**University of Pennsylvania**
**School of Design**

# Visiting Team Report

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



The National Architectural Accrediting Board
10 February 2010

*The National Architectural Accrediting Board (NAAB), established in 1940, is the sole agency authorized to accredit U.S. professional degree programs in architecture. Because most state registration boards in the United States require any applicant for licensure to have graduated from an NAAB-accredited program, obtaining such a degree is an essential aspect of preparing for the professional practice of architecture.*

# Table of Contents

This page is left blank intentionally.

## I. Summary of Team Findings

### 1. Team Comments

The team was appreciative of the contributions made to the visit by the students, faculty, staff, and administration.

The team found the Master of Architecture program in the School of Design at the University of Pennsylvania to be strong, vibrant, and centered in a distinguished academic environment well grounded in contemporary societal needs and relevant architectural issues.

The strengths of the program include the following:

- University leadership that is articulate and knowledgeable about the program; supportive of and prepared to assist the program in realizing facilities improvements needed to maintain its exceptionally high academic standards.
- A strong and positive working relationship with the dean of the School of Design.
- Accessible and proactive interim administrator who has had positive impact on the department's health and development evidenced in part by having initiated three new programs, the Certificate in Ecological Architecture, a jointly offered Integrated Product Design program and a Master in Environmental Building Design. Also evidenced in part by effectively managing a large group of distinguished practicing professionals and adjuncts.
- A broad range of engagement with society from the local community of Philadelphia through programs such as Penn Praxis, Philly Orchards, Rebuild Philadelphia and the Energy Coordinating Agency, to international initiatives such as the Penn-Tsinghua T.C. Chan Center for Building Simulation and Energy Studies, and numerous traveling studios options.
- Access to the intellectual capital of progressive and entrepreneurial research initiatives including the Penn-Tsinghua TC Chan Center, and the Non-Linear Systems Organization.
- A faculty of distinguished scholars and influential practitioners, passionate about the teaching and making of architecture that transcends conventional boundaries into areas of invention.
- Course work that demonstrates exceptional digital and technical competencies and communication skills along with knowledge of contemporary design principles and methodologies.
- A uniquely supportive and healthy relationship between faculty and students.
- Students who are committed, engaging, and passionate with a rich diversity of academic and experiential backgrounds.
- A collaborative student body engaged in design competitions such as the Urban Land Institutes' Gerald D. Hines Urban Design Competition, Stewardson Competition, Schenck-Woodman Design Competition and UrbanSHED Competition.

- A dedicated student body involved with extra curricular organizations such as the Black Student Alliance, Student Council, the Real Estate Club, OutDesign and publications including VIA and PD Primer.

- Strong connections between the program, its alumni and local practitioners as evidenced by the number of practicing architects on the faculty and a distinguished constituency in the PennDesign Board of Overseers.

In addition, the interim chair, faculty and department staff were highly responsive and accessible throughout the visit.

Also, special thanks to the students who took responsibility for curating and mounting the exceptional exhibits for the team visit.

## 2. Progress Since the Previous Site Visit

**Criterion 12.14, Accessibility (2004):** Ability to *design both site and building to accommodate individuals with varying physical abilities*

**Previous Team Report (2004):** Accessibility is minimally evident in the work product of the core curriculum including site and building execution.

> **2010 Visiting Team Assessment:** This criterion is now 3.13.14 Accessibility, and is not met.

**Criterion 12.24, Building Code Compliance (2004):** Understanding of *the codes, regulations, and standards applicable to a given site and building design, including occupancy classifications, allowable building heights and areas, allowable construction types, separation requirements, means of egress, fire protection, and structure*

**Previous Team Report (2004):** While there is evidence of introductions to zoning and building codes in core coursework, the integration of life-safety concerns as an important regulatory component in studio projects is minimally evident.

> **2010 Visiting Team Assessment:** This criterion was deleted as a required element in this review. The team notes that code compliance is now included in Criterion 3.13.20 - Life Safety which is not met, and Criterion 3.13.33 - Legal Responsibilities, which is met.

**Criterion 12.28, Technical Documentation (2004):** Ability to *make technically precise descriptions and documentation of a proposed design for purposes of review and construction*

**Previous Team Report (2004):** The Visiting Team did not find evidence of the precise technical description or documentation necessary for purposes of review or construction.

> **2010 Visiting Team Assessment:** This criterion was deleted as a required element in this review. Though the title is the same the criterion has changed and is now 3.13.26 Technical Documentation and is met.

**Criterion 12.30, Program Preparation (2004):** Ability to *assemble a comprehensive program for an architecture project, including an assessment of client and user needs, a critical review of appropriate precedents, an inventory of space and equipment requirements, an analysis of site conditions, a review of the relevant laws and standards and an assessment of their implications for the project, and a definition of site selection and design assessment criteria*

**Previous Team Report (2004):** The team saw no direct evidence of comprehensive program writing and analysis.

**2010 Visiting Team Assessment:** This criterion is now 3.13.16 Program Preparation and is met.

**[Causes of Concern taken from VTR dated March 31, 2004]:**

**Previous Team Report (2004):** The team found no causes of concern.

## 3. Conditions Well Met

3.1.1 Architecture Education and the Academic Context
3.1.4 Architecture and the Profession
3.9 Information Resources
3.13.5 Formal Ordering Skills
3.13.16 Program Preparation
3.13.21 Building Envelope System
3.13.26 Technical Documentation

## 4. Conditions Not Met

13.9 Non-Western Traditions
13.14 Accessibility
13.20 Life-Safety

## 5. Causes of Concern

5.1 Student success and performance may at times be compromised by a lack of communication and coordination among faculty and lecturers regarding coursework expectations and deadlines.

5.2 The pressures of enrollment growth may result in life safety and accessibility issues in the existing facility.

5.3 Students and faculty expressed critical concern regarding the spatial capacity of the existing facility in particular, studio / presentation space, fabrication labs and faculty office space.

## II. Compliance with the Conditions for Accreditation

### 1. Program Response to the NAAB Perspectives

*Schools must respond to the interests of the collateral organizations that make up the NAAB as set forth by this edition of the* NAAB Conditions for Accreditation*. Each school is expected to address these interests consistent with its scholastic identity and mission.*

#### 1.1 Architecture Education and the Academic Context

*The accredited degree program must demonstrate that it benefits from and contributes to its institution. In the APR, the accredited degree program may explain its academic and professional standards for faculty and students; its interaction with other programs in the institution; the contribution of the students, faculty, and administrators to the governance and the intellectual and social lives of the institution; and the contribution of the institution to the accredited degree program in terms of intellectual resources and personnel.*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This condition is well met. The School of Design at the University of Pennsylvania with a sustained and distinguished history of innovation, has maintained a highly intellectual environment for architecture education within the context of a global community. The program focuses on advanced knowledge, as well as novel modes and methods of inquiry that expand the boundaries of creativity in form making and critical capacities for design process. On the other hand, interestingly, the creative expression is intertwined with factual realities of today's contemporary societies and the current needs and methods of inquiry for the professional practice of architecture.

The concept of core studio courses as a program that is centered in design studios has provided great opportunities for students to exercise creation of new knowledge, skills and modes of practice. Additionally, engagement with the related disciplines of historic preservation, landscape architecture, urban design and city planning are valuable opportunities that contribute to an integrative and interdisciplinary strength to the program.

The school benefits from an intelligent and hardworking student body, and a pool of distinguished and dedicated faculty who are active and involved in scholarly pursuit, many with local and global professional engagements. Additionally, the school is fortunate to have the full support and appreciation of the president of the university and a new dean who is highly respected as a professional, which adds more dimension to the prestige of this distinguished architecture program. The new faculty who are maintaining high credentials in their area of teaching are highly motivated and supportive of the mission of the institution.

#### 1.2 Architecture Education and Students

*The accredited degree program must demonstrate that it provides support and encouragement for students to assume leadership roles in school and later in the profession and that it provides an environment that embraces cultural differences. Given the program's mission, the APR may explain how students participate in setting their individual and collective learning agendas; how they are encouraged to cooperate with,*

*assist, share decision making with, and respect students who may be different from themselves; their access to the information needed to shape their future; their exposure to the national and international context of practice and the work of the allied design disciplines; and how students' diversity, distinctiveness, self-worth, and dignity are nurtured.*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This condition is met. Evidence is seen through the different leadership opportunities that are provided to students including organizations such as Penn Design Student Council, and the Black Student Alliance and as studio representatives serving as liaisons to the program administration. Furthermore, students assist faculty with the guest lecture series and with faculty research. Students have also actively engaged in VIA, the student-run publication as well as participated in competitions and conferences.

