta Vivid910 3D Digitizer
    - Dell Precision Workstation for Scanning
    - Geomagic Software with scanning plugin
    - Konica PET (Polygon Editing Tool) software
- Freeform Phantom Haptic Feedback Digital Clay Carver
    - Freeform Modeling Software
    - Dell XPS Workstation
    - Freeform Modeling Software
- (5) Dual Boot MacPro Lab Workstations
    - Geomagic Software
    - RhinoCAM Software

IEL [Immersive Environments Lab]:

Main Display
- 3 screen rear projection
- 6'x24' 4200x1050 pixels or three 6'x8' at 1400x1050 pixels passive stereo
- 6 Dell 5100MP DLP projectors
- Altinex video routing matrix. RGBHV 16in x 8out
- Crestron Control Interface
- Stereo Audio
- Podium Laptop Input

Dell Precision T7500 running Windows 7
- 3 screen continuous desktop, 3840x960 pixels stereo graphics output
- BS Contact Stereo browser, Visualization ToolKit, Google Earth, misc stereo viewers.

Mac Pro Quad-Core running OS X 10.7
- 3 Screen Display 3072x768 resolution

ClearOne RAV900 voice conference system
- echo cancellation
- stereo audio input/output
- Bose speakers

Challenges and Recommendations

The building was programmed and designed just prior to the emergence of digital fabrication and rapid prototyping as important aspects of architectural education and practice. We have begun a "Digital Fabrication Master Plan" to address the issue of properly locating existing equipment, and planning for future growth.

I.2.3 Financial Resources

We have successfully negotiated a tuition revenue-sharing plan with the Provost. The provost's office has been extremely helpful and supportive of this plan. The plan has allowed us to address the shortcoming of graduate student assistantships (PSU term: GIA). We are now in a position to support our Master of Architecture students with 50% assistantships. In addition, the College has provided us with seven new GIA's for the PhD program. The College has also provided us with roughly ten temporary GIA's annually. At this point, we have access to fifty seven GIA's, in addition to all of the temporary GIA's given annually. This is in comparison to sixteen GIA's we owned a few years ago.

Departmental Budgets
The Pennsylvania State University uses a "historical funding model", which de-couples annual funding from enrollment, FTE's, and such. The Department has had "flat" funding for as long as history shows. In addition, at the College each year there are "temporary" funds that are distributed towards various initiatives. We have rigorously applied for these "temporary funds", and the College has been forthcoming with support for our program.

The fixed budget is achieved simply through the merit-based increases in the salaries of faculty and staff—approximately 3% annually. In addition, we have added one new tenure track line, and two multi-year fixed term faculty lines. The temporary budget numbers are negotiated annually at the budget meetings. The numbers presented under "temporary budget" are within the norms of the requests that have been made by the department in the past. Now that the Stuckeman Endowment is fully vested, The College has requested that our budget include the Endowment funds, which will reduce the Department's temporary request, but increases our overall budget. In addition to the list below, I have attached a budget summary of operating expenditures and income, as well as the Endowment funds that are being utilized to support activity. Please see "Department of Architecture Operating Expenditures and Income"

and “Incoming Funds from Stuckeman School Endowments (2 documents)” in Section 4-Supplemental Information.

Below, please see an abbreviated list of the cost-items from the 2015-16 department budget, submitted to the Dean’s office: $81,411.00

- Misc. Supplies
- Postage for special projects (grad program, etc.)
- Meeting refreshment expenses
- Group Meals (jurors/lecturers & escorts)
- Travel /conference, etc.
- Student Travel
- Staff Professional Development
- Computer Services/Oracle Calendar
- Books Periodicals Videos
- Promotional Printing
- Professional Memberships (NAAB/ARCC/ACSA)
- Miscellaneous
- Alumni Award Recipient Travel
- Moving expenses
- Graduate Program
- Student Support
- Student Workshop
- Wages: FTCAP, archival, etc.

Special Expenses Specific to 2015-16: $1,229,575.00

- Graduate stipends
- Faculty computers
- Fixed term salaries
- Faculty/staff benefits
- Startup expenses
- Kossman Reviews for 5th Year in Spring
- Professional MARCH Continuation of Candidacy Visit
- Professional MARCH promotion, recruitment (design, printing, posters, ads, mailings)
- Publication Enhancement
- Strategic project manager
- Graphics manager
- Arch Enhancement

Annual typical expenses: $37,238.00

- Computers
- Grad Studio
- Misc.
- Model Shop
- Softkey
- Studio years (BARCH 1st -5th; MARCH 1st-3rd; MS 1st-2nd)

Any program of our size has normal fluctuations in the size of its student body. For example, a few years ago, our department admitted approximately 80 freshmen, two years in a row, instead of its usual 60. This has created a bubble of an additional 40 students that are going through the program. As a part of our normal operations, we are well equipped to deal with these fluctuations. The additional students in the Department from the professional MARCH program, in terms of its general effect on the department

budget may be seen as one of these fluctuations. In our assessment, the general operating costs related to the additional students are negligible, and have been easily absorbed in the current budget. Of course, much of what we already do, such as lecture series, career fair, and reviews will occur anyway, with or without the additional students.

In addition, the Stuckeman Endowment, housed at the School of Architecture and Landscape Architecture has brought 4 professorships to be shared by the two departments annually. The funds for the endowment are completely vested, and during the coming academic year we have been able to bring to campus 3 stellar faculty to teach our architecture students with funds additional to our budget allotment. In addition, the Stuckeman Endowment supports a much-expanded lecture series, computing, faculty start-up grants, collaborative work, and much more. Please see Part 4-Supplemental Information, for a list of Visiting Lecturers and Critics, along with their respective exhibitions, for the 2014 and 2015 calendar years.

Based on a recent departmental assessment of "increased faculty assignment" for the professional M.Arch program, a total of two full-time faculty (our full-time faculty teach four courses each year, two studios, two lecture/seminars) are needed. This increase has already been achieved by the additional faculty appointments in the last few years and does not include the Stuckeman Professorships. The Department's overall budgetary situation, including the additional 30-36 professional M.Arch students, is better than a few years ago. In addition, the benefits to our currently accredited undergraduate B.Arch program will be substantial in terms of offering new assistantships that would invariably enhance research and creative activity for both the students and faculty, as well as providing a cohort of advanced graduate students with diverse backgrounds with whom the undergraduate students would be able to interact and work.

Forecasts – Five-Year Projections of Revenue and Costs

	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Fixed Budget	$1,965,901	$2,024,878	$2,085,624	$2,148,192	$2,212,637	$2,279,016	$2,347,386	$2,417,808	$2,490,342
Temporary Budget	$138,965	$168,965	$198,965	$228,965	$240,000	$240,000	$240,000	$240,000	$240,000
Total	$2,104,866	$2,193,843	$2,284,589	$2,377,157	$2,441,602	$2,507,981	$2,587,386	$2,657,808	$2,730,342

1.2.4 Information Resources

Faculty, students and staff are given multiple opportunities—through visiting lecturers, guest critics, conferences and exhibitions—to expand their professional education. Please refer to the List of Visiting Lecturers and Critics, referenced above, appearing in Part 4-Supplemental Information.

Library Resources for Professional Practice and Lifelong Learning

SUMMARY

Since the MArch program focuses on topics that are similar to other programs in the Department of Architecture, there has been minimal impact on the existing information resources. The increase in the number of students served has been a very small percentage of the total and easily absorbed by existing resources. During these past two years of operation of the MArch program, overall library traffic dipped slightly then increased substantially. Over the years we have observed that library use is sensitive to specific course assignments and that these are the major influence on traffic. The impact of the MArch program on information resources is not a question of new demands, but whether existing demands are being met. Because of this perception, this portion of the self-study attempts to describe and assess the

library and information support for the Department of Architecture as a whole, with a few mentions of support for the MArch program where that can be isolated.

The University Libraries provides for the information resources of the Department both through the Architecture and Landscape Architecture Library and through a rich network of resources that constitute one of the larger academic libraries in the country. Library staff members strive to develop and maintain collections, facilities, and services suited specifically to the needs of the Department and maintain close communications with the Department's faculty staff and students. While challenges of rapid change, uncertain economies, and limited space will always pose problems, a continued close working relationship is seen as the key to effective solutions.

INSTITUTIONAL CONTEXT

Library support of the Department of Architecture is provided primarily by the Architecture and Landscape Architecture Library (hereafter "ALA Library"), but also by the Engineering Library, the Arts and Humanities Library, and, more generally, by the entire group of University Libraries at Penn State. Each of these libraries is administered and funded by the University Libraries. The ALA Library holds materials on the current theory and practice of architecture and landscape architecture, as well as modern and contemporary architectural, landscape, and urban planning and design. It also includes the history of these topics back to the mid-nineteenth-century. Materials on earlier periods of architectural history are collected in the Arts and Humanities Library. The Arts and Architecture Librarian administers the architectural collections at both of these locations. The Engineering Library collects most aspects of engineering and its collections on architectural engineering, structures, building systems, construction, and computer-aided design and construction are of particular value to the Department of Architecture. A popular document delivery system permits the rapid movement of library materials between any of Penn State's 23 campuses or any other University Libraries facilities.

The Penn State University Libraries are ranked highly by the Associations of Research Libraries (ARL)—9th among 115 members, who essentially comprise the largest academic libraries in North America. (http://www.libraries.psu.edu/psul/groups/assessmentcouncil/statistics/investrank.html)
Our rate of current collecting expenditures ranks 11th in the ARL. (http://publications.arl.org/ARL-Statistics-2012–2013/53). The Penn State collections total roughly 6 million volumes.

Typical of major land-grant universities, Penn State supports a wide array of disciplines and programs. Since the University Libraries supports each of these, the information needs of interdisciplinary approaches to design are often easily managed. The more unusual treasures of a major research collection are often useful for teaching and research in architecture. For example, the Special Collections Library has several collections that are used by individuals or visited by classes. These include an excellent collection of pre-19-century treatises on architecture and art, two collections of architectural photography (by F.S. Lincoln and Edward Bye) and architectural records related to campus planning and the development of central Pennsylvania. The Maps Library also contains many useful cartographic materials. The Earth and Mineral Sciences Library has supporting collections for building materials and green design. The News and Microfilms Library contains approximately 10,500 items related to architectural history.

Considering some quantities of the print-and-paper collections may help to understand the physical distribution of the collections. The ALA Library, in the Stuckeman Family Building, is the key service point for the Department, but this relatively small facility only houses modern architecture (from 1850 to the present.) Earlier historical topics are housed in the main library building (Pattee Library), which is a walk of less than 10 minutes. The ALA Library currently houses 18,560 titles of paper books and journals (or 27,143 volumes). Only 12,441 of these titles (or 18,269 volumes) are in the NA classification (which essentially comprises "Architecture" narrowly defined.) In the nearby Pattee/Paterno Library complex, another 8,590 titles (or 14,190 volumes) are classed NA. These are primarily items related to architectural history before 1850. Some architecture collections are also held in a remote storage facility. In the

University Libraries remote storage facility, another 2,790 titles (or 4,080) are classed in NA. At other Penn State campuses, another 3,200 titles (or 5,000 volumes) are available in that NA category. With one mouse click any of these items may be obtained within three days.

Paper Library Holdings for Architecture (as of 2015)

	Classified in NA		NA Plus Related Topics (i.e. total in ALA Library)	
	Titles	Volumes	Titles	Volumes
Architecture and Landscape Architecture Library	12,441	18,269	18,560	27,143
Pattee/Paterno Library (mostly architect's history)	8,484	14,215		
Remote Storage Facilities	3,386	4,897		
Other Penn State Campuses (approx.)	3,200	5,000		
System-Wide Total (approx..)	27,511	42,381		

Most digital library resources are not classified by subjects and impossible to quantify. Rough quantities may be estimated using individual files as the unit of measure (usually an article, sometimes a chapter of a book, etc.) Based upon a series of broad sample searches in LionSearch, the University Libraries' new discovery system, the number of e-journal articles and e-books related to architecture might be between 500,000 and 1,000,000. These are immediately available from any location to Penn State users worldwide.

COLLECTIONS

In modern libraries, e-resources and useful services have become much more important than quantities of bound volumes, but unfortunately are much more difficult to assess. So counts of paper collections still have some value partly because numbers are more readily available. If we isolate the collections in the Library of Congress Classification "NA" (where most architectural publications are classified) the collection seems to compare favorably to a selection of peer institutions with MArch programs (the ones discussed elsewhere in this self-study.)

	2009-10		2010-11		2011-12		2012-13		2013-14		average annual increase	
	NA titles	NA vols.	NA titles	NA vols.	NA titles	NA vols.	NA titles	NA vols.	NA titles	NA vols.	NA titles	NA vols.
Cornell				84,854		86,018		87,156		88,448		1,198
Penn State	**21,673**	**31,524**	**22,385**	**33,505**	**23,096**	**35,486**	**23,650**	**36,326**	**23,899**	**36,665**	**557**	**1,285**
Syracuse	-	24,128		24,896		25,115		25,535		26,010		471
U Maryland					28,599	47,312	28,956	47,973	29,207	48,416	203	552
U Penn (est.)		165,000										2,000
UT Knoxville	-	-	-	-	43,250	51,545	43,978	52,453	44,442	53,180		818
Virginia Tech				34,904		35,561		36,259		37,342		813

Although the data is sparse it reinforces our perception that the Penn State library collection is "in the middle of the pack" in relation to peers. Since it began in earnest in the 1960s, its totals do not compare favorably with any of the older beaux arts collections such as the venerable ones at the University of Pennsylvania and Cornell. But for more than 15 years our rate of growth has been competitive with many larger architecture libraries.