### 1.3 Architecture Education and Registration

*The accredited degree program must demonstrate that it provides students with a sound preparation for the transition to internship and licensure. The school may choose to explain in the APR the accredited degree program's relationship with the state registration boards, the exposure of students to internship requirements including knowledge of the national Intern Development Program (IDP) and continuing education beyond graduation, the students' understanding of their responsibility for professional conduct, and the proportion of graduates who have sought and achieved licensure since the previous visit.*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This condition is met. The competencies and skill sets exhibited in various course settings including design studio, structures, construction, technical case studies and professional practice are commensurate with and may exceed the expectations for introductory practice needs in the profession thus well positioning graduates for internship employment opportunities. Many students have in fact had internships and are familiar with or have started IDP. Overall there is a strong understanding of the degree-internship-examination process and a desire to become licensed. The student work ethic is rigorous, the interest in obtaining the skills needed to practice is strong, and it is apparent that the dedication exists to successfully meet registration requirements.

### 1.4 Architecture Education and the Profession

*The accredited degree program must demonstrate how it prepares students to practice and assume new roles and responsibilities in a context of increasing cultural diversity, changing client and regulatory demands, and an expanding knowledge base. Given the program's particular mission, the APR may include an explanation of how the accredited degree program is engaged with the professional community in the life of the school; how students gain an awareness of the need to advance their knowledge of architecture through a lifetime of practice and research; how they develop an appreciation of the diverse and collaborative roles assumed by architects in practice; how they develop an understanding of and respect for the roles and responsibilities of the associated disciplines; how they learn to reconcile the conflicts between architects' obligations to their clients and the public and the demands of the creative enterprise; and how students acquire the ethics for upholding the integrity of the profession.*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This condition is well met. Evidence of the program's compliance with this condition has evolved from several resources, including a thorough review and on-site verification of the program's self-assessment report. The program's unique mix of faculty, including worldwide-recognized practicing professionals, adjunct professors, and lecturers, provides the student with an enhanced and realistic exposure to the practical aspects of the profession. Further verification was found through an organized review of the course syllabus; faculty/student feedback; and the witnessing of actual presentations and class sessions. It is quite apparent that the quality of this program is most evident in the successful careers of its alumni.

### 1.5 Architecture Education and Society

*The program must demonstrate that it equips students with an informed understanding of social and environmental problems and develops their capacity to address these problems with sound architecture and urban design decisions. In the APR, the accredited degree program may cover such issues as how students gain an understanding of architecture as a social art, including the complex processes carried out by the multiple stakeholders who shape built environments; the emphasis given to generating the knowledge that can mitigate social and environmental problems; how students gain an understanding of the ethical implications of decisions involving the built environment; and how a climate of civic engagement is nurtured, including a commitment to professional and public services.*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This condition is met. The student design work and course outcomes demonstrate a critical awareness of a complexity of forces impacting the built environment including environmental ecologies, patterns of settlement, social and cultural imperatives, infrastructural systems, and processes of fabrication and construction. A survey of course bibliographies demonstrates an investment in core disciplinary knowledge that is complemented by an array of disciplines and perspectives. At Penn, architecture students are equally likely to work with esteemed academic faculty, as well as distinguished practicing professionals. In addition to course work, the school is invested in the "Penn Compact" and offers to the students and faculty across the disciplines, research and practical roles in the development of projects that impact the physical environment of Penn's campus and Philadelphia directly. Student engagement in local and national design competitions is also significant. Numerous entries to the Urban Land Institute Competition demonstrate the value of multidisciplinary collaboration, and the architect's role in promoting responsible land use development. Research centers offer collaborations with the Business School and School of Engineering and a range of certificate programs allow students the opportunity to consider the role of architecture in professional and well as hybridized or specialized career tracks.

## 2. Program Self-Assessment Procedures

*The accredited degree program must show how it is making progress in achieving the NAAB Perspectives and how it assesses the extent to which it is fulfilling its mission. The assessment*

*procedures must include solicitation of the faculty's, students', and graduates' views on the program's curriculum and learning. Individual course evaluations are not sufficient to provide insight into the program's focus and pedagogy.*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This condition is met. The program, department and school are guided by a strategic plan developed in 2008 in response to an external review. The most recent curricular developments in the program are the result of a broad curricular review conducted in 2008-09 that resulted in targeted faculty hires. The department conducted reviews of alumni in 2006, and more recently with an online survey that included both alumni and current students. The chair regularly reviews student course evaluations and makes judgments to improve curricular performance. Changes to the curriculum are by vote of the standing faculty.

**3. Public Information**

*To ensure an understanding of the accredited professional degree by the public, all schools offering an accredited degree program or any candidacy program must include in their catalogs and promotional media the exact language found in the* NAAB Conditions for Accreditation*, Appendix A. To ensure an understanding of the body of knowledge and skills that constitute a professional education in architecture, the school must inform faculty and incoming students of how to access the* NAAB Conditions for Accreditation*.*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This condition is met. Evidence is found in the school's course catalog website (unavailable in print) and on printed promotional material. Continued coordination of program publicity and promotional material will be beneficial in maintaining clarity and in fulfilling this requirement.

**4. Social Equity**

*The accredited degree program must provide faculty, students, and staff—irrespective of race, ethnicity, creed, national origin, gender, age, physical ability, or sexual orientation—with an educational environment in which each person is equitably able to learn, teach, and work. The school must have a clear policy on diversity that is communicated to current and prospective faculty, students, and staff and that is reflected in the distribution of the program's human, physical, and financial resources. Faculty, staff, and students must also have equitable opportunities to participate in program governance.*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This condition is met. Evidence is found across the entire university, where diversity extends throughout academics, campus life and university culture. University centers offer courses and programs regarding race, religion, gender and sexuality. Within the School of Design there are student organizations focused on diversity, including the Black Student Alliance and the recent reestablishment of OutDesign, focusing on the LGTB community.

**5. Studio Culture**

*The school is expected to demonstrate a positive and respectful learning environment through the encouragement of the fundamental values of optimism, respect, sharing, engagement, and*

*innovation between and among the members of its faculty, student body, administration, and staff. The school should encourage students and faculty to appreciate these values as guiding principles of professional conduct throughout their careers.*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This condition is met. Evidence is found through extensive conversations with administration, faculty and students and through the provisionary statement formed by the administration and faculty. Students have developed a unique culture with each other and with their professors. Student leadership conveyed that the Studio Culture Policy is a work in progress which includes continued refinement and revising of the written document as well as improved overall student awareness of the importance of the studio culture in relation to architectural education.

## 6. Human Resources

*The accredited degree program must demonstrate that it provides adequate human resources for a professional degree program in architecture, including a sufficient faculty complement, an administrative head with enough time for effective administration, and adequate administrative, technical, and faculty support staff. Student enrollment in and scheduling of design studios must ensure adequate time for an effective tutorial exchange between the teacher and the student. The total teaching load should allow faculty members adequate time to pursue research, scholarship, and practice to enhance their professional development.*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This condition is met. Since the last visit, additional tenure track faculty were hired thus bolstering the core standing faculty which is complemented by a robust group of talented lecturers from the Philadelphia and New York area. The interim chair is often cited for his effectiveness in addressing and managing issues in the department. Unique opportunities exist for faculty development and support through centers like PennPraxis and the Penn-Tsinghua T.C. Chan Center.

## 7. Human Resource Development

*Schools must have a clear policy outlining both individual and collective opportunities for faculty and student growth inside and outside the program.*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This condition is met. The APR outlines opportunities for faculty and staff development. There are rich opportunities for student growth inside and outside the program including numerous lectures, exhibitions and symposia that address current topics and issues in architecture and the multiple disciplines of the school. Opportunities for faculty include grants that are available on a competitive basis. In addition scholarships are offered for African-Americans, and minorities, as well as competitions, study abroad, and participation in professional and honors societies.