Of course the electronic collections are at least as important as the paper collections, and perhaps more important, but the variety of formats, sources, and distribution systems for digital library resources makes this type of peer comparison impossible. Penn State does, however, subscribe to most of the bibliographic database services dedicated to architectural design (*The Avery Index*, *CUMINCAD*, *GreenBuilding Suite*) and most of the useful peripheral databases (such as *Materials ConneXion*, *Art Full Text*, *Artbibliographies Modern*, and many others.)

The Department of Architecture's programs guide additions to the Libraries' collections. Priority is given to publications that exemplify quality in design, address design's response to social, technological, and cultural change, and publications that demonstrate the cultural diversity of design. The collection focuses on the art, practice, and societal aspects of architecture (topics such as green design, community based design, virtual space, representation, etc.). The science and technology of architecture are also considered and collected, with recognition that these aspects of the discipline are collected much more intensely by Penn State's Engineering Library (only a 10-minute walk) in support of the College of Engineering's Architectural Engineering program. The Libraries' efforts to develop collections for architecture are detailed in a written collection development policy. This document lists major topics and formats to be collected and specifies their relative priority. It is developed with input from the Architecture faculty and revised periodically. The most recent revision was in November 2013 and is posted publicly at:
http://www.libraries.psu.edu/psul/colldev/selection_policy_statements/archandlandscapearchcolldev.html

Collections: Books

The collection of books is more-than-adequate to support the MArch and other programs in Architecture. Each year an extensive range of design, technical, professional, and history publications are purchased, primarily those in English but with occasional purchases of publications in major European languages. Selections are also made in support of the Department of Landscape Architecture, architecture courses in the Department of Art History, and other closely related programs. Requests from Architecture faculty and students for new publications are commonplace and rarely refused. (We do not think that *any* have been refused in the past 15 years.) The University Libraries have aggressively added e-books, which have a special value because of easy access at our 23 campuses.

Collections: Journals

As with nearly all academic libraries, the collection of journal subscriptions is more problematic. Monopolistic practices by some commercial journal publishers have stimulated three decades of cost increases far beyond increases in other markets (many years with averages of 10%-20%). Although these cost increases are most notable in science and technology fields, the design literature has also been affected. The University Libraries have undertaken cost-cutting journal cancellations in most years of the past decade. However, three tactics have been employed to prevent journal cancellations in architecture and, contrarily, to increase the number of architecture subscriptions.

- Between 2001 and 2003 the ALA Library was able to add a significant number of new paper subscriptions (24 titles) by shifting funds from books to journals. (Architecture and Landscape Architecture faculty were polled to help develop the list of added titles).
- The Arts and Architecture Librarian is authorized to distribute allocations between several art and architecture disciplines and works with Arts and Humanities librarians on broader disciplinary funds. This flexibility has been used to direct journal cancellations to areas where less damage would result.
- The University Libraries have increasingly subscribed to large e-journal "packages" and also added direct access to thousands of free e-journals and these programs have expanded the list of architecture e-journals available (to more than 240).

The Association of Architecture School Librarians (AASL) have for many years selected a "Core List of Periodical Titles for a First-Degree Program in Architecture." The most recent edition was in 2009. (http://www.architecturelibrarians.org/page-1364618) Penn State holds a current subscription to 50 of the 54 titles on the Core List, as well as 23 of the 40 titles on the Supplementary List. These holdings are improved from 2007 when the Penn State's holdings were compared to the 2002 edition of the "Core List of Periodicals...". At that time Penn State subscribed to 40 of the 47 Core journals and 12 of the 24 Supplementary titles." Penn State also subscribes to many architecture journals that are not on the AASL lists.

Collections: Video

The ALA Library houses a specialized collection of more than 200 videos and on design subjects, which circulate either for classroom presentation or individual viewing. Related video collections are held throughout the library system and are accessible to the Architecture faculty and students. The Libraries have licensing for numerous videos for streaming, including many excellent documentaries on architecture, planning, and sustainability produced by Bullfrog Films, Icarus Films, PBS, BBC, and many others. (http://www.libraries.psu.edu/psul/researchguides/communications/streaming.html)

Collections: Visual Resources

The University Libraries began providing digital images for architecture in 2002 and since that time has assembled a rich assortment of resources. Licensed images include subscription databases such as *ARTstor* and the *AP Multi-media Collection*, which contain millions of images of art and architecture.

These are supplemented by an assortment of locally mounted image databases that fill gaps and meet special local needs.

Worldwide Building and Landscape Pictures: This Penn-State-only database has grown to 27,055 images of major monuments in the history of architecture and landscape design. Most of these are licensed from professional photographers, but 4,168 have been obtained from Penn State faculty with permission to also post them on our Flickr photostream for all educational users: http://www.flickr.com/photos/psulibscollections/

Central Pennsylvania Architecture and Landscape Architecture: Since January, 2013, this public database has documented the architecture of our region with photographs and extensive cataloging It has begun with more than 1,102 images with a strong emphasis on mid-century Modernism, including the works of many former Architecture faculty members, and will grow to include all aspects of the built environment of Central PA. This database is intended to contribute to the Department of Architecture's outreach mission to serve the region and to increase public awareness. (Accessible worldwide.)

University Park Campus History Collection: Several hundred images of drawings and photos documenting campus planning at Penn State (Accessible worldwide.)

Art History Department Visual Resources Collection: A Penn-State-only collection of 79,199 images of the history of art and architecture.

The O'Connor/Yeager Collection: Pennsylvania Prints from the Palmer Museum of Art: 268 topographical views of 19th- and early 20th-century Pennsylvania towns (Accessible worldwide.)

The Libraries manage common software for these locally-managed collections and they may be searched simultaneously.

SERVICES

The University Libraries offers a full array of library and information services. All of these are available either via the Internet, by phone, at the ALA Library, by appointment in the classroom, or, in only a few cases, exclusively at the main Pattee/Paterno Library complex. These services are too numerous to list here, but most may be browsed at these three URLs:

Services for Faculty: http://www.libraries.psu.edu/psul/infosvcs/faculty.html
Services for Students: http://www.libraries.psu.edu/psul/infosvcs/grad.html
Services at the ALA Library: http://www.libraries.psu.edu/psul/architecture.html

A few services of particular interest for this self-study are discussed below.

Services: Partnership

Those on the staff of the ALA Library see their role as partners, working as closely as is feasible with the faculty and staff of the Stuckeman School. The full-time staff attend Department of Architecture lectures and events and follow the School's listservs and Tweets. The publications of the Department's guest speakers are routinely obtained and displayed. More extensive library exhibits attempt to respond to the interests and activities of the school. (For example, because of faculty interest in diversity in the design professions, the faculty were polled for examples of important women writers on design and the resulting list of critics were the subject of an exhibit that later won the University Libraries annual Diversity Award.) Library staff are sometimes asked to speak to classes or to help with design critiques. Recently, the ALA Library served as the client for two freshman design-build projects. Library staff have often assisted faculty with development, outreach, or research endeavors. Occasionally, the library holds a focus-group dinner with representatives of the student organizations in the Stuckeman School in order to obtain

student input on ALA Library planning. Library users are often polled about specific choices for video purchases, new library furnishings, etc.

Services: The Library as Place

In keeping with a general trend in academic libraries, and with the Stuckeman School's mission to encourage collaboration, the ALA Library has attempted to maximize the value of it's physical facilities for occupants of the Stuckeman Building as well as other people in the "Arts Quadrant" of our campus. In recent years, these efforts have included:

- Liberalized policies for use of the rooms in the ALA Library
- Enhancement of the equipment and software available for group interaction
- Additional flatbed scanners
- Additional hardware accessories for loan at the Service Desk (i-Pads, interactive pens for the computing labs, cables, rechargers, headphones, jump drives, book carts, etc.)
- Additional lighting and furniture
- Improved exhibit and display facilities

All physical improvements have been managed with a strong (and sometimes expensive) commitment to respect the building's design concept and tone. This attractive library space is well known at Penn State and a popular commons.

Improvements in the University Libraries' delivery services have made the ALA Library popular pick-up point for books and the course reserves service is used for architecture-oriented courses in Art History and sometimes other departments. These services also attract people from other buildings (including the nearby Arts & Architecture House dormitory) and help to make the first floor of the Stuckeman Building a successful center of campus traffic.

Services: Web Outreach

The ALA Library web pages contain the predictable information about the library, but also have been enhanced in recent years, particularly in areas that promote outreach to the extended community.

- A new online list of recently received books.
- A live chat window.
- News items on Library and Stuckeman School events.
- Pages that support study abroad programs, including the Pantheon Institute studio in Rome.
- Online exhibitions of the work of some of the designers (most former faculty members) important to the architecture of our region.
- An ongoing project to survey the acceptance policies of design journals (refereed, blind refereed, invitation only, etc.) intended to assist faculty (here and elsewhere) in selecting appropriate venues for publication.

Services: Instruction

When requested by faculty, the Arts and Architecture Librarian, or other ALA Library staff provide classroom instruction in library and Internet research resources and techniques. These presentations are tailored specifically to the needs of particular course assignments. While the library staff respond to all requests for instructional sessions, routines have developed to orient all 1st-year students to library and Internet basics, to coach 3rd-year students on individual research projects, and to establish contact with all graduate students. Sessions with graduate students usually consist of an introduction to library and Internet research early in their first semester followed by one-on-one coaching sessions once students have selected individual research projects. This type of training has been managed for the MArch students via the Arch 501, Analysis of Architectural Precedents, as well as ARCH 520, Research methods.

Services: Hours

The ALA Library is typically open 87.25 hours-per-week during fall and spring semesters—7:45 AM until 11PM most weekdays and shorter periods on weekends. The popular Knowledge Commons in the nearby Pattee/Paterno Library complex is open 24 hours during fall and spring classes—closed only 10 hours each Saturday and Sunday morning. Service hours are monitored rigorously and changed annually as traffic requires.

Services: Staffing

The ALA Library has excellent rapport with its users and enjoys a reputation for providing good service. These successes are primarily due to the quality of the full-time staff who are well-credentialed, experienced, and recognized as leaders in the University Libraries.

Stephanie Movahedi-Lankarani, Library Manager
- BA Art History
- 31 years experience at the Penn State Libraries
- Winner of the Margaret Knoll Spangler Oliver Libraries Award

Tim Auman, Information Specialist
- BA Integrative Arts (minor Architecture), coursework toward MA Art History
- 22 years experience in the ALA Library
- Winner of the University Libraries Diversity Award and currently a participant in the Penn State Emerging Leaders program

Henry Pisciotta, Arts and Architecture Librarian (Associate Librarian)
- BFA Theater, MA Library Science, MA Art History, coursework toward PhD Art History
- 33 years experience in architecture libraries, 15 at Penn State

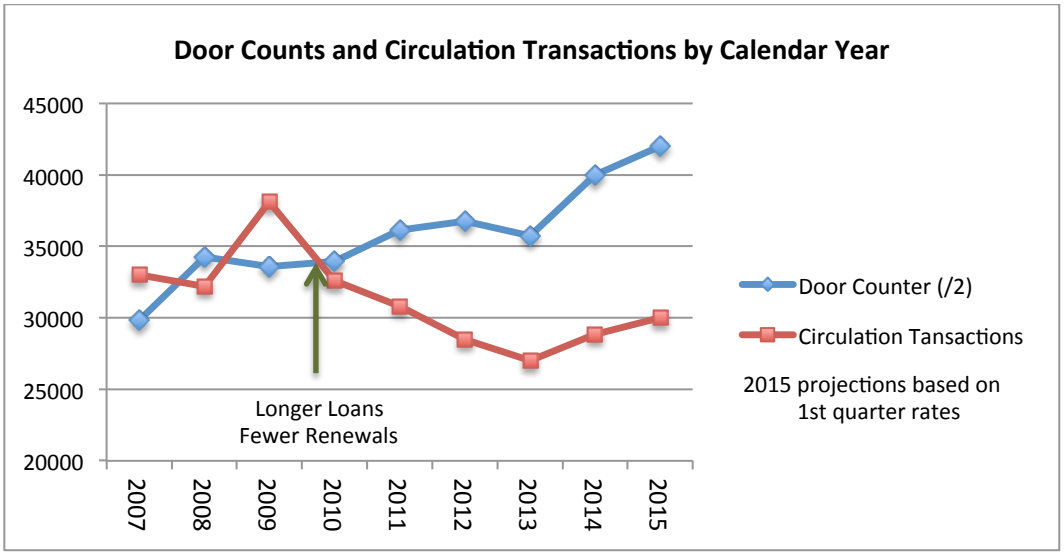
Sarah Harkleroad, Information Support Specialist 2
- BA English, AA Business
- 8 years experience in academic libraries

Part time staffing of roughly 2.5 full-time equivalents supplement the full time staffing. An unusual feature of the staffing is that the Arts and Architecture Librarian has many duties in the Pattee (“main”) Library and routinely spends only one day per week in the ALA Library (and at other times by appointment). Staffing levels at the Architecture and Landscape Architecture Library have been set to compensate for this schedule, and staff members have both the skills and authority to handle most immediate needs.

ASSESSMENT

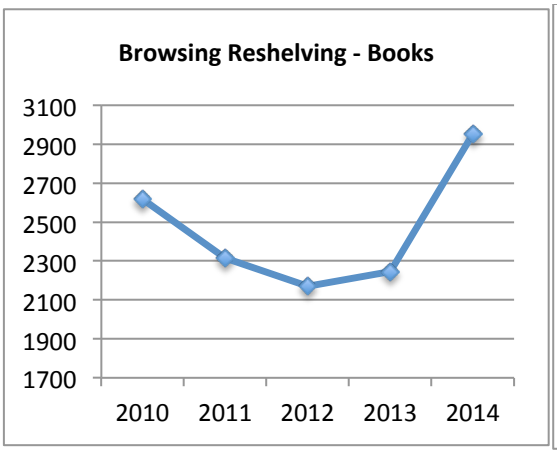
It is difficult to assess the quality of library collections and services. Our primary indicator is use—particularly in terms of trends over time.