## 8. Physical Resources

*The accredited degree program must provide the physical resources appropriate for a professional degree program in architecture, including design studio space for the exclusive use of each student in a studio class; lecture and seminar space to accommodate both didactic and*

*interactive learning; office space for the exclusive use of each full-time faculty member; and related instructional support space. The facilities must also be in compliance with the Americans with Disabilities Act (ADA) and applicable building codes.*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This condition is met. The overall facility has adequate studios, administrative and office spaces to fulfill its current mission. Incorporating digital labs and the infrastructure for digital technologies within the studios along with enrollment growth has resulted in regular and ongoing renovations to the studios and classrooms.

## 9. Information Resources

*Readily accessible library and visual resource collections are essential for architectural study, teaching, and research. Library collections must include at least 5,000 different cataloged titles, with an appropriate mix of Library of Congress NA, Dewey 720–29, and other related call numbers to serve the needs of individual programs. There must be adequate visual resources as well. Access to other architectural collections may supplement, but not substitute for, adequate resources at the home institution. In addition to developing and managing collections, architectural librarians and visual resources professionals should provide information services that promote the research skills and critical thinking necessary for professional practice and lifelong learning.*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This condition is well met. The fine arts library is an outstanding resource for the program. Highlights include an extensive collection of print and digital media, as well as the Holmes Perkins Rare Book Collection and the Architectural Archives that include the Kahn Collection and works by other noted American and European architects. Providing instrumental support and a critical awareness of this resource, in a manner that is integrated to the curricular agendas, is a primary goal for head librarian William Keller, Ph.D.

## 10. Financial Resources

*An accredited degree program must have access to sufficient institutional support and financial resources to meet its needs and be comparable in scope to those available to meet the needs of other professional programs within the institution.*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This condition is met. All schools at Penn operate within a responsibility centered financial framework that is based on tuition revenue. After returning a percentage of tuition to central administration, the School of Design balances all of its expenditures within the remaining revenue. To attract the best students, financial aid is provided by tuition discounts at the rate of 28%. The M. Arch program receives about $1.5M in need-based, merit-based, minority, and diversity aid fellowships, of which approximately $895,000 is funded by endowments for approximately 200 enrolled students. 78% of the M. Arch program's operating expenses are dedicated to academic compensation that includes faculty salaries, with the remaining funds dedicated to operating expenses. The dean provides additional support for international traveling studios, and faculty searches. Comparisons amongst programs in the school demonstrate an equity of capital investment per student.

## 11. Administrative Structure

*The accredited degree program must be, or be part of, an institution accredited by one of the following regional institutional accrediting agencies for higher education: the Southern Association of Colleges and Schools (SACS); the Middle States Association of Colleges and Schools (MSACS); the New England Association of Schools and Colleges (NEASC); the North Central Association of Colleges and Schools (NCACS); the Northwest Commission on Colleges and Universities (NWCCU); and the Western Association of Schools and Colleges (WASC). The accredited degree program must have a measure of autonomy that is both comparable to that afforded other professional degree programs in the institution and sufficient to ensure conformance with the conditions for accreditation.*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This condition is met. The University of Pennsylvania is accredited by The Commission on Higher Education of the Middle States Association of Colleges and Schools. There are four departments in the school; the program is administered by the architecture department chair and as such has an appropriate measure of autonomy.

## 12. Professional Degrees and Curriculum

*The NAAB accredits the following professional degree programs: 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 electives. Schools offering the degrees B. Arch., M. Arch., and/or D. Arch. are strongly encouraged to use these degree titles exclusively with NAAB-accredited professional degree programs.*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This condition is met. The Master of Architecture degree program contains 84-graduate semester credit hours with the balance of 124 semester credit hours from typical undergraduate degrees that are obtained prior to matriculation in the Masters program. The distribution of general education courses is also met prior to matriculation by the student's baccalaureate degree programs.

## 13. Student Performance Criteria

*The accredited degree program must ensure that each graduate possesses the knowledge and skills defined by the criteria set out below. The knowledge and skills are the minimum for meeting the demands of an internship leading to registration for practice.*

### 13.1 Speaking and Writing Skills

Ability to *read, write, listen, and speak effectively*

| Met | Not Met |
|---|---|
| [X] | [ ] |

The criterion is met. Evidence is found in ARCH 511: History & Theory I, ARCH 512: History & Theory II, and ARCH 611: History & Theory III. Students in general are articulate and have the ability to speak effectively.

### 13.2 Critical Thinking Skills

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

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is met. Evidence is found through student research and writing skills. Within the curriculum, students develop ideas and strong arguments in the history and theory courses and are able to clearly write about their own design projects. Some students expand their critical thinking skills through high profile engagements such as the student run publication VIA.

### 13.3 Graphic Skills

Ability to *use appropriate representational media, including freehand drawing and computer technology, to convey essential formal elements at each stage of the programming and design process*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is met. Evidence is found in student work outcomes from ARCH 521, ARCH 522 and ARCH 621. Student work demonstrates an exceptional ability to use a variety of representational media and effective usage of digital technology. Additionally, student work demonstrates the use of freehand sketching to reflect thought process throughout the design conceptualization phase.

### 13.4 Research Skills

Ability to *gather, assess, record, and apply relevant information in architectural coursework*

| Met | Not Met |
|---|---|
| [X] | [ ] |

The criterion is met. Evidence is found in student work from core design studios as well as in ARCH 631 where students gather, assess and apply information on design, construction and building performance criteria.

### 13.5 Formal Ordering Skills

Understanding of *the fundamentals of visual perception and the principles and systems of order that inform two- and three-dimensional design, architectural composition, and urban design*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is well met. Evidence is found in student work in ARCH 501, ARCH 502, and ARCH 522 where an understanding of the fundamentals of visual perception and the principles and systems of order that inform two and three-dimensional design is revealed in the student analyses and implementation of design schema.

### 13.6 Fundamental Skills

Ability to *use basic architectural principles in the design of buildings, interior spaces, and sites*

| Met | Not Met |
|---|---|
| [X] | [ ] |

The criterion is met. Evidence is found in the core design studios of ARCH 601 and ARCH 602 where students have developed the ability to use basic design principles in the design of buildings, interior spaces and sites.

### 13.7 Collaborative Skills

Ability to *recognize the varied talent found in interdisciplinary design project teams in professional practice and work in collaboration with other students as members of a design team*

| Met | Not Met |
|---|---|
| [X] | [ ] |

The criterion is met. Evidence is found in the case study coursework of ARCH 631. Student projects show a high level of capability for collaborative team work and the ability to work with outside professionals as consultants. Additional evidence is found in the integrative design studio, ARCH 602, where students work in groups and with structural and mechanical consultants from the professional A/E community, primarily from the offices of ARUP.

### 13.8 Western Traditions

Understanding of *the Western architectural canons and traditions in architecture, landscape and urban design, as well as the climatic, technological, socioeconomic, and other cultural factors that have shaped and sustained them*

| Met | Not Met |
|---|---|
| [X] | [ ] |

The criterion is met. Evidence is found through student's writing and research abilities learned in the History and Theory courses ARCH 511, ARCH 512 and ARCH 611.

### 13.9 Non-Western Traditions

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

| Met | Not Met |
|---|---|
| [ ] | [X] |

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

### 13.10 National and Regional Traditions

Understanding of *national traditions and the local regional heritage in architecture, landscape design and urban design, including the vernacular tradition*

| Met | Not Met |
|---|---|
| [X] | [ ] |

The criterion is met. Evidence is found in student writing and research work samples from the History and Theory courses ARCH 511 ARCH 512, and ARCH 611.

### 13.11 Use of Precedents

Ability to *incorporate relevant precedents into architecture and urban design projects*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is met. Evidence is found in student work in both core design studios, and history & theory courses including ARCH 511 ARCH 512, and ARCH 611, as well as in the case studies course ARCH 631.

### 13.12 Human Behavior

Understanding of *the theories and methods of inquiry that seek to clarify the relationship between human behavior and the physical environment*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is met. Evidence of documenting human behavior is found in programming work in the ARCH 502 studio work. The relationship between human behavior, social values and public space is developed in History & Theory II course ARCH 512.

### 13.13 Human Diversity

Understanding of *the diverse needs, values, behavioral norms, physical ability, and social and spatial patterns that characterize different cultures and individuals and the implication of this diversity for the societal roles and responsibilities of architects*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This condition is met. The relationship between human behavior, social values and public space is developed in History & Theory II, Arch 512.

### 13.14 Accessibility

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

| Met | Not Met |
|---|---|

[ ] [X]

This criterion is not met. Though there is an attempt to integrate aspects of accessibility within design presentations, there remains insufficient evidence to indicate the ability level for use of accessibility standards in both building and site design.

### 13.15 Sustainable Design

Understanding of *the principles of sustainability in making architecture and urban design decisions that conserve natural and built resources, including culturally important buildings and sites, and in the creation of healthful buildings and communities*

Met [X] Not Met [ ]

The criterion is met. Evidence is found within the technology courses, ARCH 533 and ARCH 534. Students have a good understanding of sustainable design through research and precedent analysis. Students' understanding of the principles of sustainability is further exhibited in the 600 level design courses as they begin to apply their knowledge of these principles in their design projects.

### 13.16 Program Preparation

Ability to *prepare a comprehensive program for an architectural project, including assessment of client and user needs, a critical review of appropriate precedents, an inventory of space and equipment requirements, an analysis of site conditions, a review of the relevant laws and standards and assessment of their implication for the project, and a definition of site selection and design assessment criteria*

Met [X] Not Met [ ]

This criterion is well met. Evidence is found in extensive and rigorous programming activities of observing and researching the use of space included in the first year studios ARCH 501 and ARCH 502. Integrative programming activities and the visualization of complex relationships is presented in ARCH 602.

### 13.17 Site Conditions

Ability to *respond to natural and built site characteristics in the development of a program and the design of a project*

Met [X] Not Met [ ]

This criterion is met. Evidence is found in courses ARCH 502 and ARCH 631.

### 13.18 Structural Systems

Understanding of *principles of structural behavior in withstanding gravity and lateral forces and the evolution, range, and appropriate application of contemporary structural systems*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is met. Evidence exists in the student work of courses ARCH 535, ARCH 536 and ARCH 631.

### 13.19 Environmental Systems

Understanding of *the basic principles and appropriate application and performance of environmental systems, including acoustical, lighting, and climate modification systems, and energy use, integrated with the building envelope*

| Met | Not Met |
|---|---|
| [x] | [ ] |

This criterion is met. Evidence exists in the student work of courses ARCH 533 and 534.
.

### 13.20 Life-Safety

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

| Met | Not Met |
|---|---|
| [ ] | [X] |

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

### 13.21 Building Envelope Systems

Understanding of *the basic principles and appropriate application and performance of building envelope materials and assemblies*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is well met. Evidence exists in the student work of technology courses ARCH 531, ARCH 532 and ARCH 631.

### 13.22 Building Service Systems

Understanding of *the basic principles and appropriate application and performance of plumbing, electrical, vertical transportation, communication, security, and fire protection systems*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is met. Evidence exists in the student work of courses ARCH 534 and ARCH 631.

### 13.23 Building Systems Integration

Ability to *assess, select, and conceptually integrate structural systems, building envelope systems, environmental systems, life-safety systems, and building service systems into building design*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is met. Evidence exists in the student work of courses ARCH 534 and ARCH 631 and ARCH 602.

### 13.24 Building Materials and Assemblies

Understanding of *the basic principles and appropriate application and performance of construction materials, products, components, and assemblies, including their environmental impact and reuse*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is met. Evidence exists in the student work of course ARCH 531 and ARCH 532.

### 13.25 Construction Cost Control

Understanding of *the fundamentals of building cost, life-cycle cost, and construction estimating*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is met. Though not specifically taught in one course, but with a holistic and integrative teaching approach, the content is conveyed through various courses. Evidence is found in the student work and teaching materials of the case studies in ARCH 631, the environmental technologies material in ARCH 534, and construction administration/contractual issues taught in ARCH 772.

### 13.26 Technical Documentation

Ability to *make technically precise drawings and write outline specifications for a proposed design*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is well met. Evidence exists in the student work of courses ARCH 531 and ARCH 532.

### 13.27 Client Role in Architecture

Understanding of *the responsibility of the architect to elicit, understand, and resolve the needs of the client, owner, and user*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is met. Evidence exists in the student work for courses ARCH 631, and ARCH 671, along with exams in ARCH 772.

### 13.28 Comprehensive Design

Ability to *produce a comprehensive architectural project based on a building program and site that includes development of programmed spaces demonstrating an understanding of structural and environmental systems, building envelope systems, life-safety provisions, wall sections and building assemblies, and the principles of sustainability*

| Met | Not Met |
|---|---|
| [X] | [ ] |

The condition is met. Evidence is found in 600 level design courses.

### 13.29 Architect's Administrative Roles

Understanding of *obtaining commissions and negotiating contracts, managing personnel and selecting consultants, recommending project delivery methods, and forms of service contracts*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is met. Evidence is found in professional practice courses and student exercises in Professional Practice III course ARCH 772.

### 13.30 Architectural Practice

Understanding of *the basic principles and legal aspects of practice organization, financial management, business planning, time and project management, risk mitigation, and mediation and arbitration as well as an understanding of trends that affect practice, such*

*as globalization, outsourcing*, project delivery, expanding practice settings, diversity, and others

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is met. Evidence is found in professional practice courses and student exercises in Professional Practice III course ARCH 772.

### 13.31 Professional Development

Understanding of *the role of internship in obtaining licensure and registration and the mutual rights and responsibilities of interns and employers*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is met. Evidence is found in Professional Practice III, ARCH 772 through the review of student exams.

### 13.32 Leadership

Understanding of *the need for architects to provide leadership in the building design and construction process and on issues of growth, development, and aesthetics in their communities*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is met. Evidence is found in the teaching materials of Professional Practice III ARCH 772. In addition, there is an overarching culture of professional leadership in the department through the numerous practicing architects on faculty. Leadership is also demonstrated through the various extra-curricular programs and activities that have community engagement as core goals.

### 13.33 Legal Responsibilities

Understanding of *the architect's responsibility as determined by registration law, building codes and regulations, professional service contracts, zoning and subdivision ordinances, environmental regulation, historic preservation laws, and accessibility laws*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is met. Evidence is found in Professional Practice III ARCH 772 coursework and student exams.

### 13.34 Ethics and Professional Judgment

Understanding of *the ethical issues involved in the formation of professional judgment in architectural design and practice*

| Met | Not Met |
|---|---|
| [X] | [ ] |

This criterion is met. Evidence is found in Professional Practice III course ARCH 772.

This page is left blank intentionally.

## III. Appendices

### Appendix A: Program Information

#### 1. History and Description of the Institution

*The following text is taken from the 2010 University of Pennsylvania* Architecture Program Report*.*

Benjamin Franklin founded the University of Pennsylvania in 1740. Originally called the College of Philadelphia, it was established as the nation's first University in 1791. Teaching at the University was guided by Franklin's call for practical education. Throughout its history, the University has emphasized practical knowledge as an important aspect of human understanding. The original College of Philadelphia was located in a metropolis of the British colonies; it was an urban university, unlike its early contemporaries Harvard and Princeton, both established in village settings. By the end of the century, however, its original center city site was no longer capable of accommodating its growing activities and size. For greater space, the College trustees purchased the house erected for the President of the United States, and had its architect, Benjamin Latrobe, add to it a medical amphitheater. In this building two of the nation's most important architects, Robert Mills and William Strickland, learned their professional skills. Later, Strickland enlarged this building, and in the coming years he and Mills built additional buildings for the College in the immediate vicinity. In 1872, the University of Pennsylvania moved to a new location, where it could expand without impediment. It relocated to a site that would grow to include 247 acres in West Philadelphia across the Schuykill River from the historical city center.

The academic structure of the University comprises four undergraduate schools and twelve graduate and professional schools. It is one of the country's largest private universities, with over 1700 faculty members and 22,000 students equally divided between undergraduates and graduates. The Department of Architecture exists in one of these twelve schools, the School of Design (PennDesign), with approximately 500 graduate students. It includes the departments of Architecture, City and Regional Planning, Fine Arts, and Landscape Architecture and Regional Planning, as well as programs in Historic Preservation and Urban Design.

The Professional Degree Program in architecture exists within the Department of Architecture of the School of Design at the University of Pennsylvania.

The School of Design

*Excerpt, Gary Hack, School of Design, External Review, Spring 2008*

The School of Design has a long and distinguished history. Courses in architecture were first taught at Penn in 1868, making it the second program in architecture in the US. The School of Fine Arts was established in 1890, containing architecture and art, and over the years its programs have changed, but the centrality of art and design have remained consistent.