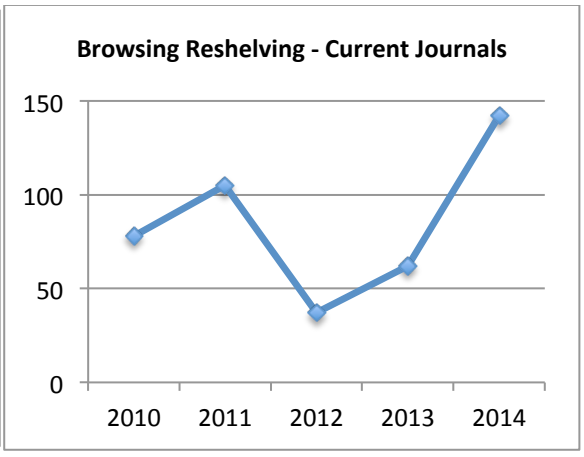
A consistently rising trend in the ALA Library door count suggests both a need for, and some success in, emphasizing the library-as-place.



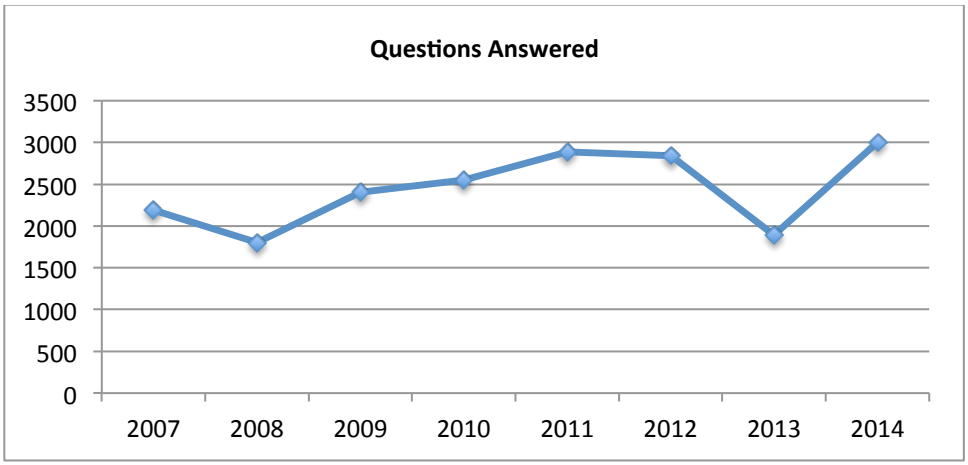
At first, the trend for paper book circulation transactions may appear to be declining. To some degree this is true, as an indicator that the many new digital library resources are displacing some needs for books. But the trend is also artificially depressed by a change in the loan period for books. In November 2010, the basic loan period for undergraduate students was changed from 4 weeks to one semester. This reduced the number of renewals (one of the forms of circulation transactions.) Because of this change, a trend line more similar to the one for door count, should be imagined for circulation transactions.

While much of the increased gate count should be attributed to uses of meeting rooms and study space, increasing statistics of direct reshelving (of items that had not been charged out) indicate increased browsing and use of the open course reserve books.

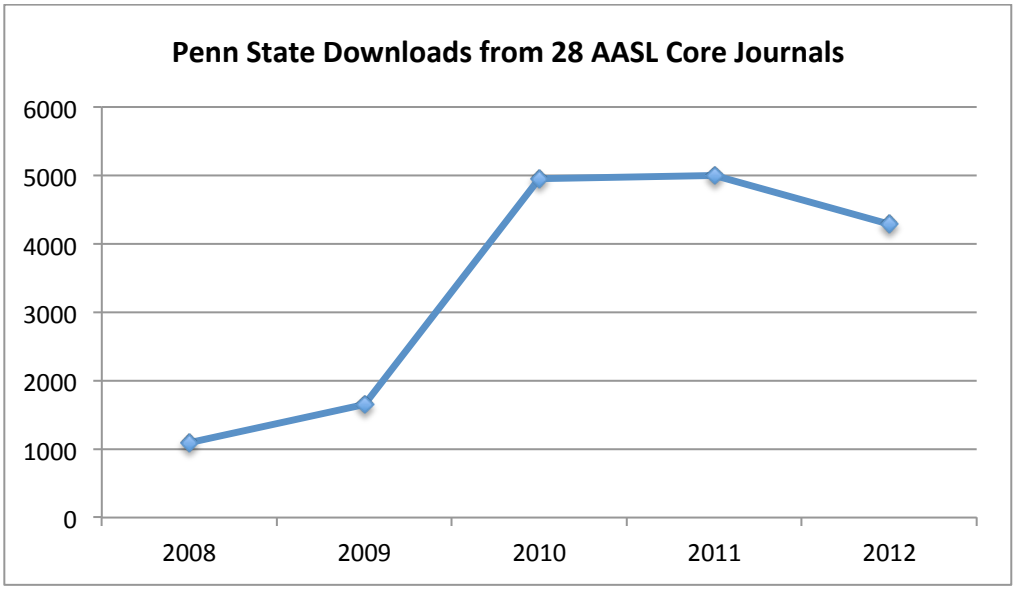




Questions addressed to the ALA Library in any form (in-person, telephone, email, or chat) trended upward both in relation to the increased door count and because of an increase in counts for email and chat inquiries.

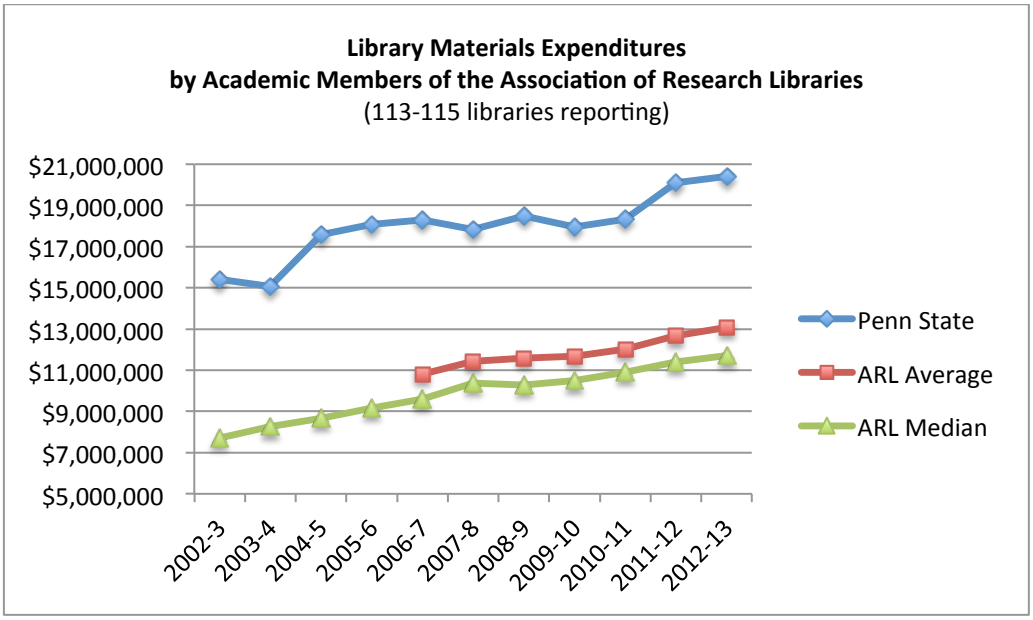


Unfortunately, there are no effective means at present for monitoring traffic on the digital library resources for architecture. This is due to a general state of confusion as libraries work to obtain compatible statistics from the publishers and distributors of electronic information and also due to a dearth of data that can be categorized by academic disciplines. However, it has been possible to gather detailed information about the use of a meaningful sample of architectural e-journals. Standardized data are available for the e-journal versions of 28 of the 94 journals in the Association of Architecture School Librarians' "Core List of Periodical Titles for a First-Degree Program in Architecture." This data records the number of times a full article is viewed as HTML or downloaded as a PDF. Reliable data is only available for 2008 through 2012. Use of this sampling of key journals quadrupled those years, partly due to implementation of "discovery layer" software that makes e-journal articles easier to find.



FUNDING

A major force in the digital library revolution is the dominance of multi-disciplinary packages of e-journals and e-books. These broad collections make tracking of funding for any specific discipline nearly impossible. However, we can easily understand the overall expenditures for library materials in all formats at Penn State. The Association of Research Libraries gathers annual statistics on library materials expenditures. Penn State regularly spends well above the norms for that group of more than 100 of the largest academic libraries in North America.



Library materials expenditures at Penn State are well balanced between state funds and endowment income, ensuring more stability than experienced at many peer institutions.

The funding for library collections for architecture is best described in these three ways:

- A portion of the funding is allocated to the Arts and Architecture Librarian and may be used to select materials with some focus on supporting the programs of the Stuckeman School, the School of Visual Arts, and the Department of Art History. These funds have been essentially fixed since 2004. During that time some slight decreases in state funding were offset by a new endowment. Purchasing power has decreased a bit since 2004 because of increases in prices and the larger number of titles published.

- Architectural library materials are also purchased through funds earmarked for a cooperative group of arts and humanities librarians. These group funds are spent as special needs arise (unusually expensive books, interdisciplinary sets, etc.) The Arts and Architecture Librarian is a permanent member of this group and these funds have frequently benefited the Department of Architecture. They have also been allocated at about the same amounts since 2004.

- Another group of collections funds are controlled by the University Libraries administration in consultation with a Collections Services Advisory Group. At present the Arts and Architecture Librarian is a member of that committee. The amount of these expenditures that benefits the Department of Architecture is not possible to track and varies from year to year. The increases in library materials expenditures charted above have been necessarily dedicated to this form of centralized decision-making related to large and multi-disciplinary purchases. This is necessary

because of the shift to digital resources -- e-journals and e-books cost more than their paper counterparts and, because of its size, Penn State is charged higher licensing fees than many peer institutions.

In general, funding for library collections in support of the Department of Architecture should be described as adequate, but requiring increased care in stewardship each year. Funding for subscriptions is especially tight. Nonetheless, the paper collections for architecture continue to grow at the rate of approximately 3% per year. Though it is not possible to quantify the growth of the digital collection, it is clearly expanding at a much faster rate.

Funding for ALA Library staffing has not changed fundamentally since the previous accreditation visit. The number of positions has remained constant and merit or other appropriate increases have been issued most years. During the most recent 3 years, the ALA Library has had the extra benefit of a graduate assistantship, funded by the University Libraries, to help with projects to document local architecture.

Challenges

Subscriptions: New and sometimes important digital resources often require licensing via annual subscriptions. Funding for these ongoing commitments has been difficult to secure. This is a critical problem in most academic libraries.

Collection Space: The ALA Library is currently operating at a fixed capacity—the number of volumes added each year must be accommodated by moving an equal amount of materials to remote storage. This has been true for 6 years. The main Pattee/Paterno Library stacks are also operating at capacity. At present, it is not difficult to select appropriate items for storage (usually materials that have recently become available digitally) but that might not continue indefinitely. It may be necessary to consider additional compact moveable shelving in the ALA Library. Increasing use of e-only resources will also be part of any solution.

Reader's Space: Demand for the two rooms in the ALA Library (a classroom and a group study room) increases steadily and may require additional policy restrictions in order to reduce contention. More flexible furnishings and equipment for these rooms may also help. During many afternoons, all computing workstations in the library are busy and there is no floor space for additional workstations. We have hopes that increased use of smaller computing devices may relax this problem.

Instruction: The ALA Library staff support the Department of Architecture's commitment to help students develop the life-long learning skills needed for success in a rapidly changing profession and hope to work closely with faculty in providing that type of learning experience.

Communications: While the ALA Library staff members enjoy an excellent rapport with faculty, staff and students in the Department of Architecture, additional means of communications may be needed, as tight budgets require more careful decision-making. We see close communications as both a challenge and the best route to successfully dealing with each of the challenges listed above.

The University Libraries have enjoyed a close working relationship with the Architecture Department, and appreciate the good communications and planning for the changes in the graduate programs. This planning has helped us to prepare for and monitor what seems to have been a very good outcome. The staff of the SALA Library have found that graduate students often act as a barometer alerting us to new trends in the discipline. They help us to keep our skills sharp and our collections up to date.

1.2.5 ADMINISTRATIVE STRUCTURE & GOVERNANCE

The Penn State is a state-related land-grant university serving the Commonwealth of Pennsylvania. The University is accredited by the Middle States Association of Colleges and Schools and is a member of the Association of American Universities. The College of Arts and Architecture is one of eleven colleges, in addition to the Graduate School and the Schreyer Honors College. Each college is structured independently, but most have similar substructures of schools and departments. The Department of Architecture and the Department of Landscape Architecture, two independent departments in the College of Arts and Architecture, together, formed the School of Architecture and Landscape Architecture in 1997. The Stuckeman Endowment and the completion of the Stuckeman Family Building that houses the operations of both departments promoted cooperation and joint efforts between the departments under a newly named Stuckeman School of Architecture and Landscape Architecture. The School hired a new director, starting Fall 2010, and has been refining its governance structure to reflect the newly added position of the director. The departmental operations and its governance have remained intact throughout the transition. We were joined in 2012 by the Graphic Design Program.