In the 1950s, under the leadership of G. Holmes Perkins, the school was reorganized with professional education moved to the graduate level. Undergraduate programs were phased out, and the school became the **Graduate School of Fine Arts**. It attracted internationally renowned faculty, and was responsible for shaping the direction of architecture, landscape architecture and city and regional planning. It created an influential

civic design program, and in the 1980s, it played an equally formative role in developing the field of historic preservation. One of its distinguishing characteristics over the years has been a faculty that combines **distinguished scholars** and **influential practitioners**, making tangible the commitment to linking theory and practice.

Over the past dozen years, the school has undergone a number of equally profound changes. The **Fels Program in Government Administration** was moved out of the school to the School of Arts and Sciences. **Undergraduate teaching** was greatly expanded and now constitutes 1 /3 of course enrollments, and new undergraduate majors were created in **fine arts, architecture, digital media design and visual studies**. **Cross disciplinary work** was encouraged through dual degrees and certificate programs, and today more than 20% of students enrolled in these. New types of non-degree educational programs were established, including the **Center for Urban Redevelopment Excellence (CUREx) fellows program**. Several new researc centers were established, and **PennPraxis** was created to serve as a vehicle for faculty practice.

Recognizing the importance of practitioner educators to the schools educational mission, new faculty ranks and titles were created including **Professor of Practice, Associate Professor of Practice, and Senior Lecturer**. These have allowed the school to make multi year commitments to distinguished practitioners, and individuals essential to our educational program.

In view of the broadened mission of the school, its name was changed in 2003 to the **School of Design**.

**Description of the School**

The School of Design is one of **12 schools** of the University, overseen by the **Board of Trustees**, **President and Provost**. Each school is a largely self-governing entity, with wide latitude given as to how its activities are structured and there is considerable variation among them. Each school has a **board of overseers**, appointed by the trustees, with responsibility for ensuring that programs are of the highest quality possible, and supported with the resources necessary to achieve this.

Broad authority for the management of schools has been delegated to deans, within the framework of general rules relating to appointments and faculty and administrative responsibilities that have been codified in the handbook for faculty and administrators. All appointments, promotions and grants of tenure for standing faculty (tenured or tenure track) or appointments of non-tenure track faculty to multi-year appointments must be approved by the provost and trustees, based on recommendations by the dean. The provost convenes a **provost's staff conference**, consisting of deans and others to advise him on these decisions. The **council of deans**, led by the provost, meets regularly to discuss university issues, as does the **president's consultative committee** consisting of deans and university administrative officers.

Penn's operating model is **responsibility center management (RCM)**. In short, all resources that come to the university flow into one of the responsibility centers (the 12 schools plus independent centers such as the Institute for Contemporary Art, University Museum, etc.), and all expenditures flow from these centers. Over 90% of the endowment of the university is controlled by the responsibility centers. Funds for central functions, such as the costs of the president's and provosts activities, campus grounds maintenance, security, libraries, athletics, etc., are largely paid for through a set of charges and taxes levied on the schools and independent centers. All schools are responsible for paying directly for operations and maintenance of their facilities (and raising funds for new facilities), all educational and administrative costs, and graduate financial aid.

The decision on the composition of the faculty, number of students, and internal organization is left largely to the schools. There are no permanent faculty lines, only resources that are fungible. When faculty retire or leave, the dean must decide whether to refill the position, create a different type of position (e.g., practitioner educator vs. standing faculty), or restructure the responsibilities. Student enrollment targets are set annually by the deans and department chairs, and budgets are constructed accordingly.

The faculty of the school meets monthly to discuss educational activities and policies, and approve any new or changed curricula or courses. An executive committee, consisting of the department and program chairs, chairs of the graduate groups, directors of the undergraduate programs, the associate dean and assistant dean, meet monthly to make policy and advise the dean on issues. The school has three standing committees: a personnel committee that reviews all personnel actions proposed by departments and makes recommendations to the dean; the curriculum committee that reviews all new or changed courses and curricula, and makes recommendations to the school faculty; and a committee on academic freedom and responsibility that meets only when charges are made against faculty and administrators that need to be arbitrated (no such issues have been raised over the past 12 years). The COAFR also conducts elections for faculty members to serve on the dean search committee. The dean appoints members of the personnel and curriculum committees, and the policy has been to rotate membership of the committees annually. The COAFR is elected by the faculty.

The school offers professional degrees at the graduate level in five fields: architecture, city and regional planning, fine arts, historic preservation and landscape architecture. Faculty in City Planning also offer the Master of Urban Spatial Analytics program (MUSA).

PhD programs are offered in architecture and city and regional planning. These are administered through graduate groups that include faculty in the home department and in other departments in the school and university. The architecture graduate group also offers the opportunity for one year of specialized study, obtaining an MS in Architecture.

At the undergraduate level, it offers majors in architecture and fine arts to students enrolled in the School of Arts and Sciences. It also offers minors in architecture, landscape architecture and fine arts. Faculty in the school also teach in the undergraduate urban studies program.

The department of fine arts also collaborates with the School of Engineering and Applied Sciences and the Annenberg School of Communication in offering an undergraduate major in digital media design. The department of fine arts also offers a major in visual studies, jointly with the department of psychology and the department of history of art and architecture. The department of architecture collaborates with the School of Engineering and Applied Sciences in offering a new master's program in integrated product design.

In addition to degree programs and majors, the school offers a variety of certificate programs. Most are designed to be taken concurrently with degree programs, although students may enroll as special students and pursue a freestanding certificate. Currently, certificate programs are offered in urban design, real estate design and development, graphic design, time based media design, ecological architecture, landscape studies, historic preservation, historic conservation and urban redevelopment.

In Spring 2008, there were 515 students enrolled in professional masters programs in the school, 38 in PhD programs, and 203 majors [in] the undergraduate programs that we oversee or collaborate with others in offering.

## 2. Institutional Mission

*The following text is taken from the 2010 University of Pennsylvania* Architecture Program Report.

*Excerpt, President Amy Gutmann, Penn Compact, 2004-2009*

The Penn Compact is our vision to propel the University of Pennsylvania from excellence to eminence in all our core endeavors of teaching, research, and service. Three principles inform the Penn Compact: increasing access, integrating knowledge, and engaging locally and globally. Since 2004, when I was privileged to become Penn's eighth president, Penn's teamwork and innovations in these areas have propelled the University's growth and served as examples to institutions all over the world. President Amy Gutmann

**Increasing Access**

We must make an excellent Penn education available to all outstanding students of talent and high potential who can benefit from and contribute to our University. In a democracy and at great universities, diversity and excellence go together. To keep them together, we must significantly boost scholarship aid to make Penn even more affordable to exceptional students from all backgrounds.

**Growing Diversity.**

Our undergraduate student body is more diverse than ever before and the number of under-represented minorities in the student body has grown from 11 percent to 13 percent.

**Integrating Knowledge:**

The most challenging questions and problems of our time cannot be addressed by one discipline or profession. To comprehend our complex world, we must better integrate knowledge from different disciplines and professional perspectives in our research and teaching. Beginning with the recruitment of eminent scholars who will hold joint appointments in two schools and departments, Penn will achieve a truly successful partnership between arts and sciences and our professional schools that will benefit our students, our society, and our world.

**Penn Integrates Knowledge (PIK) Program.**

In 2005, Penn launched the innovative "Penn Integrates Knowledge" (PIK) program to recruit the best teacher-scholars whose work crosses traditional boundaries. To date, eight PIK Professors, who each hold joint appointments in two Penn schools, have been generously endowed by Richard C. Perry (W'77), David M. Silfen (C'66), Andrea Mitchell (CW'67) and Alan Greenspan, and CraigW. Effron

(W'81).They are invigorating the University's community of scholars and students and positioning Penn

**Engaging Locally and Globally:**

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

**Service Learning.** Penn—one of only three schools nationwide to receive the Presidential Award for General Community Service—supports distinguished programs that allow

students to integrate service activities into their academic work. More than 4,000 Penn undergraduates (more than 40 percent) already engage in sustained service and help strengthen communities in concert with their studies.

**Penn's Global Reach**. Penn is the school of choice for students from around the world. Students from abroad currently comprise 14 percent of undergraduates and international student enrollment has increased 20 percent since 2004; enrollments from China and India are up 50 percent.

*Excerpt, Gary Hack, School of Design, External Review, Spring 2008*

The School of Design is dedicated to **improving the quality of life through the design of artworks, products, buildings, landscapes and cities**. We use "design" in the broad sense to include both creating stimulating objects and places and influencing the social, political and production processes that have a bearing on the built and natural world. The design arts are the common intellectual core of the school, but equally important are the understandings drawn from technologists, historians and social scientists in the school and university.