Administrative structure
The Department of Architecture is within the Stuckeman School of Architecture and Landscape Architecture, which in turn is in the College of Arts and Architecture.

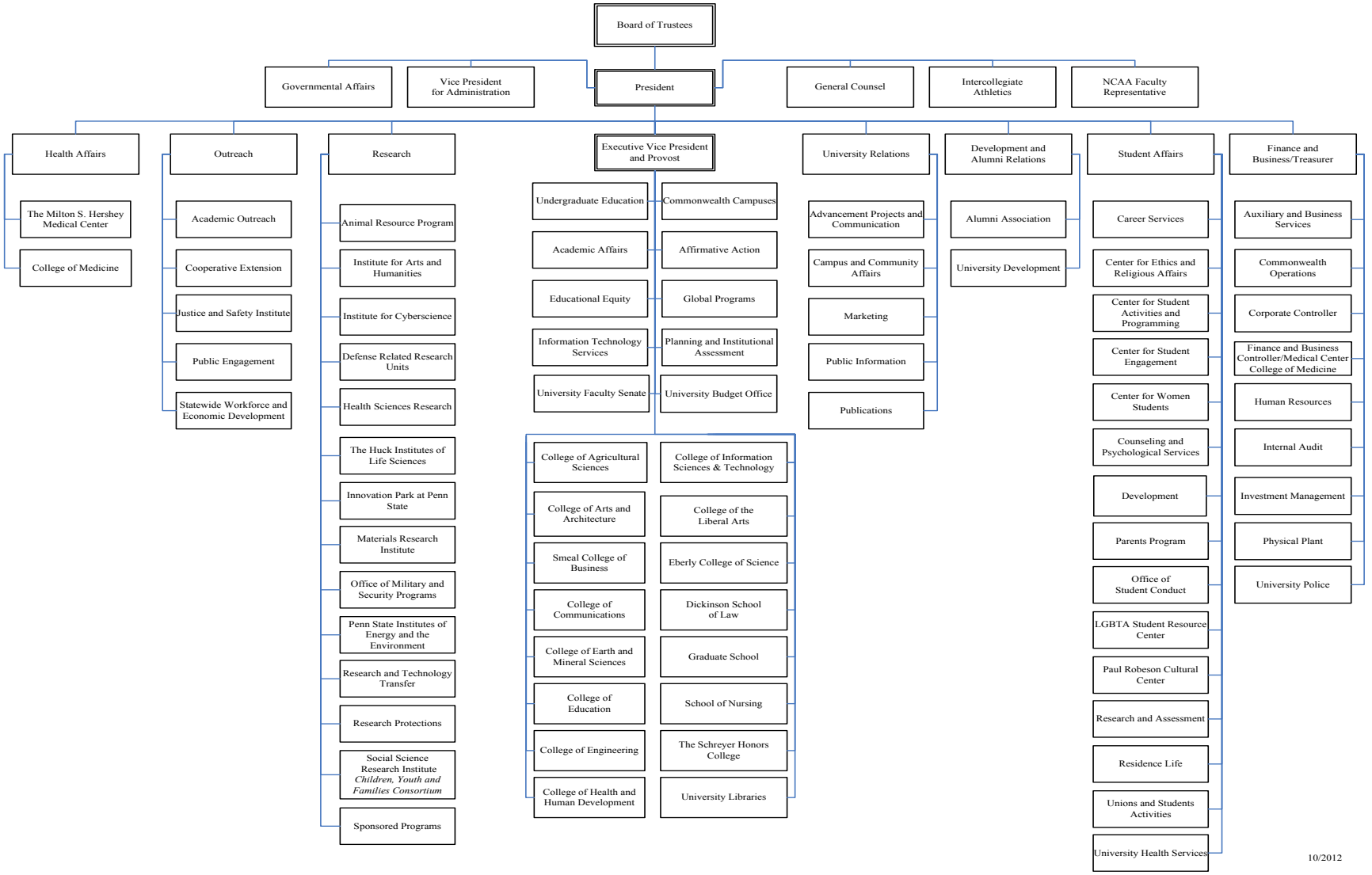
The Department of Architecture has a department head position, which is a full-time administrative position. The head spends approximately 20% of his time on University wide responsibilities, 20% on College wide business, and 60% on departmental and School administrative tasks. There is a Department staff administrative assistant who works exclusively for the Department.

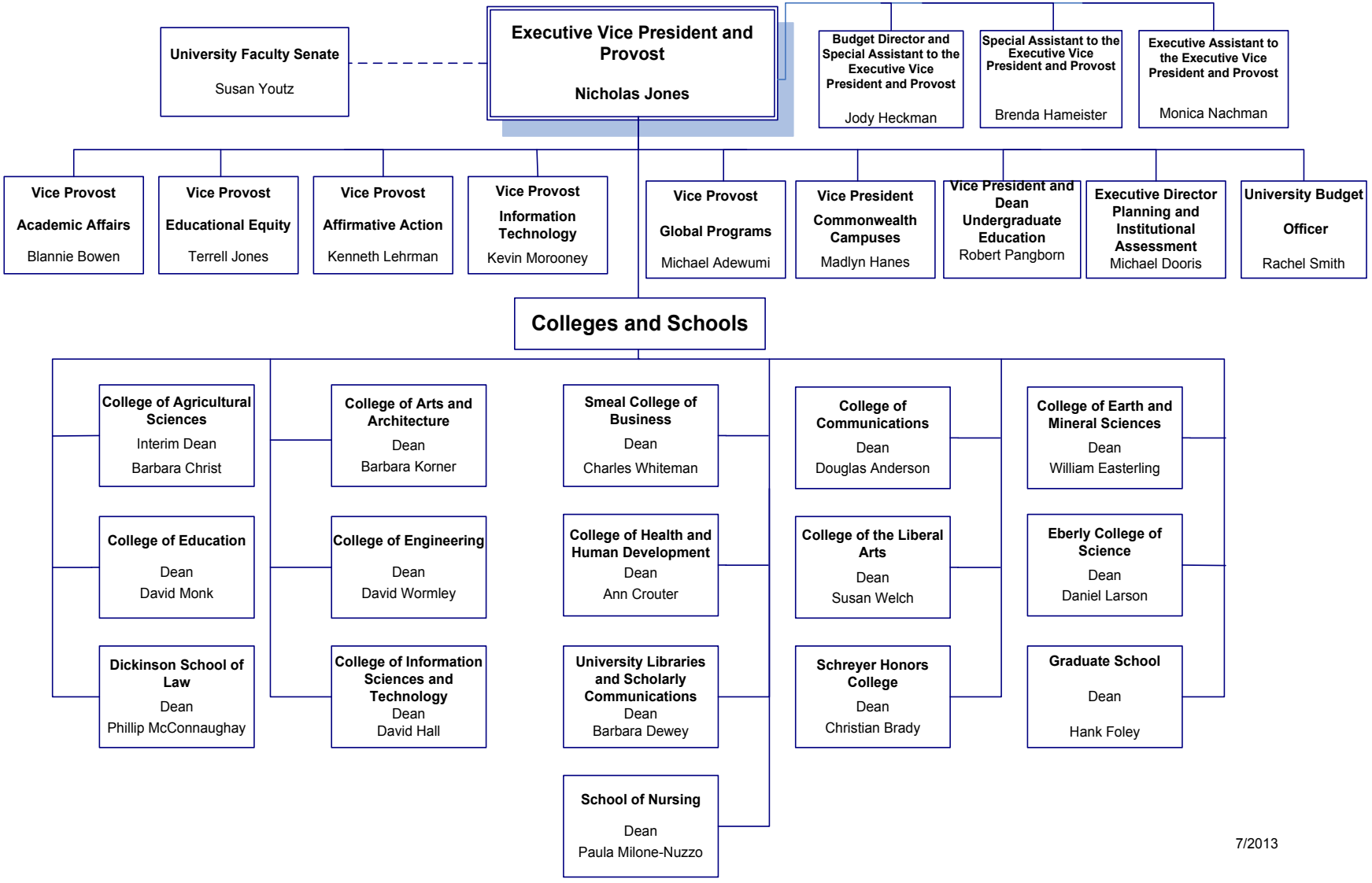
In addition, there are four full-time positions within the Stuckeman School, shared by Architecture: one secretarial, one budget coordinator, one HR coordinator, and one supervisor of administration. There are two persons in the architectural model shop, both of whom spend 100% of their time on duties related to managing the operation of the shop, supervising work study employees, monitoring machinery, and insuring adherence to safety operational procedures. There is one person who supports the Immersive Environments Lab (IEL) and Digital Fabrication equipment who spends 50% of his time related to the operations of the IEL and the Digital Fabrication equipment.

There are two technicians that support the design computing lab, both assigned at 100% of their time, to the School to support its IT operations, and maintain the computer hardware and software for students, faculty and staff.

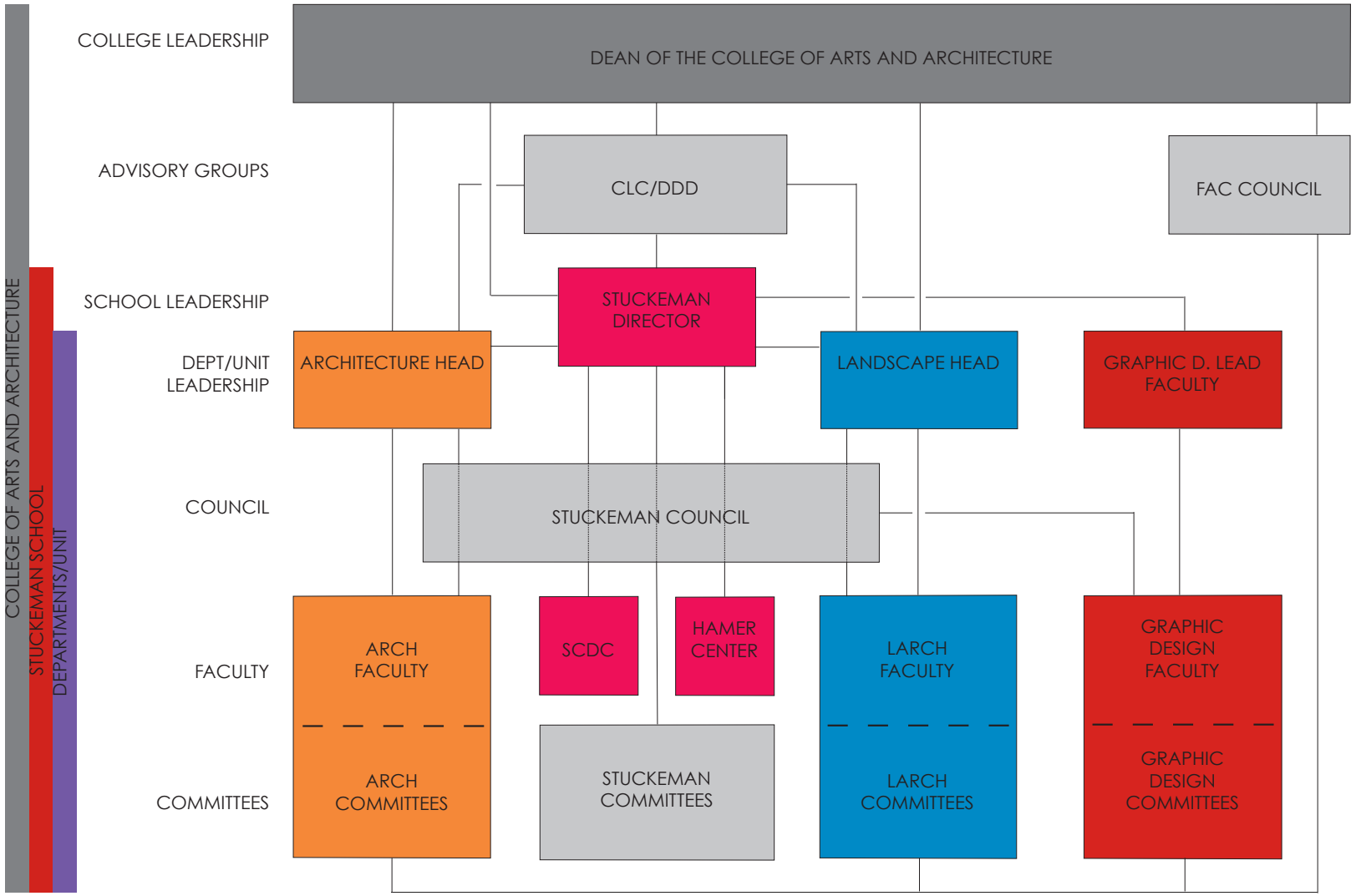
In addition to the full time staff there are numerous work/study and wage payroll employees. Approximately six to eight persons are employed part-time through these means. Their responsibilities vary depending upon departmental needs.

THE PENNSYLVANIA STATE UNIVERSITY ADMINISTRATIVE STRUCTURE




University Faculty Senate
Susan Youtz
Executive Vice President and Provost
Nicholas Jones
Budget Director and Special Assistant to the Executive Vice President and Provost
Jody Heckman
Special Assistant to the Executive Vice President and Provost
Brenda Hameister
Executive Assistant to the Executive Vice President and Provost
Monica Nachman
Vice Provost
Academic Affairs
Blannie Bowen
Vice Provost
Educational Equity
Terrell Jones
Vice Provost
Affirmative Action
Kenneth Lehrman
Vice Provost
Information Technology
Kevin Morooney
Vice Provost
Global Programs
Michael Adewumi
Vice President
Commonwealth Campuses
Madlyn Hanes
Vice President and Dean
Undergraduate Education
Robert Pangborn
Executive Director
Planning and Institutional Assessment
Michael Dooris
University Budget Officer
Rachel Smith
Colleges and Schools
College of Agricultural Sciences
Interim Dean
Barbara Christ
College of Education
Dean
David Monk
Dickinson School of Law
Dean
Phillip McConnaughay
College of Arts and Architecture
Dean
Barbara Korner
College of Engineering
Dean
David Wormley
College of Information Sciences and Technology
Dean
David Hall
Smeal College of Business
Dean
Charles Whiteman
College of Health and Human Development
Dean
Ann Crouter
University Libraries and Scholarly Communications
Dean
Barbara Dewey
School of Nursing
Dean
Paula Milone-Nuzzo
College of Communications
Dean
Douglas Anderson
College of the Liberal Arts
Dean
Susan Welch
Schreyer Honors College
Dean
Christian Brady
College of Earth and Mineral Sciences
Dean
William Easterling
Eberly College of Science
Dean
Daniel Larson
Graduate School
Dean
Hank Foley
7/2013

STUCKEMAN SCHOOL GOVERNANCE AND REPORTING STRUCTURE



Involvement in Governance by Faculty, Staff, and Students

Please refer to the “Stuckeman School Governance Document” Section 4-Supplemental Info.

Governance and control of the institution is vested in a Board of Trustees of thirty-two members. The Board of Trustees is the final repository of all legal responsibility and authority to govern the University, under the Corporation Code of Pennsylvania. The internal governance of the University is controlled by the President and his Administration, by University Council, by the Faculty, and the Student Body in accordance with the delegation of authority and advisory roles set forth by the Trustees.

Faculty participate in the governance of the College by their appointment or election to standing committees, such as the College Curriculum Committee, P&T Committee, Faculty Council, and Diversity Committee. The Stuckeman School has a committee structure that involves faculty, staff, and students as well. Faculty, staff, and students also actively engage in the governance of the Department via membership on standing committees. The establishment and implementation of policies and procedures, curriculum review, and development are thoroughly discussed at committee meetings. Recommendations of committees are brought to faculty meetings and faculty retreats for discussion by the full faculty, student and, whenever needed, staff representatives. The Department also regularly meets staff and elected student representatives to discuss issues, policies, and procedures.

Committee Structure and Assignments

The matrix on the following page illustrates the departmental committee structure and various committee assignments for 2013/2014 and 2014/2015

2014/15 Service Assignments

Department of Architecture

	STATUS	Architect Screening/Selection	Child Care Task Force	Comission for Women	F.P.A.B.	Faculty Senate: 28.5	Academic Integrity	CAA Curricular Affairs	Diversity	Faculty Council (elected 2 yr term)	Graduate Affairs: 12	Information Systems and Technology	Promotion & Tenure	Recruitment	Research and Creative Activity	Sabbatical Leave Review	Safety Committee	Scholarships & Awards (UG)	Facilities	SCDC Executive Committee	School Council	ACSA Counselor	AAG Coordinator	AE Liason	Admissions: Graduate	Career Fair	Computer Advisory	UG/Coordinators	Curriculum-Undergraduate	Curriculum-Graduate: 30	Foreign Study	IDP Coordinator	Lecture & Exhibitions	Library Committee	UG Recruitment/Prospective Students	PhD Affairs Committee	Promotion & Tenure	Shreyer Honors Advisor	Scholarships & Awards	Strategic Planning	TOTAL Hours/Semester	Notes
		University					College													School			Department																					
Belcher	Full Prof.	24			15																				4							8									51	
Haider	Full Prof.	24			15																				4				15												58	
Kalisperis	Full Prof.									8										10	20		4													15	18				75	
Lindberg	Full Prof.			8											8										4			15	15												50	
Willis	Full Prof.		15					4					18	2								4			4										15						62	
Wines	Full Prof.															15									4						4		24								47	
Aeschbacher	Assoc. Prof.											4															15														19	50% ARCH
Cooper	Assoc. Prof.																																									0	Sabbatical
Gorby	Assoc. Prof.																				20				4				15												39	
Iulo	Assoc. Prof.																							4	4			15											15		38	
Kalsbeek	Assoc. Prof.																		15						4			15													34	
Muramoto	Assoc. Prof.																								4	15											18				37	
Pihlak	Assoc. Prof.								4																											15					19	50% ARCH
Poerschke	Assoc. Prof.									12															4			15		20						15	18				84	Grad Coordinator
Shaffer	Assoc. Prof.																		15						4					20											39	
Staub	Assoc. Prof.																								4					20							18				42	
Wing	Assoc. Prof.																								4												18	15			37	
Cardoso	Assist. Prof.																			10					4					20											34	
Davis	Assist. Prof.																								4				15												19	
Henn	Assist. Prof.																	10			20				4																	34	
Costanzo	Multiyear																																									0	On-Leave
Nazarian	Multiyear																								4								24		15							43	
Rehman	Multiyear																																									0	
Aviles	FT1																																			4					4	
Heilman	Staff																										4														4	
Sutley	Staff																4																									4	
		48	15	8	30	0	0	4	4	8	12	4	18	2	8	15	4	10	30	20	60	4	4	4	68	15	19	60	60	80	4	8	48	0	49		90	15	15	0		
Notes						Rep not from Arch	Not needed till 15/16																		4hrs/wk x 15wks=60																			

2015/16 Service Assignments

Department of Architecture

	STATUS	Architect Screening/Selection	Child Care Task Force	Comission for Women	F.P.A.B.	Faculty Senate: 28.5	Academic Integrity	CAA Curricular Affairs	Diversity	Faculty Council (elected 2 yr term)	Graduate Affairs: 12	Information Systems and Technology	Promotion & Tenure	Recruitment	Research and Creative Activity	Sabbatical Leave Review	Safety Committee	Scholarships & Awards (UG)	Facilities	SCDC Executive Committee	Stuckeman Council	ACSA Counselor	AAG Coordinator	AE Liason	Admissions: Graduate	Career Fair	Computer Advisory	Coordinators	Curriculum-Undergraduate	Curriculum-Graduate: 30	Foreign Study	IDP Coordinator	Lecture & Exhibitions	NAAB Preparation	UG Recruitment/Prospective Students	PhD Affairs Committee	Prromotion & Tenure	Shreyer Honors Advisor	Scholarships & Awards	TOTAL Hours/Semester	Notes
		University					College												School			Department																			
Belcher	Full Prof.	24																							4							8		15						51	
Haider	Full Prof.																																							0	Leave
Kalisperis	Full Prof.																																							0	Sabbatical
Lindberg	Full Prof.			8																					4			8	15								18			53	
Willis	Full Prof.		15					4					18	0								4			4										15					60	
Wines	Full Prof.																																							0	Sabbatical
Aeschbacher	Assoc. Prof.											8													4		15													27	50% ARCH
Cooper	Assoc. Prof.																								4			8	15		8							15		50	
Gorby	Assoc. Prof.														8	15									4			8	15											50	
Henn	Assoc. Prof.																	10							4			8	15					15						52	
Iulo	Assoc. Prof.																				20			4	4			8											15	51	
Kalsbeek	Assoc. Prof.																		15		20				4			8		10										57	
Muramoto	Assoc. Prof.																						8		4	15		8									18			53	
Pihlak	Assoc. Prof.								4																		15								15					34	50% ARCH
Poerschke	Assoc. Prof.										12														4					10				15		15	18			74	Grad Coordinator
Shaffer	Assoc. Prof.																																							0	Sabbatical
Staub	Assoc. Prof.									8															4					10				15			18			55	
Wing	Assoc. Prof.																																							0	
Costanzo	Assist. Prof.																				20				4											15				39	
Davis	Assist. Prof.																			15					4					10			10							39	
Nazarian	Associate-FT									8									15						4								10		15					52	
Aviles	FT1																																		4					4	
Heilman	Staff																										4													4	
Sutley	Staff																4																							4	
		24	15	8	0	0	0	4	4	16	12	8	18	0	8	15	4	10	30	15	60	4	8	4	60	15	34	56	60	40	8	8	20	60	49		72	15	15		
Notes						Rep not from Arch	Not needed tilll 15/16																																	4hrs/wk x 15wks=60	

Part Two: Educational Outcomes and Curriculum

Part II, Section 1
II.1.1 Student Performance Criteria (SPC)

The matrix on the following page represents the coverage of performance criteria by course, and educational realms.

NAAB MATRIX — STUDENT PERFORMANCE CRITERIA FOR M.ARCH. 5.28.15

			CREDITS/COURSE	A1 Professional Communication Skills	A2 Design Thinking Skills	A3 Investigative Skills	A4 Architectural Design Skills	A5 Ordering Systems	A6 Use of Precedents	A7 History and Global Culture	A8 Cultural Diversity and Social Equity	B1 Pre-Design	B2 Site Design	B3 Life Safety Codes and Regulations	B4 Technical Documentation	B5 Structural Systems	B6 Environmental Systems	B7 Building Envelope Systems and Assemblies	B8 Building Materials and Assemblies	B9 Building Service Systems	B10 Financial Considerations	C1 Research	C2 Integrated Evaluations and Decision-Making Design Process	C3 Integrative Design	D1 Stakeholder Roles in Architecture	D2 Project Management	D3 Practice Management Business Practices	D4 Legal Responsibilities	D5 Professional Conduct
				Critical Thinking and Representation								Building Practices, Technical Skills, and Knowledge										Integrated Architectural Solutions			Professional Practice				
	FIRST YEAR:																												
FALL		ARCH 531	Architectural Design I	6					■	■																				
FALL		ARCH 521	Visual Communications I	2	■					■																				
FALL		ARCH 503	Materials + Bldg Const I	3												■				U										
FALL		AE 421	Arch Structural Systems I	3													■			U										
FALL		ARCH 501	Analysis of Arch Precedents I	3							U																			
SPRING		ARCH 532	Architectural Design II	6		■			■	■				■																
SPRING		ARCH 522	Visual Communications II	2	■																									
SPRING		ARCH 504	Materials + Bldg Const II	3												■				U										
SPRING		AE 422	Arch Structural Systems II	3													■													
SPRING		ARCH 502	Analysis of Arch Precedents II	3							U																			
	SECOND YEAR:																												
FALL		ARCH 533	Architectural Design III	6				■						■	■															
FALL		ARCH 451	Arch Pro Practice	3												■					U				U	U	U	U	U	
FALL		ARCH 510	Contemporary Architecture + Theory I	3	■						U	U																		
FALL		AE 211	Intro. Env. Control Systems	3											■			■	U		U									
SPRING		ARCH 534	Architectural Design IV	6				■		■				■	■		■							■						
SPRING		ARCH 480	Technical Systems Integration	3						■					■	■			U											
SPRING		AE 424	Env Control Systems I	3											■			■	U		U								U	
SPRING		GRAD	Electives	3																										
	SUMMER SESSION:																												
SUMMER		ARCH 499	Foreign Study																											
SUMMER		– OR –																												
SUMMER		ARCH 496	Independent Study																											
SUMMER		– OR –																												
SUMMER		ARCH 495	Internship																											
	THIRD YEAR:																												
FALL		ARCH 511	Theoretical Perspectives in Architecture	3		■					U																			
FALL		ARCH 520	Methods of Inquiry	3																		U								
FALL		ARCH 550	Ethics in Architecture	3			■					U													U				U	
FALL		ARCH 536	Design Inquiry	6	■	■	■						■									U	■							
SPRING		ARCH 536	Design Inquiry	6																		U								
SPRING		GRAD	Electives	3																										
SPRING		GRAD	Electives	3																										

Student Performance Criteria and the M.Arch. Curriculum

This section explains the relationship between Student Performance Criteria and the curriculum in the following categories:

REALM A: Critical Thinking and Representation
REALM B: Building Practices, Technical Skills, and Knowledge
REALM C: Integrated Architectural Solutions
REALM D: Professional Practice

The following is an account of how each criterion is addressed in the architecture curriculum:

A.1 – Professional Communication Skills (**"**Ability to write and speak effectively and use representational media appropriate for both within the profession and with the general public.")**:** As graduate students, they have been required as a part of their UG studies to take general education courses that cover reading, writing, listening and speaking effectively. The concepts covered in these UG courses are reinforced by the format of design critique employed throughout the studio sequence. The critique environment introduces and hones the student's ability to speak and listen effectively. Architecture students become well versed in public speaking and in listening and responding to the comments and criticisms of the jury. In addition to the studio courses, primary courses in which this criterion is fulfilled are ARCH 510, which is an architectural theory seminar that requires the students to use reading, writing, and speaking skills in direct relation to architectural content. Every design studio develops a student's ability to represent architectural designs in various media. The courses dedicated to laying the foundation of this sequence are ARCH 521-522: Visual Communications. In these courses students develop orthographic drafting, sketching, perspective, collage, photography, model making, as well as digital skills in drawing, rendering, and digital fabrication. In studios, computer design and representation skills are incorporated into the studio work, and digital design and fabrication is presented and employed. The scale and scope continues to increase until, finally, the students graphically present a year long design thesis project succinctly to an outside jury. ARCH 536 or Architectural Design Inquiry – requires students to produce a thesis document in which a theoretical, conceptual, and professional position for an architectural project is defined. During the thesis year and final presentations, students fulfill this criterion in various ways, including thesis books that enunciate an architectural proposition or position, document the research, site, program, precedents, design, and critically assess the design.