Our concerns are at once practical and aesthetic, honoring the precepts of Benjamin Franklin. We are part of Franklin's university that seeks to advance knowledge *and* have an immediate impact on its world.

As a professional school, we prepare individuals for practice in each of our disciplines: architecture, fine arts, landscape architecture, city and regional planning and historic preservation. We also educate professionals to work in areas that cross disciplinary lines, including urban design, real estate design and development, conservation of historic sites, graphic design, motion graphics and animation, digital media design, urban spatial analytics, urban redevelopment practice, and product design. We aim to increase the general understanding of art, design, architecture and urban issues through our undergraduate education programs, public events and exhibitions, and dialogue about emerging issues. And we prepare individuals for teaching and advanced research, through our PhD programs.

## 3. Program History

*The following text is taken from the 2010 University of Pennsylvania* Architecture Program Report.

*Excerpt, Detlef Merlins, School of Design, External Review, Spring 2008*

While architects were associated with the University since its founding in 1740, the idea of establishing a Department of Architecture and associated arts was not raised until the 1850's. The trustees considered forming a Department of Mines, Arts and Manufactures in 1852, and its curriculum was to include courses in "sketching and plan drawing." This plan was abandoned amidst a national recession and the Civil War. In 1868 the University established the Department of Arts, which was later renamed the Department of Science. Architecture courses were taught in the Department of Arts in 1869, making architecture at the University of Pennsylvania the second oldest program in the United States. Thomas Webb Richards both headed the initial program and designed the first building constructed on the University's West Philadelphia campus, College Hall, a commission he won in an open competition in 1870. The direction of the program was next assumed by Theophilus Chandler, who also became president of the A.I.A., the first of many University of Pennsylvania graduates to assume this position. Chandler developed and expanded the program, bringing such figures as Frank Furness, Wilson Eyre, Walter Cope and John Stewardson onto the faculty. In 1890, the School of Architecture achieved

independent status as the Towne Scientific School of the University offering a four-year undergraduate architectural program. Many of the early professors of architecture in the program were trained at the Ecole des Beaux-Arts and the ateliers and clubs they established in Philadelphia provided a broad professional framework for architectural education in the program. The T-Square Club was founded in 1883 as a break=way organization from the Philadelphia A.I.A. Close connections were established between the program, the A.I.A. and these clubs and ateliers. Warren Powers Laird, one of the Beaux-Arts trained architects who became a professor in the program, shaped the curriculum in the manner of the Beaux-Arts method. The emphasis was on design through competitions and preparation for professional practice. One of Laird's colleagues, Paul Philippe Cret, emphasized architecture as a creative art. During these years the program sought to balance the concerns of artistic expression with the increasing demands of professional competency.

The arrival of G. Holmes Perkins in 1951 was a turning point in the program's history. Under his leadership the disciplines of architecture, landscape architecture, and city planning were consolidated into a GSFA. In 1956 he established the Civic Design Program, later re-named Urban Design, as a joint program between architecture and city planning. As both Dean of the GSFA and Chairman of the Department, Perkins assembled a distinguished faculty including Lewis Mumford, Robert Le Ricolais, David Crane, Ian McHarg, Erwin Gutkind, Robert Geddes, Louis Kahn, Romaldo Giurgola, Robert Venturi and Denise Scott Brown. Many of these faculty members were instrumental in developing the movement in architecture known as the "Philadelphia School." During the recent decades, the Department has expanded its facilities, increased the number of its faculty and students and modified its curricula and courses in response to contemporary developments in architectural practice, theory and pedagogy. It remains closely connected to the City of Philadelphia, the University of Pennsylvania and the GSFA.

## 4. Program Mission

*The following text is taken from the 2010 University of Pennsylvania* Architecture Program Report.

*Excerpt, Detlef Herons, School of Design, External Review, Spring 2008*

The primary mission of the Master of Architecture Professional Degree Program is to educate architects through the development of disciplinary skills, knowledge, and methods of inquiry for the professional practice of architecture. Architecture is understood as a modality of creative expression within a culture and a material product realized within the techno-economic and socio-political domains of contemporary civilization.

The Professional Degree Program aims at a disciplinary education in architecture incorporating the traditional subjects of design, representation, technology, and theory with the contemporary topics of digital media, economics, and professional practice. While disciplinary in its orientation, the program encourages engagement with the related disciplines of fine arts, historic preservation, landscape architecture, urban design, and city and regional planning. Finally, the program extends architecture beyond these related disciplines into the realms of culture, civilization, and society. The goal of the program is to develop skills, knowledge, and methods of inquiry in the discipline of architecture while encouraging an interdisciplinary understanding of the environment and fostering professional ethics and social responsibilities.

Education in the Professional Degree Program is centered in the design studios, providing students with opportunities to learn from projects that vary in content and context and

emphasize different aspects of architecture. Required and elective courses explore the knowledge and methods of inquiry in architecture in a wide range of traditional subjects and contemporary topics. Students learn representational skills and technological knowledge as part of a unified architectural design process. Theory is considered as a means towards developing an understanding of architectural production in a cultural and historical context. Issues of programmatic content and contextual concerns are seen as opportunities to explore appropriate and meaningful form, as potential sources of inspiration in architectural design.

Our department provides an open, collegial and supportive environment for faculty and students to develop expertise, think laterally, and experiment creatively. We prepare graduates to be leaders in the profession and contribute to society and culture at the highest level.

***VISION:***

***A LABORATORY FOR EVOLVING DESIGN IDEAS, EXPERTISE AND CAPACITY FOR ENGAGEMENT***

***A THINK TANK FOR EXCHANGES AND DEBATES WITHIN AND ACROSS DISCIPLINARY BOUNDARIES***

***A BROADCAST CENTER FOR ENGAGING A GROWING AUDIENCE AND INTERNATIONAL NETWORK***

Over the next five years, we will deepen our capacity to engage the challenges of society locally and globally by evolving the expertise of architecture, integrating across fields to create new knowledge, skills and modes of practice.

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

In this context, we will formalize our emerging identity as a laboratory for ideas, expertise and innovations, a think tank for exchanges and debates across disciplinary boundaries, and a broadcast center engaging a growing audience and international network. We will rebuild our standing faculty, develop new advanced degree options in specialized areas, and expand doctoral studies. We will develop collaborations among our various programs, with other departments of the school and other divisions of the university. We will prepare the next generation of leaders to evolve the discipline and renew its capacity to enhance the quality of life.

## 5. Program Self Assessment

*The following text is taken from the 2010 University of Pennsylvania* Architecture Program Report*.*

The program has developed considerably since the 2004 accreditation visit, with a number of curricular changes, shifts in the student population, additions to the faculty, and the development of new research units. A narrative assessment of those changes is provided below.

### Curriculum

**Design Studios**. In the Fall of 2004, digital media was made an integral part of the first semester design studio. This resulted, in part, from the increased digital capabilities of incoming students and from a recognition that computers were no longer discrete tools, but had become the "media" of design. New introductory projects have been developed, though the basic sequence of short projects has remained consistent. However, as a result of the introduction of digital media into arch 501, the visual studies sequence 521, 522, ad 621 was adjusted, as were the design studios that followed it.

The changes in the visual studies sequence were quite direct at one level, but with the development of even more advanced digital techniques in the upper level studios, the amount of material to be learned has increased steadily, and a great deal of studio time was spent teaching various modeling and generation techniques. Beginning in the summer of 2009, incoming students without a strong digital background received a one-week, intensive digital preparation course to allow the design studio to focus on design, and the visual studies course to focus on concepts.

The second effect of the shift of digital media into the first year, was on the design studio where digital media had previously been introduced, Arch 601. With the shift of digital training away from that semester, that studio was refocused first on technology, which had been the long-standing theme of that semester, and then on ecology, which has been a growing expertise within the program.

A secondary effect of the shift in the first year was the realization of a long-standing proposal to develop a more tightly coordinated, integrative design studio in the fourth semester, Arch 602. It had long been recognized that the focus of Arch 601 was divided between the realization of larger scale building and the integration of technologies. The integrative 602 studio was first realized in Spring 2007 and was based on a number of specific features. First was the focus on the integration of building technologies, demonstrated through comprehensive sections and 3D assemblies. Second was the use of expert consultants as regular contributors to the studio. And third, developed as a requirement in 2008, was that students work in teams of 2-4 students on projects, making collaborative design a key aspect of the studio and allowing greater resolution of the designs.