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 alternative outcomes against relevant criteria and standards."): The architectural theory sequence begins with an introductory theory course, ARCH 510, where students are exposed to the history of architectural theory in order to establish a historical foundation for an assessment of architectural ideas from Vitruvius to contemporary architecture. Next, ARCH 511 presents students with historic and contemporary theorists and encourages them to develop their own critical approach to conceptualizing architecture. In ARCH 532, through the study of precedents, students explore design thinking skills as applied by exemplary architects. Finally, in ARCH 536, the thesis students craft their own individual project, program, and critical approach to architectural design and urban issues. Students tend to choose thesis projects that address critical issues in contemporary architectural discourse and engage in relevant design research to develop an understanding of the challenges of architecture as simultaneously a building and a cultural endeavor.

A.3 – Investigative Skills ("Ability to gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment."): In the theory and methods sequence (ARCH 510, ARCH 511, and ARCH 520) students are required to conduct research to develop the ability to gather, assess, record, apply and critically examine information. The skills learned in those courses are used comprehensively in ARCH 536, when students are required to produce a thesis book documenting a year-long thesis research and design. Each student develops a

succinct record and documentation that defines the theoretical, conceptual, and professional position of a thesis project. The thesis requires each student to identify relevant sources that relate to the architectural problems and challenges in their design thesis. This process develops students' skills in research, judgment, selection, interpretation and documentation of sources through writing, drawing, and modeling.

A.4 – Architectural Design Skills ("Ability to effectively use basic formal, organizational and environmental principles and the capacity of each to inform two- and three-dimensional design."): First semester graduate students explore basic architectural and environmental principles in design with small scale buildings (residential) to acquire skills leading to a multi-unit residential project in the spring semester (ARCH 531, ARCH 532). The second-year studios (ARCH 533-534) introduces students to the complexity of the architectural whole with emphasis on building in context exploring program, site, circulation, accessibility, facade design, materiality, sustainability, codes and technical systems. Students demonstrate the ability to develop a building based on consistent architectural vocabulary. Faculty also encourage coordination with building materials, environmental, structural and construction courses. Projects have real-world sites and explore the fundamentals of the aforementioned concepts, with clear parameters that must be met.

A.5 – Ordering Systems ("Ability to apply the fundamentals of both natural and formal ordering systems and the capacity of each to inform two- and three- dimensional design."): Ordering principles of design are introduced to students in the first year primarily in the studio sequence, ARCH 531 and ARCH 532, but also through the Visual Communications courses, ARCH 521 and 522. Ordering Systems are introduced through exercises in drawing, model making, and analysis of architectural precedent, on many levels including the formal implications of existing patterns and form generating attitudes towards those contexts including: cultural, physical, economic, personal, political, and organizational.

A.6 – Use of Precedents ("Ability to examine and comprehend the fundamental principles present in relevant precedents and to make informed choices about the incorporation of such principles into architecture and urban design projects."): Every design studio project involves the study of relevant architectural precedents. In later years, precedent research is documented and presented in a research booklet. In ARCH 521, first year students are assigned historic precedents to analyze and represent. In second year studio, ARCH 534, in combination with ARCH 480, students research into precedents specific to their studio task, and document that precedent analysis on presentation boards. This type of research culminates in the thesis project and is represented in the thesis book (ARCH 536). Primary evidence for the Use of Precedents criterion can be found in ARCH 521 ARCH 532, and 534.

A.7 – History and Global Culture ("History and Global Culture: Understanding of the parallel and divergent histories of architecture and the cultural norms of a variety of indigenous, vernacular, local, and regional settings in terms of their political, economic, social, ecological, and technological factors."): The primary evidence for History and Global Culture can be found in ARCH 501 and 502, Analysis of Architectural Precedents I and II, which is a survey of Prehistoric, Ancient Near Eastern Egyptian, Greek, Roman, Early Christian, Byzantine, Islamic, Early Medieval, Romanesque, Gothic, Renaissance, Baroque, Modern and contemporary architecture. Primary evidence for this criterion can also be found in ARCH 510 and 511, covering a survey of cultural and architectural theories through the contemporary era.

A.8 – Cultural Diversity and Social Equity ("Understanding of the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the responsibility of the architect to ensure equity of access to sites, buildings, and structures."): Architecture History and theory courses (ARCH 501 and 502, Analysis of Architectural Precedents I and II, and ARCH 510, Contemporary Architecture and Planning Theories) position the study of architecture within diverse social and cultural environments and time periods including contexts of religion, politics, philosophy, culture and society.

B.1 – Pre-Design ("Ability to prepare a comprehensive program for an architectural project that includes an assessment of client and user needs; an inventory of spaces and their requirements; an analysis of site conditions (including existing buildings); a review of the relevant building codes and standards, including relevant sustainability requirements, and an assessment of their implications for the project; and a definition of site selection and design assessment criteria."): Although this is a criterion that is introduced within the realm of every design studio, the primary evidence is found in third-year Architectural Design Inquiry (ARCH 536), where each student engages in a Comprehensive Design project that includes the Pre-Design phase. The course fosters the spirit of in-depth design inquiry and research by utilizing a thesis to link architectural theory and building in a meaningful manner. Students choose their own thesis topics, select an appropriate site, craft a building program appropriate to the practical conditions and theoretical constructs of the thesis, and subsequently produce a comprehensive design project that embodies the thesis idea.

B.2 – Site Design ("Ability to respond to site characteristics, including urban context and developmental patterning, historical fabric, soil, topography, ecology, climate, and building orientation, in the development of a project design."): Beginning with the first year studio (ARCH 531), all studio projects have a real-world site. Students are increasingly required to react and incorporate appropriate contextual issues in relation to site conditions as they progress through the studio sequence. ARCH 531 presents a series of site conditions to introduce a variety of contextual and topographical relationships, where students must represent the manipulation of contour lines. In ARCH 532, students work in an urban environment, where they are required to conduct urban site analysis. This sequence repeats in the second year studios, ARCH 533, and 534, where the Fall studio, once again, concentrates on a hilly rural site, emphasizing design with nature, and the Spring studio concentrates on an urban location.

B.3 – Codes and Regulations ("Ability to design sites, facilities, and systems that are responsive to relevant codes and regulations, and include the principles of life-safety and accessibility standards."): Every studio requires that the designs produced comply with ADA requirements. First year studios (ARCH 531 and 532) provide basic information on incorporating accessibility in the design process. In second year studios (ARCH 533-534), students are required to complete accessibility, egress and fire code diagrams for their projects, and include considerations for egress code requirements. Students are introduced to Life-Safety in materials considerations, sprinkler systems, and egress codes and conditions in ARCH 503 and 504 and AE 211 and AE424. In Professional Practice class (ARCH 451), students are exposed to life-safety codes and zoning regulations and perform a code analysis, including egress, on their schematic project designs. In this course, the students also identify twelve local conditions of non-compliance, conduct field investigations and propose compliant solutions.

B.4 – Technical Documentation ("Ability to make technically clear drawings, prepare outline specifications, and construct models illustrating and identifying the assembly of materials, systems, and components appropriate for a building design."): Materials and Building Construction I and II (ARCH 503-504) courses introduce construction documents drawing, especially wall section studies in drawing and modeling and specifications, which are also covered in ARCH 451. In ARCH 480, or Technical Systems Integration, which is offered in conjunction and close coordination with ARCH 534 and comprehensive design, emphasizes technical research, integration and documentation in relation to the proposed design project. Drawings and models aim toward a comprehensive understanding of an assembly of a building.

B.5 – Structural Systems ("Ability to demonstrate the basic principles of structural systems and their ability to withstand gravitational, seismic, and lateral forces, as well as the selection and application of the appropriate structural system"): Students are required to take two structures courses: AE 421 and AE 422. The courses cover a general and conceptual introduction to structures, while providing focus on structures related to materials and systems of construction. AE 421 deals with wood and steel, while AE 422 focuses on masonry and reinforced concrete. The structures sequence occurs in the first year. Therefore, students are able to begin to incorporate appropriate structural systems in their studio design projects. Structural system integration is a part of the studio sequence in the second year: ARCH 533 and ARCH 534, which is taught in parallel with ARCH 480, Technical Systems Integration.

B.6 – Environmental Systems ("Ability to demonstrate the principles of environmental systems' design, how design criteria can vary by geographic region, and the tools used for performance assessment. This demonstration must include active and passive heating and cooling, solar geometry, daylighting, natural ventilation, indoor air quality, solar systems, lighting systems, and acoustics."): There are two courses in the Environmental Control Systems sequence, AE 211 and AE 424. In these courses, students learn about the fundamental principles and applications of environmental systems in building (HVAC, acoustics, plumbing, lighting and fire and life safety). These courses are completed in the second year, by which time students are expected to take into consideration the interdependence of building form, massing, technical and wall systems in their studio courses (ARCH 533-534). ARCH 480, which is taught in parallel to 534, also integrates environmental control systems into the studio project.

B.7 – Building Envelope Systems and Assemblies ("Understanding of the basic principles involved in the appropriate selection and application of building envelope systems relative to fundamental performance, aesthetics, moisture transfer, durability, and energy and material resources."): Materials and Building Construction I and II (ARCH 503-504) introduce materials and assemblies, while the AE 211 and 424 sequence examines the building envelope calculations and considerations for optimal envelope performance. In the fourth studio and thereafter students are able to incorporate this knowledge into their design work. Again, ARCH 480 works in conjunction with ARCH 534, in comprehensively examining building systems to each design project.

B.8 – Building Materials and Assemblies ("Understanding of the basic principles used in the appropriate selection of interior and exterior construction materials, finishes, products, components, and assemblies based on their inherent performance, including environmental impact and reuse."): Primary evidence for this criterion is found in two foundation courses, Materials and Building Construction I & II, or ARCH 503-504, that introduce wood/steel and masonry/reinforced concrete respectively. These courses are taught concurrently with AE 421 and 422, which are structures courses organized by the same materials as ARCH 503-504. Students are able to incorporate knowledge of Building Materials and Assemblies into their design projects in subsequent studios, especially through ARCH 480 in second year.

B.9 – Building Service Systems ("Understanding of the basic principles and appropriate application and performance of building service systems, including lighting, mechanical, plumbing, electrical, communication, vertical transportation, security, and fire protection systems."): Building Service systems are covered in AE 211 and 424. Second year studios (ARCH 533 and 534) develops an understanding of vertical transportation. All systems are presented to students and integrated into a comprehensive project through ARCH 480 or the Technical Systems Integration course.

B.10 – Financial Considerations ("Understanding of the fundamentals of building costs, which must include project financing methods and feasibility, construction cost estimating, construction scheduling, operational costs, and life-cycle costs."): During the first year Spring studio, dealing with unitized housing solutions, students study the effects of budgeting within design decisions. In ARCH 451, students are presented with the importance and use of construction cost control techniques including establishing a realistic budget with the client, estimates, early contractor input, keeping up-to-date with cost trends, the relationship of the global economy (such as China's impact on the cost of construction materials) and the proper use of Value Engineering. Students prepare Architect's Budgetary Estimate of existing buildings with known costs.

C.1 – Research ("Understanding of the theoretical and applied research methodologies and practices used during the design process."): As a research intensive faculty within a research 1 University, every studio and course involves research in one way or another. There are however, three courses that directly deliver content and require responses from students. ARCH 520, Methods of Inquiry, investigates different research methods, both traditional, and non-traditional, available to architects. The students are asked to determine a topic, and research its historic, theoretical, social, economic,.. contexts, and deliver a paper that contextualizes the topic. This topic is then researched further in ARCH 536, Design Inquiry

studio, and formulated into a thesis that requires applied research for its success. Students produce a thesis book that documents both the thesis research and its architectural products.

C.2 – Integrative Evaluations and Decision-Making Design Process ("Ability to demonstrate the skills associated with making integrated decisions across multiple systems and variables in the completion of a design project. This demonstration includes problem identification, setting evaluative criteria, analyzing solutions, and predicting the effectiveness of implementation."): The capstone project of the Master of Architecture curriculum is the thesis project conducted in the third year through two semesters of ARCH 536, Architectural design Inquiry. Working in conjunction with ARCH 520, "Methods of Inquiry", and having already completed ARCH 480, Technical System Integration, the thesis project demonstrates skills in identifying problems, assessing solutions, evaluating and assessing possible variables, setting evaluative criteria, and most importantly in gauging the possibility of producing a synthetic proposal that not only maintains the conceptual goals of the design, but also confirms its technical potential and constructability within economic, social and cultural envelopes. Evidence of this criterion will be found in the presentation drawings, and the accompanying thesis book.

C.3 – Integrative Design ("Ability to make design decisions within a complex architectural project while demonstrating broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies."): The studio sequence in the Master of Architecture program builds in complexity towards an integrated design solution in the fourth semester studio, which lays the ground-work for the subsequent third year thesis. Working in conjunction with Technical System Integration (ARCH 480), the fourth semester studio, ARCH 534, includes all aspects of an integrated project listed above. Evidence of this criterion will be found in the presentation drawings, and the technical documentation produced for ARCH 480, which is offered concurrently with studio. Each student presents a presentation document addressing each of the "criteria" listed in Integrative Design.

D.1. – Stakeholder Roles in Architecture ("Understanding of the relationships among key stakeholders in the design process—client, contractor, architect, user groups, local community—and the architect's role to reconcile stakeholder needs."): The second-year studios, ARCH 533 and ARCH 534, investigate established local building projects and students meet with the architects, clients, local officials, and contractors as a part of the introductory process. At mid and/or final reviews, the client, architect, or other stakeholders return to give feedback on the work. In ARCH 451 lecture modules review the different types of potential clients, as well as their differing needs and expectations for architectural services. Practicing architects, as guest speakers, discuss their relationships with stakeholders. Additionally, student teams of four research and present papers on the following topics: The Architecture of the State (The Role of the Architect in Public and Religious Buildings Through History) and The Patron of Architecture.

D.2 – Project Management ("Understanding of the methods for selecting consultants and assembling teams; identifying work plans, project schedules, and time requirements; and recommending project delivery methods."): In Architectural Professional Practice (ARCH 451), lecture modules on various client types and differing expectations for architectural services, business development, preparing Request for Proposals, forms of contract (AIA and others), contract negotiation, payment methods, the role and selection of consultants, office management including human resources, and the pros and cons of various project delivery methods. Project delivery methods such as design-bid-build, fast-track, GMP, design-build and other hybrid forms of project delivery are presented and discussed in class. Focus is also placed on the architect's role transition and responsibilities during construction administration. The students have an opportunity to visit architectural offices in Washington, D.C. or New York City, and practicing architects provide lectures on project management in office practice.

D.3. – Practice Management Business Practices ("Understanding of the basic principles of a firm's business practices, including financial management and business planning, marketing, organization, and entrepreneurship."): ARCH 451 employs lecture modules to help students develop an understanding of the profession of architecture, its current structure, office organization/legal structure and financial

management and business planning, time and project management and the challenges and future opportunities for the profession. Profiles of various firm types are presented and discussed.

D.4 – Legal Responsibilities ("Understanding of the architect's responsibility to the public and the client as determined by regulations and legal considerations involving the practice of architecture and professional service contracts"): The architect's legal responsibilities are discussed in relation to course materials in ARCH 503-504 and AE 421-422 and 424. Architectural Professional Practice, ARCH 451 lecture modules include: architectural registration law, building codes / regulations, professional service contracts (AIA and other forms), zoning, environmental historic preservation, accessibility and other laws and ordinances which impact the design profession. Student teams conduct a community survey to identify non-compliant accessibility conditions, cite the related standard and propose corrective solutions to the condition. Students also submit a code and accessibility analysis of their concurrent studio project. Readings from The ADA Handbook and other materials are required.

D.5 – Professional Conduct ("Understanding of the ethical issues involved in the exercise of professional judgment in architectural design and practice and understanding the role of the NCARB Rules of Conduct and the AIA Code of Ethics in defining professional conduct."): Ethics in architecture is discussed in ARCH 550 to provide a general historical and theoretical context to students. The primary evidence, however, can be found in ARCH 451 where readings, class lectures, and discussions explore contemporary ethics and professional judgment issues including professional organizations' rules of conduct and ethics. Case studies are reviewed and discussed in class. The role of the AIA and NCARB in the profession is also presented. A student team researches and presents "The Social Responsibility of the Architect" to the class. Readings from Ethics and the Practice of Architecture and other materials are required.

Part 2, Section 2 - Curricular Framework

II.2.1 Institutional Accreditation

The Pennsylvania State University is accredited by the Middle States Commission on Higher Education, 3624 Market Street, Philadelphia, PA 19104 (267-284-5000). The Middle States Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

The Pennsylvania State University was first accredited in 1921 and was reaffirmed on June 25, 2015. The next self-study evaluation is scheduled for 2024-25, and the next Periodic Review Report is due June 1, 2020. The most recent letter from the Middle States Commission on Higher Education regarding Penn State's term of accreditation is included on the following pages.

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

OFFICE OF THE PRESIDENT PROVOST

2015 JUN 29 A 11:42 2015 JUN 30 A 9:24

June 26, 2015

Dr. Eric J. Barron
President
The Pennsylvania State University
201 Old Main Building
University Park, PA 16802

Dear Dr. Barron:

At its session on June 25, 2015, the Middle States Commission on Higher Education acted:

> To reaffirm accreditation. To request a monitoring report, due April 1, 2017, documenting (1) further implementation of the periodic assessment of the effectiveness of institutional leadership and governance (Standard 4); (2) further implementation of the periodic assessment of the effectiveness of administrative structures and services (Standard 5); (3) review of the enrollment management plan for recruitment, retention, marketing, and advertising, particularly with respect to the enrollment of under-represented students, consistent with the institution's priorities and values (Standard 8); (4) further implementation of the assessment of general education outcomes within the institution's overall plan for assessing student learning, and evidence that such assessment results are utilized for curricular improvement (Standards 12 and 14); and (5) further evidence of articulated student knowledge, skills, and competency levels within existing certificate programs (Standard 13). The Periodic Review Report is due June 1, 2020.

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.

Dr. Eric J. Barron – Page 2

Please be assured of the continuing interest of the Commission on Higher Education in the well-being of The Pennsylvania State University. If any further clarification is needed regarding the SAS or other items in this letter, please feel free to contact Dr. Tito Guerrero, Vice President.

Sincerely,

George A. Pruitt, Ph.D.
Chair

II.2.2 Professional Degree and Curriculum

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

The number of credit hours for each degree is specified below. All accredited programs must conform to the following minimum credit hour requirements:

Master of Architecture. Accredited degree programs awarding the M. Arch. degree may take three forms:

Single Institution (SI): Candidates for this degree have completed at least 168 semester credit hours, or the quarter-hour equivalent, of which at least 30 credit hours are taken at the graduate level and all of which are delivered or accounted for (either by transfer or articulation) by the institution that will grant the degree. The program is a combination of undergraduate and graduate education. Combined undergraduate and graduate degree programs structured in this manner must include general studies, professional studies, and optional studies.

Preprofessional-plus: Candidates for this degree have completed at least 168 semester credit hours, or the quarter-hour equivalent, of which at least 30 credit hours are taken at the graduate level, and hold a preprofessional degree in architecture or a related field before admission to the graduate degree program. The graduate-level academic course work must include professional studies and optional studies.

Non-preprofessional degree-plus: Candidates for this degree have completed at least 168 semester credit hours, or the quarter-hour equivalent, of which at least 30 credit hours are taken at the graduate level, and hold an undergraduate degree from a regionally accredited institution before admission to the graduate degree program. The graduate-level academic course work must include professional studies and optional studies.

Outline of M.Arch Curriculum
Given that the professional MARCH program at PSU is organized in parallel to the accredited BARCH program, including all of its history/theory sequence, structures sequence, environmental systems sequence, visual communications sequence, professional practice, and building technology integration sequence, in addition to key design studios leading to the comprehensive design studio, much of its professional content has been refined over many years, vetted and accredited by the NAAB. We believe that since this content has already met the Conditions for Accreditation for the BARCH program, it will continue to meet those for the MARCH program.

The Master of Architecture curriculum currently requires the completion of 57 credits of graduate course work. In addition, to fulfill the requirements of professional accreditation, students will be required to undertake 40 credits of preparatory classes: 37 credits in the 400-599 (graduate) level and 3 credits in the 0-399 (undergraduate) level. Under the existing program, the students will be required to successfully complete the following courses:

List of Courses:

57 required credits [bold face]

40 preparatory credits [light face]

MASTER OF ARCHITECTURE DEGREE REQUIREMENTS	57
ARCH 510 Contemporary Architecture & Planning Theories	3
ARCH 533 Architectural Design III	6
ARCH 534 Architectural Design IV	6
ARCH 451 Architectural Professional Practice	3
ARCH 480 Technical Systems Integration	3
A total of 6 credits from ARCH 495 Internship; ARCH 496 Independent Study; ARCH 499 Foreign Study	6
ARCH 511 Theoretical Perspectives in Architecture	3
ARCH 520 Methods of Inquiry	3
ARCH 536 Design Inquiry	6
ARCH 550 Ethics in Architecture	3
ARCH 536 Design Inquiry	6
Electives	9
GRADUATE PREPARATORY COURSE REQUIREMENTS	40
AE 211 Introduction to Environmental Control Systems	3
AE 421 Architectural Structural Systems I	3
AE 422 Architectural Structural Systems II	3
AE 424 Environmental Control Systems I	3
ARCH 501 Analysis of Architectural Precedents I	3
ARCH 502 Analysis of Architectural Precedents II	3
ARCH 503 Materials and Building Construction I	3
ARCH 504 Materials and Building Construction II	3
ARCH 521 Visual Communications I	2
ARCH 522 Visual Communications II	2
ARCH 531 Architectural Design I	6
ARCH 532 Architectural Design II	6

M.Arch. Program: Recommended Academic Plan 2015-2016

FALL SEMESTER 1	17
ARCH 501 Analysis of Architectural Precedents I	**3**
ARCH 503 Materials and Building Construction I	**3**
ARCH 521 Visual Communications I	**2**
ARCH 531 Architectural Design I	**6**
AE 421 Architectural Structural Systems I	3
SPRING SEMESTER 2	17
ARCH 502 Analysis of Architectural Precedents II	**3**
ARCH 504 Materials and Building Construction II	**3**
ARCH 522 Visual Communications II	**2**
ARCH 532 Architectural Design II	**6**
AE 422 Architectural Structural Systems II	3

FALL SEMESTER 4	15
ARCH 451: Architectural Professional Practice	**3**
ARCH 510: **Contemporary Architecture and Planning Theories**	**3**
ARCH 533: Architectural Design III	**6**
AE 211: Introduction to Environmental Control Systems	3
SPRING SEMESTER 5	15
ARCH 480: Technical Systems Integration	**3**
ARCH 534: Architectural Design IV	**6**
Elective	**3**
AE 424: Environmental Control Systems	3
SUMMER SEMESTER 5	6
ARCH 495: Internship	**Variable**
ARCH 496: Independent Studies	**Variable**
ARCH 499: Foreign Studies	**Variable**

FALL SEMESTER 6	15
ARCH 511: Theoretical Perspectives in Architecture	**3**
ARCH 520: Methods of Inquiry	**3**
ARCH 536: Design Inquiry	**6**
ARCH 550: Ethics in Architecture	**3**
SPRING SEMESTER 7	12
ARCH 536: **Design Inquiry**	**6**
Elective	**3**
Elective	**3**
Total Program Credits	**97**

Curriculum Review & Development
As with our existing programs, the curriculum of the professional MARCH program will regularly be reviewed through a curriculum committee, with reporting to the faculty, students and the Department Head. Decisions are voted upon in a democratic process, in faculty meetings, and changes promulgated thereafter.

Part Two (II) Section 3—Evaluation of Preparatory Education

Admission to the program will be conducted through a graduate admissions committee. Prior to the faculty committee's review, all applicants will be sorted into two categories and reviewed in those categories: Those with an accredited professional degree, and those without. The first group will be directed to the post-professional Master of Science in Architecture program. The second group will be directed to the MARCH program. After the quantitative and qualitative review conducted by the entire faculty of the department, those deemed to be admissible are admitted into the program. Those that accept our offer and intend to attend our program will be reviewed individually for the possibility of advanced standing, based on previously completed course-work. These applicants who have completed architecture–related coursework in an architecture, architectural engineering, or other discipline outside of architecture, will have an initial review of their transcripts to assess completion of materials covered in preparatory classes. The student is then instructed to fill an "advanced standing" form, and take the form along with the transcript, all course material, including the course syllabus, all required reading material, tests, quizzes, exams, exercises and papers to the faculty teaching the class at Penn State. The faculty will then gauge the possibility of advanced standing, based on both NAAB SPC and course content. The Advanced standing forms with signatures from the faculty, Graduate Programs coordinator, and the Department Head are maintained in the student file. Accordingly, time to complete degree requirements may be reduced.

Part Two (II): Section 4 - Public Information

II.4.1 Statement on NAAB Accredited Degrees
II.4.2. Access to NAAB Conditions and Procedures
II.4.3. Access to Career Development Info
II.4.4 Public access to APRs and VTRs
II.4.5 ARE Pass Rates
II.4.6 Admission and Advising
11.4.7 Student Financial Information

II.4.1 Statement on NAAB-Accredited Degrees
Similar to our accredited BARCH degree, the description of the Master of Architecture degree program appears on The Penn State University Faculty Senate web site, as below:

The Department of Architecture is a member of the Association of Collegiate Schools of Architecture and the Master of Architecture Degree is a candidate program for accreditation by the National Architectural Accrediting Board. The major provides for the education of architects at the professional level.

"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 8-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." (Excerpt from NAAB Conditions for Accreditation, 2009 Edition)

All incoming students will be informed of the NAAB Guide to Student Performance Criteria during a fall semester orientation session. A paper copy will be distributed. Students are also informed that the NAAB site is listed on the architecture web site at https://stuckeman.psu.edu/arch/accreditation and the NAAB web site at: http://www.naab.org/. The same information is shared with all faculty at the first faculty meeting of the academic year. In addition, during the candidacy period, all information regarding the candidacy status of the program will be shared at all above venues.

II.4.2 Access to NAAB Conditions and Procedures

The following documents will be directly linked to the Penn State Architecture program website:

2014 NAAB Conditions for Accreditation
NAAB Procedures for Accreditation (edition currently in effect)

II.4.3 Access to Career Development Information

The following resources will be linked to Penn State's architecture program website:

The NCARB Handbook for Interns and Architects
Toward an Evolution of Studio Culture
The Emerging Professional's Companion
www.NCARB.org
www.aia.org
www.aias.org
www.acsa-arch.org

II.4.4 Public Access to APRs and VTRs

The following documents pertaining to accreditation will be available in the Architecture Program office as well as our website.