With the completion of the change in Arch 602, Arch 601 was more explicitly focused in 2008 on urban dwelling, allowing it to engage on the overall resolution of more complex building, and the detailed resolution of individual units.

With that most recent adjustment, the required studio sequence has settled into a new pattern, with two semester of Foundation Studio, moving from the topics of order and assembly of 501 into a direct encounter with urban conditions and complex programmatic demands of 502. That is followed by two semesters of Core Studio, moving from the topics of organization and inhabitation of arch 601 into 602, with its emphasis on collaboration and

integration of technologies.

In the upper-level, Research Studios, Arch 704, we have been exploring arrangements to deepen or extend the agendas of the studios by linking them in Topical Units with preceding or parallel courses or with faculty research units. For example, students are encouraged to take the fall seminar, Form and Algorithm, in preparation for Balmond's spring studio. Similarly, connections were established between the Kieran Timberlake studio focused on Bangladesh and a seminar on Asia. In Spring 2010, the Behnisch-Haas studio will have a dedicated parallel seminar taught with the members of Transsolar.

**Technology**. The formal structure of the technology sequence has remained constant since 2004, with the 3 course streams of structures, construction, and environmental systems (531-536) converging in case studies (631) and then branching into specialties in the designate electives (632 & 638). However, considerable effort has been devoted to the introduction of digital simulation techniques in that sequence, with initial sessions in the first year courses converging in dedicated sessions in 631, and then studio based sessions in 602. The technology faculty has identified two challenges for the sequence, the first is the busyness of the first year, which seems only tgincrease as new requirements or ambitions are added. The second was highlighted by the difficulties encountered with the enhancement of simulation techniques. The discrete nature of the three technology courses seems at odds with the increasingly integrated demands on the profession and even with the synthetic understanding required for meaningful simulation studies and design generally.

**History-Theory**. The sequence of required courses in history-theory has evolved by degrees over the last 5 years. Arch 511 has focused more fully on the history of modernism, to help articulate and make evident the historical and theoretical basis for the new design techniques. Arch 512 is more topically organized and has focused on the city, while Arch 611 covers contemporary theories and their historical roots. In a staged two year adjustment, the content of Arch 611 will be moved to Arch 512, allowing for a full review of modernism to contemporary architecture in the first year, with Arch 611 addressing the core architectural topics in coordination with the 601 studio. Many faculty believe that current students are not as versed in either historical or theoretical topics, making it harder for them to make arguments for their work or to position thir work relative to other developments in the field. The newly added writing requirement in studio addresses part of this concern, and another proposal to add a requirement for a history-theory elective will be reviewed by the faculty this year.

**Workshops**. Since 2004, a new variety of popular and demanding courses have been developed, which can best be described as workshop or design technique courses. These are upper level seminar courses that follow a problem-based-learning approach similar to design studios and visual studies. They are typically dedicated to specific design or software techniques, and/or specific kinds of design subjects, ranging from Digital Fabrication to Furniture Design to Experimental Form. The courses sometimes rival studios in their forms of production and time-commitment, and raise the interesting questions about evolving formats of design instruction.

**Professional Practice**. Since 2004, there have been a number of refinements and staffing changes in the professional practice courses, especially 671 and 672, to get students more actively into different kinds of firms and to bring practitioners into the classrooms.

That has also been coordinated to some degree with the offerings of Career Services, who have increasingly brought alumni practitioners to speak to graduating students. That convergence has raised the possibility of a formal internship requirement in the professional degree program, which would enable more direct links between professional practice

courses, career services, and work in the profession. The faculty has decided to review and consider this possibility in more detail this year.

**Dual-Degrees and Certificates**. The number of students participating in dual degree programs, especially with the Landscape program, grew dramatically in 2004, and now regularly constitutes about 15% of the department. The freedom of students to use their electives across department and school boundaries has also enhanced their ability to pursue certificates, and another 15% of students now also pursue certificates.

**Certificate in Ecological Architecture**. In 2007, the faculty voted to approve a new certificate program in Ecological Architecture, and it was made available in the 2007-08 school year, with 12 students accepted in the first year. In the School of Design, certificates require 5 CUs of courses not otherwise required for the degree. The certificate has two required courses, one of which was offered specifically for the certificate and a selection of elective courses from other departments and schools in the University. The success of the certificate has led to the development of a new Master program, which is proceeding through the approvals process in Fall 2009.

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

**Students and Admissions**

Since the last acoreditation review, the average number of applicants has nearly doubled, and the program eliminated an awkward, single-semester form of advanced standing. The quality of the students has also improved, with the most dramatic shift occurring in those applicants with undergraduate majors or studies in architecture. By 2008-09, between 70% and 80% of the students entering the first year of the MArch had undergraduate majors in architecture. This added many strengths to the program, especially studio skills, and changed some of the emphasis in the 500 studios, but the faculty decided that students with other undergraduate majors added important elements to the program as well. The admission procedures were adjusted last year, and the current incoming class is divided roughly 50/50 between those with and without undergraduate majors in architecture.

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

**Faculty**

The faculty has also grown since the last visit. With the retirement of Joseph Rykwert, the Cret Chair was made available and Cecil Balmond of Arup was appointed to the Chair as a Practice Professor in 2004. He has taught a seminar and a studio each year since that time, and started a research unit, the Non-linear Systems Organization. Balmond was reappointed for another 5 year term in 2008-09.

In 2004, and then 2009, Enrique Norten was reappointed as Practice Professor. In 2008, Winka Dubbeldam was reappointed and promoted as Practice Professor. In 2007,

Marion Weiss was promoted to Full Professor.

In 2009, the Miller chair was converted to support visiting faculty, and will be used in the 09-10 acdemic year to support the joint appointment of Stefan Behnisch and his partner, Martin Hass, to teach a 704 design studio and parallel studio.

Since the last accreditation visit, 4 new assistant professors have been appointed. Helene Furjan was appointed in 2006 to teach courses in history-theory. In 2008-09, 4 new assistant professors were appointed with one deferring until 2010. Franca Trubiano was appointed to teach in the area of construction and integrated practice, a position for the Department had sought to fill since before the last accreditation visit. Simon Kim was appointed to teach in visual studies and design techniques and Yun Kyu Yi was appointed to teach in environmental systems. All four assistant professors will also teach in design studio.

With the latest appointments, the Department is closer to its target size for standing faculty of 17, which would represent 50% of the teaching and administrative responsibilities in the program. With the phased retirement of Peter McCleary a new appointment in the area of structures may be necessary, and the Department faces the enduring challenge of maintaining enough Design faculty on the standing faculty to provide the leadership and curricular oversight. The Practice Professors have provided an important vehicle for bringing top designers into the program, but they have had time to contribute as much to the leadership.

The next search will be for a new faculty member to assume the role of Chair.

**Research Units**

Since the last accreditation visit, the TC Chan Center for Building Simulation and Energy Studies has grown out of the Building Simulation Group and developed into a large research and consulting unit with a growing staff.
www.design.upenn.edu/bses/intro.swf. The success of the Chan center have contributed to the MArch program in a number of ways. Most immediately it has provided a source of summer and part time jobs for many MArch students interested in extending their environmental expertise. It has also increased the expertise available for courses and studios in this area, and has grown symbiotically with the development of the certificate in ecological architecture. It is expected that this will continue to be a growing strength of the program.

Cecil Balmond made it a condition of his appointment at Penn that he be able to develop a research unit that could both continue the work he had developed in the Advanced Geometry Unit (AGU) at Arup, and extend it in areas not possible for the AGU. The Non-linear Systems Organization (NISO) has realized both those ambitions through a series of research fellows and close collaboration with specialized courses. It has also mounted a series of high-profile events exploring the questions raised by that research.

**Facilities**

The School has sought to secure a new building for nearly a decade, and instituted a variety of renovations in 2004 that improved the public spaces. Studio renovations were begun again last year, upgrading the desks to more mobile, adaptable configurations. However review space is increasingly under pressure, presenting regular scheduling problems, and probably constitutes the first limit to growth for any new initiatives in the Department.