All *Annual Reports*, including the narrative
All NAAB responses to the *Annual Report*
The final decision letter from the NAAB
The most recent APR
The final edition of the most recent *Visiting Team Report*, including attachments and addenda

II.4.5 ARE Pass Rates

The NAAB website and ARE Pass Rates are both linked on the Arch/Accreditation page. Of course, the pass rates relate to our accredited B. ARCH. program: https://stuckeman.psu.edu/arch/accreditation

II.4.6. Admissions and Advising

Application forms and instructions
All applications for admission to the Master of Architecture program will include:

1. a complete Graduate School application found online at http://www.gradsch.psu.edu/portal/
2. official copies of all undergraduate transcript[s]
3. Graduate Record Exam [GRE] scores
4. three letters of recommendation from faculty members familiar with the applicant's academic history
5. International Students must also include in their application:
   * TOEFL scores for international applicants (580 or higher on the paper-based test / 80 or higher with a 19 in speaking on the internet-based test)
   * an online portfolio described in detail at www.arch.psu.edu

including 5-25 graphic samples of the applicant's work
* an essay describing the applicant's professional goals, proposed subject of study, and anticipated area of architectural inquiry

This will permit us a thorough evaluation of every student's credentials.

Admission requirements/procedures
Admissions requirements, admissions decisions procedures, including policies and processes for evaluation of transcripts and portfolios (where required), and decisions regarding remediation and advanced standing

Regardless of degree, all applicants must have received a baccalaureate degree with a minimum undergraduate grade-point average [GPA] of 3.0 in a 4.0 scale; a full description of the standards for baccalaureate degrees and the exceptions to the baccalaureate degree requirements for equivalent international degrees may be found at http://www.gradschool.psu.edu/prospective-students/requirements/

Evaluation of Preparatory/Pre-professional education
Forms and a description of the process for the evaluation of pre-professional degree content

Admission to the program will be conducted through a graduate admissions committee. Prior to the faculty committee's review, all applicants will be sorted into two categories and reviewed in those categories: Those with an accredited professional degree, and those without. The first group will be directed to the post-professional Master of Science in Architecture program. The second group will be directed to the MARCH program. After the quantitative and qualitative review conducted by the entire faculty of the department, those deemed to be admissible are admitted into the program. Those that accept our offer and intend to attend our program will be reviewed individually for the possibility of advanced standing, based on previously completed course-work. These applicants who have completed architecture–related coursework in an architecture, architectural engineering, or other discipline outside of architecture, will have an initial review of their transcripts to assess completion of materials covered in preparatory classes. The student is then instructed to fill an "advanced standing" form, and take the form along with the transcript, all course material, including the course syllabus, all required reading material, tests, quizzes, exams, exercises and papers to the faculty teaching the class at Penn State. The faculty will then gauge the possibility of advanced standing, based on both NAAB SPC and course content. The Advanced standing forms with signatures from the faculty, Graduate Programs coordinator, and the Department Head are maintained in the student file. Accordingly, time to complete degree requirements may be reduced.

Requirements and forms for applying for financial aid and scholarships
All applicants to the architecture program are automatically considered for "Grant-in-Aid," Penn State's terminology for tuition scholarship and teaching/research assistantship. As a new graduate program, we do not yet have the number of GIA's needed to support all of our students. But we are making progress towards it. More information on financial aid and scholarships is available at:

- http://www.gradschool.psu.edu/graduate-funding/funding/assistantships/
- http://artsandarchitecture.psu.edu/philanthropy/sala_awards

Student diversity initiatives

The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. It is the policy of the University to maintain an academic and work environment free of discrimination,

including harassment. The Pennsylvania State University prohibits discrimination and harassment against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, or veteran status. Discrimination or harassment against faculty, staff, or students will not be tolerated at The Pennsylvania State University.

The University, in order to address diversity issues and to provide a recruitment tool, provides a Bunton-Waller minority scholarship to incoming graduate students. The Department of Architecture has taken advantage of this opportunity and has been able to bring minority students to PSU with a full tuition coverage and stipend. The University covers both the tuition and the stipend for the first year, and the Department covers these costs for the second year. In addition, the Department has a very strong cohort of students engaged in NOMAS (National Organization of Minority Architecture Students.) The Department annually sponsors the NOMAS student group to attend annual meetings. We have also been purchasing booths at this event and presenting opportunities available at Penn State.

II.4.7 Student Financial Information

1. Penn State's Office of Student Aid is the primary resource regarding financial aid: http://studentaid.psu.edu/
2. Students can access http://www.bursar.psu.edu/ for an initial estimate for all tuition, fees, and books.

Section 3: Annual Statistical Reports

Institutional and Program Characteristics

This section provides statistical data supporting activities and policies related to social equity in the program, as well as data points that demonstrate student success and faculty development.

Statistical Reports

Department Student Characteristics: Student Demographics

Department	***2012***			***2014 (Grad & Ugrad)***		
Ethnicity	**Male Total**	**Female Total**	**Grand Total**	**Male Total**	**Female Total**	**Grand Total**
American Indian or Alaska Native						
Asian	2	6	8	4	9	13
Native Hawaiian or other Pacific Islander	1		1		1	1
Black or African American	7	8	15	2	8	10
Hispanic/Latino	25	12	37	16	17	33
White	81	99	180	79	103	182
Two or more races	2	4	6	3	4	7
Nonresident alien	4	4	8	5	8	13
Race and ethnicity unknown	1	1	2	1	1	2
TOTAL	123	134	257	110	151	261

University Student Characteristics: Student Demographics

University	***2012***			***2014***		
Ethnicity			**Grand Total**			**Grand Total**
American Indian or Alaska Native			77			30
Asian			3,378			2,235
Native Hawaiian or other Pacific Islander			45			25
Black or African American			4,147			1,679
Hispanic/Latino			3,588			2,058
White			46,330			27,117
Two or more races			1,383			934
Nonresident alien			3,670			4,092
Race and ethnicity unknown			985			556
TOTAL			63,603			38,726

Qualifications of Students Admitted to the Architecture Department

		Applications	Offers	Accepts
2012	Number	637	238	57
	Avg. SAT score		1862	1709
	Avg. GPA		3.74	3.62
2014 (Grad only)	Number	132	40	27
	Avg. GRE score	179		374
	Avg. GPA	3.24		3.36

Qualifications of Students Admitted

	2012	2014
SAT:		
Critical Reading		
25th percentile SAT score	530	530
75th percentile SAT score	630	630
Mathematics		
25th percentile SAT score	560	560
75th percentile SAT score	670	670
Writing		
25th percentile SAT score	530	540
75th percentile SAT score	640	640
ACT:		
25th percentile ACT score	24	25
75th percentile ACT score	31	29
Graduate Record Examination:		
Verbal (200-800)	528	154
Quantitative (200-800)	700	166
Analytical (0.0-6.0)	4.1	4.1

Time to Graduation

	2012	***2014 (Grad)***
Normal Time to Completion: (number of quarters or semesters in which students are expected to complete all requirements for the NAAB-accredited degree	10	36
Percentage of students who completed in normal time	97.4	0 *
Percentage of students who completed in 150% of normal time.	62.3	0*

*****First cohort graduated in 2016

Department Faculty Characteristics: Faculty Demographics

	2012			*2014*		
Ethnicity	**Male Total**	**Female Total**	**Grand Total**	**Male Total**	**Female Total**	**Grand Total**
American Indian or Alaska Native						
Asian	2		2	1		1
Native Hawaiian or other Pacific Islander						
Black or African American	1		1	1	1	2
Hispanic/Latino	1		1	2	0	2
White	13	8	21	10	9	19
Two or more races				4	2	6
Nonresident alien	2	1	3	2	1	2
Race and ethnicity unknown	1	1	2	0	0	0
Total	20	10	30	20	13	33

University Faculty Characteristics: Faculty Demographics

	2012			*2014*		
Ethnicity			**Grand Total**			**Grand Total**
American Indian or Alaska Native			13			7
Asian			330			308
Native Hawaiian or other Pacific Islander			0			
Black or African American			142			99
Hispanic/Latino			127			
White			3577			2434
Two or more races			17			16
Nonresident alien			297			181
Race and ethnicity unknown			215			160
Total			4718			3313

* The International, Native Hawaiian or Pacific Islander, and Race/Ethnicity Unknown categories were not reported on the Official EIS tables until 2010

Department of Architecture Faculty Promoted and/or Tenured

2015/16
Jose Duarte — Received immediate Tenure [as Full Professor]

2014/15
Rebecca Henn — Promoted to Associate Professor with Tenure

2013/2014
Marcus Shaffer — Promoted to Associate Professor with Tenure

2012/2013
James Cooper — Promoted to Associate Professor with Tenure
Mehrdad Hadighi — Received immediate Tenure [as Full Professor]

2011/2012
Darla Lindberg — Promoted to Full Professor
Lisa Iulo — Promoted to Associate Professor with Tenure
Ute Poerschke — Received Tenure [as Associate Professor]

2010/2011
Nathaniel Belcher — Received immediate Tenure [as Full Professor]

2007/2008
Alexandra Staub — Promoted to Associate Professor with Tenure

Faculty Receiving Promotions

	2007-08	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**
Faculty in the accredited program								
Assistant to Associate Professor	1				2	1	1	1
Associate to Full Professor					1			
Faculty in the institution								
Assistant to Associate Professor	86	92	75	77	86	63		
Associate to Full Professor	*Data not available*							

Faculty Receiving Tenure

	2007-08	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**
Faculty in the accredited program	1				2	1	1	1
Faculty in the institution	136	134	104	101	104	97		

Faculty Maintaining Licenses in U.S. and Foreign Jurisdictions

Name	Jurisdiction
Reggie Aviles	PA
Nathaniel Belcher	PA, FL, LA, OH
Timothy Boothby	PA,WA,CA
Christine Gorby	A.R.C.U.K, R.I.B.A. (UK)
Mehrdad Hadighi	NY
Jawaid Haider	Karachi, Pakistan
Rebecca Henn	NY, PA
Lisa Iulo	NJ, NY, PA
Loukas Kalisperis	Greece
James Kalsbeek	OH
Darla Lindberg	ND, PA
Katsuhiko Muramoto	Osaka, Japan
Kevin Parfitt	PA, NY, NJ, MD,VA,OH
Ute Poerschke,	Bavaria, Germany
Dan Willis	PA
Scott Wing	PA

I.3.2 Annual Reports

All NAAB Annual Reports submitted by the Department of Architecture since the last accreditation visit of 2015 and prior are available on the Architecture Department website.

At Penn State it is the responsibility of the Budget Office to develop and produce institutional databases to provide the source of official data for both internal and external reporting. The Office of Institutional Planning and Assessment forwards all requests for institutional data to the budget office. The letter below from Rachel Smith, University Budget Officer, confirms that the data that office provides to the Department of Architecture for the purpose of preparing the NAAB Annual Reports is consistent with data that they submit to other reporting agencies.

PENNSTATE

Rachel E. Smith
University Budget Officer

University Budget Office
The Pennsylvania State University
308 Old Main
University Park, PA 16802

814-865-7642
Fax: 814-863-8050
rem4@psu.edu
www.budget.psu.edu

May 27, 2016

Ms. Andrea S. Rutledge, CAE
Executive Director
National Architectural Accrediting Board
1735 New York Avenue, NW
Washington, DC 20006

Dear Ms. Rutledge:

The annual reports that are provided to the National Architectural Accrediting Board (NAAB) are prepared and submitted by the School of Architecture and Landscape Architecture, assembling data from a variety of sources. Data sourced from official central University repositories (e.g., the data warehouse, Factbook, and the University's business intelligence solution) are consistent with data sources used for reports sent to other national and regional agencies, including the National Center for Education Statistics. Minor inconsistencies may be found between the data reported to the NAAB and to the National Center for Education Statistics based on the timing of data retrieval as well as differences in data definitions.

Sincerely,

Rachel E. Smith

Rachel E. Smith

Section 4 Supplemental Information

This section links to the following documents:

- The Department of Architecture in the H. Campbell and Eleanor R. Stuckeman School of Architecture and Landscape Architecture Studio Culture Policy .
    - Academic Integrity: See Policy: G-9 – Senate Policy: 49-20 and http://artsandarchitecture.psu.edu/students/acad_integrity
    - Information resources, including collections development. The Libraries' efforts to develop collections for architecture are detailed in a written collection development policy. This document lists major topics and formats to be collected and specifies their relative priority: http://www.libraries.psu.edu/psul/colldev/selection_policy_statements/archandlandscapearchcolldev.html
    - The institution's policies and procedures relative to EEO/AA for faculty, staff, and students:
        - https://guru.psu.edu/policies/OHR/hr11.html
        - https://guru.psu.edu/policies/ad85.html
    - The institution's policy regarding human resource development opportunities, such as sabbatical, research leave, and scholarly achievements: http://artsandarchitecture.psu.edu/facstaff
    - The policies, procedures, and criteria for faculty appointment, promotion, and when applicable, tenure: http://artsandarchitecture.psu.edu/facstaff/promten
    - Stuckeman School Strategic Plan: https://stuckeman.psu.edu/sites/default/files/stuckemanschoolstrategicplan.pdf
    - College of Arts and Architecture Strategic Plan: http://artsandarchitecture.psu.edu/about/strategic-plan
        - Graduate Bulletin: http://bulletins.psu.edu/graduate/programs/A/GRAD%20ARCH

The following documents can be found at the following file-sharing link: https://psu.box.com/v/NAAB-PSU-MArch

- Descriptions of all courses offered within the Master of Architecture degree program
- Visiting Team Report
- Faculty bios
- Department of Architecture Strategic Plan

- Self Assessment:
  - Alumni & Student Survey
  - Stuckeman School Advisory Board Bios/Notes

- Visiting Lecturers & Critics

- Teaching Assignment Course Matrix for 2013/2014, 2014/2015 and 2015/2016

- Department of Architecture Operating Expenses and Income

- Incoming Funds from Stuckeman School Endowments (‘14/’15 and ‘15/’16)

- Course Descriptions

- Stuckeman School Governance Document