**Outreach and Promotion**

The Department experienced a period of visible growth and innovation under the leadership

of Detlef Mertins, achieving a higher profile and broader level of awareness. A new, annual document of student WORK was developed, as was an on-line gallery with a space for each student and course. Regular outreach with those vehicles has helped increase the number of applicants to the program.

**Conclusion**

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

The curriculum has been steadily adjusted to adapt to changes from within and without of the program, but more remains to be done. Following a preliminary review in 2008-09 the faculty identified three areas of the curriculum that need review: History-theory, Visual studies and Design Techniques, and Technology and Simulation. In each area the content and sequencing need to be reviewed, and then the coordination or integration with the studio sequence will have to be examined.

From the broadest perspective, the challenges from within and without seem to lead toward integration of various kinds, which challenge the conventional division of subjects. The design studio remains the exemplary site of integration and problem-basedlearning, while subjects like visual studies and performance simulation are converging and collapsing the distinctions between older categories.

This page is left blank intentionally.

## Appendix B: The Visiting Team

Team Chair, Representing the NCARB
Jeffrey Morgan, AIA, NCARB
Jeffrey Morgan Architecture Studio
304 15th Street
Studio 111
Des Moines, IA 50309
(515) 282-8500
(515) 282-8506
jmorgan@jmastudio.com

Representing the ACSA
Mitra Kanaani, Chair
Undergraduate Department
NewSchool of Architecture and Design
1249 F. Street
San Diego, CA 92101-6634
(619) 235-4100 ext. 109
(858) 663-2127 mobile
mitra621@aol.com

Representing the AIAS
Santiago Rivera
200 Willoughby Ave
Unit 58986
Brooklyn, NY 11205-7522
(718) 687-2417
santiago.rivera@gmail.com

Representing the AIA
Kwendeche, AIA
2124 Rice Street
Little Rock, AR 72202-6150
(501) 374-4531
(501) 374-1701 fax
(501) 952-5594 mobile
kwendeche@sbcglobal.net

Observer
Patricia Kucker, AIA
SAID Associate Director for Graduate Programs
Graduate Program Director: Master of Architecture
School of Architecture and Interior Design
7210 DAAP
University of Cincinnati
Cincinnati, OH 45221-0016
(513) 556-1614
(513) 556-6426 SAID office
kuckerpc@ucmail.uc.edu

This page is left blank intentionally.

## Appendix C: The Visit Agenda

UNIVERSITY OF PENNSYLVANIA
SCHOOL OF DESIGN
DEPARTMENT OF ARCHITECTURE

**NAAB Accreditation Review of Master of Architecture Program** **Site Visit Agenda**
NOTE: THIS SCHEDULE WAS MODIFIED DUE TO SIGNIFICANT WEATHER ISSUES

| Saturday February 6 | | | Location | Attendees |
|---|---|---|---|---|
| PM | 3:00 | Team arrival and check-in at hotel | Inn at Penn - 3600 Sansom St | |
| | 5:00 | Team orientation | Hotel conf room - Chancellor board room - lobby level - CANCELED DUE TO WEATHER - ORIENTATION WAS DELAYED TILL SUNDAY AM TWO TEAM MEMBERS WERE NOT ABLE TO ARRIVE TILL MID-SUNDAY. | Team |
| | 6:00 | Overview of Team room | | Braham, Beckman, |
| | 7:00 | Team dinner with Program Head | POD - 3636 Sansom St | Team |

| Sunday February 7 | | | Location | Attendees |
|---|---|---|---|---|
| AM | 8-8:40 | Team breakfast with Program Head | University Club (lobby level) - Inn at Penn | Team, Braham |
| | 9-9:30 | APR review and assembly of issues and questions | | Team |
| | 9:30-10:30 | Introductions, orientation and overview of Team room | | Team, Braham, Beckman |
| | 10:30-noon | Initial review of exhibits and records | | |
| PM | 12-1 | Team lunch with program administrators | Archives conf room | Team, Braham, Leatherbarrow, Malkawi, Rahim, staff? |
| | 1-2:30 | Tour of the facilities | | Team, Beckman, Fab Lab |
| | 3:30-5:00 | Continued review of exhibits and records | | |
| | 5:00-6:00 | Opening Reception with all M.Arch faculty | Archives gallery | Team, All MArch Faculty |
| | 6:00-7:30 | Team only dinner | Penne - Inn at Penn - lobby level - CANCELED -FOOD CATERED IN TO ALLOW TEAM TO GET CAUGHT UP DUE TO LATE ARRIVAL OF TWO TEAM MEMBERS. | Team |
| | 7:30-8:30 | Debriefing session | Team room | |

| Monday February 8 | | | Location | Attendees |
|---|---|---|---|---|
| AM | 8-8:40 | Team breakfast with Program Head | University Club (lobby level) - Inn at Penn | Team, Braham |
| | 9:30-10:15 | Entrance meeting with President Amy Gutmann and Provost Vincent Price | 100 College Hall - Pres conf rm | Team, President, Provost |
| | 10:30-11:30 | Entrance meeting with Dean Marilyn Jordan Taylor | Dean's office | Team, Dean |
| | 11-12 | Continued review of exhibits and records<br>Observation of lectures and seminars | | |
| PM | 12-1 | Lunch with selected faculty | Archives conf room | Team, Faculty |
| | 1-2 | Entrance meeting with all M.Arch students | B-1 | Team, All MArch Students |
| | 2-5 | Meeting with Librarian, other Staff, as needed | | Librarian, Admissions (Weston), Career Services (Julie Vick), Fab Lab (Pierattini) |
| | 2-5 | Continued review/observation | | |
| | 5-6:30 | Reception with faculty, alumni, and local practitioners | Dean's Alley | Team, alumni board, overseers, accreditation, AIA pres/board, student leaders |
| | 6:45-8 | Team only dinner | White Dog Café - 3420 Sansom St. - CANCELED - FOOD CATERED IN TO ALLOW TEAM TO GET CAUGHT UP | Team, a few Faculty |
| | 8-10 | Continued review of exhibits and records<br>Debriefing session | Team room | |

| Tuesday February 9 | | | Location | Attendees |
|---|---|---|---|---|
| AM | 8-8:40 | Team breakfast with Program Head | University Club - Inn at Penn | Team, Braham |

| | | | | |
|---|---|---|---|---|
| | 9-10 | Review of electives and related programs | | |
| | 10-12 | Continued review of exhibits and records | | |
| PM | 12-1 | Team lunch with student representatives | Archives | Team, Mandel, 3 Studio Reps, BSE, Real Estate, EPED |
| | 1-2 | Meeting with all MArch faculty w/out Administrators | Furness 306 | |
| | 2-6 | Complete review of exhibits and records | | |
| | 6-7 | Team only dinner | La Tierasse - 3432 Sansom St | Team |
| | 7-10 | Accreditation deliberations, drafting the VTR | | |

| Wednesday February 10 | | | Location | Attendees |
|---|---|---|---|---|
| AM | 8:30 | Check out of hotel<br>CLASSES WERE CANCELED AND SCHOOL CLOSED DUE TO MAJOR SNOW STORM | Inn at Penn | |
| | 8:30-9:00 | Team breakfast with Program Head | University Club - Inn at Penn | Team, Braham |
| | 9:30-10:30 | Exit meeting with Dean Marilyn Jordan Taylor | Dean's office | Team, Braham, Dean |
| | 12-12:30pm | Exit meeting with President Amy Gutmann and Provost Vincent Price - CANCELED DUE TO TRAVEL ISSUES | 100 College Hall - Pres conf rm | Team, President, Provost |
| PM | 12:45-1:30 CHANGED TO 11:30 | Program-wide exit meeting with faculty, staff, students | Lower gallery - MINIMAL ATTENDANCE OF FACULTY AND STUDENTS DUE TO SCHOOL CLOSING - PRESENTATION WAS RECORDED FOR LATER VIEWING. | Team, ARCH Faculty, staff, students |
| | 1:30-1:45 | Team members depart for airport | | |

## IV. Report Signatures

**Respectfully submitted,**

| | |
|---|---|
| **Jeffrey Morgan, AIA, NCARB**<br>**Team Chair** | **Representing the NCARB** |
| **Mitra Kanaani**<br>**Team member** | **Representing the ACSA** |
| **Santiago Rivera**<br>**Team member** | **Representing the AIAS** |
| **Kwendeche, AIA**<br>**Team member** | **Representing the AIA** |
| **Patricia Kucker, AIA**<br>**Observer** | |

This page is left blank intentionally.