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> **M.Arch – Lonn Combs, Program Director**

Chief Administrator for the academic unit in which the program is located:

> **Evan Douglis, Dean**

Chief Academic Officer of the Institution**:**

> **Dr. Prabhat Hajela, Provost**

President of the Institution:

> **The Honorable Dr. Shirley Ann Jackson, President**

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> **Evan Douglis, Dean**

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**Table of Contents**

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## SECTION 1: PROGRAM DESCRIPTON

### I.1.1   History and Mission

Rensselaer Polytechnic Institute, the nation's oldest technological research university, was established as The Rensselaer School in 1824 by Stephen Van Rensselaer *"for the purpose of instructing persons … in the application of science to the common purposes of life."* It is *"… the first school of science and school of civil engineering, which has had a continuous existence, to be established in any English-speaking country"* according to Palmer C. Ricketts in his preface to the second edition of his <u>History of Rensselaer Polytechnic Institute</u> (1914).  In 1833, the school became the Rensselaer Institute, and in the 1850s, its purpose was broadened to become a polytechnic institution.  In 1861, the Institute's name was changed to Rensselaer Polytechnic Institute.

Over time, Rensselaer has evolved into a fully realized university of 5,557 undergraduates and 1,471 graduate students. They are drawn to the sciences and technology, and to disciplines ranging from architecture and engineering to business and the arts. Benefiting from a legacy of bold exploration, the university is comprised of a diverse community of students and faculty committed to moving theory into practice, with the larger aim of contributing to the world on a transformative level.

A nonsectarian, coeducational institution, the university offers degrees from five schools: Engineering; Science; Architecture; Humanities, Arts and Social Sciences; and the Lally School of Management; as well as an interdisciplinary degree in Information Technology and Web Science.  Institute programs serve undergraduates, graduate students, and working professionals around the world. Nearly 31% of 2015 undergraduates come from areas outside of the Northeast. First-year students hail from 43 states, the District of Columbia, Puerto Rico, and from countries all around the world.

Rensselaer offers more than 145 programs at the bachelor's, master's, and doctoral levels. Students are encouraged to work in interdisciplinary programs allowing them to combine scholarly work from several departments or schools. The university provides rigorous, engaging, interactive learning environments and campus-wide opportunities for leadership, collaboration, and creativity.

For almost 200 years, Rensselaer has maintained its reputation for providing an undergraduate education of undisputed intellectual rigor based on educational innovation in the laboratory, classroom, and studio. Driven by talented, dedicated, and forward-thinking faculty, Rensselaer has dramatically expanded the research enterprise by leveraging existing strengths and focusing on five signature research areas: *biotechnology and the life sciences; energy and the environment; computational science and engineering; nanotechnology and advanced materials; and media, arts, science, and technology.*

The Institute is especially well known for its success in the transfer of technology from laboratory to marketplace, where new discoveries and inventions benefit human life, protect the environment, and strengthen economic development. From the design of the Ferris Wheel and the Brooklyn Bridge to the inventions of the digital camera, silicon transistor and network email, Rensselaer's distinguished alumni have offered have offered life-changing technological and profoundly important contributions to the world.

<u>The mission of Rensselaer is to:</u> "… *educate the leaders of tomorrow for technologically-based careers. We celebrate discovery, and the responsible application of technology, to create knowledge and global prosperity."* Its <u>institutional goal is</u>:  "*To achieve greater prominence in the 21ˢᵗ century as a top-tier world-class technological research university with global reach and global impact."*

Since 1999, under the visionary leadership of Dr. Shirley Ann Jackson, the 18ᵗʰ President of Rensselaer Polytechnic Institute, the institute has been rigorously guided by two strategic planning frameworks: *The Rensselaer Plan,* and *The Rensselaer Plan 2024,* which should be credited for transforming the institute

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into a world-class technological university. Over the last 15 years, more than $1.25 billion has been invested in realizing *The Rensselaer Plan*, and the campus has been transformed by state-of-the-art research platforms including the Center for Biotechnology and Interdisciplinary Studies, the Curtis R. Priem Experimental Media and Performing Arts Center, and the Center for Computational Innovations, which houses the most powerful supercomputer at a private university in the U.S.. Dr. Jackson prepared Rensselaer for leadership in areas of research that are of fundamental significance in the 21st century by focusing on "signature thrusts" in computational science and engineering; biotechnology and the life sciences; nanotechnology and advanced materials; energy, the environment, and smart systems; and media, arts, science, and technology.

*The Rensselaer Plan 2024* serves as a guide as the university moves towards the bicentennial of its founding in 2024. It is intended to make Rensselaer transformative in the global impact of its research, in the lives of its students, and in its pedagogy. Towards that end, forward-looking research initiatives at Rensselaer are underway to address the greatest challenges of humanity in energy, water, and food security; national and global security; human health; climate change; and the allocation of scarce natural resources. These initiatives include The Rensselaer Institute for Data Exploration and Applications, or "The Rensselaer IDEA", which brings together the strengths of the university in web science, high-performance computing, cognitive computing, data science and predictive analytics, and immersive technologies—and links them to applications at the interface of engineering and the physical, life, and social sciences—in order to answer complex questions that never could be answered before–questions at the root of global challenges.

In accordance with *The Rensselaer Plan 2024*, the university offers a complete student experience for graduate students as well as undergraduates, through Clustered Learning, Advocacy, and Support for Students [CLASS]. Rensselaer also is taking the lead in pedagogical innovation, including creating the multiplayer and mixed-reality classroom, as well as cyber-enabled discovery and learning—all of which are informed by the cutting-edge research at Rensselaer in data science, immersive environments, artificial intelligence, and cognitive science.

Guided by *The Rensselaer Plan 2024*, the institute is committed, in the words of Dr. Jackson, "to the vision of the *The New Polytechnic*: a new paradigm for teaching, learning, and research" for the 21st century in support of, "a view of the technological research university as a fresh collaborative endeavor across disciplines, sectors, and global regions. Such a university leads by using advanced technologies to unite a multiplicity of disciplines and perspectives, in order to take on large, multi-faceted challenges."

**School of Architecture History**

The School of Architecture's history dates back to 1848 when Benjamin Franklin Greene, the senior professor and director at Rensselaer at that time, traveled to Europe to undertake the first systematic study of educational models, examining, among others, the *École Des Beaux-Arts* and *École Politechnique* in Paris.  Upon his return, he wrote, *The True Idea of a Polytechnic*, premised on looking forward to the creation of a new world.  He proposed the "Rensselaer School" become "The Rensselaer Polytechnic of Engineering and Architecture," asserting Architecture to be essential to any polytechnic "worthy of the name."  While fulfillment of this vision would have made our School of Architecture the first in North America, Greene's recommendation finally became reality in 1929. The first architecture students graduated in 1933.

The Department of Architecture, later renamed the 'School of Architecture', remained small in its early years, placing emphasis on a more pragmatic approach for the study of architecture.  Professor Turpin Bannister, a founder of the Society of Architectural Historians, introduced the study of history into the program in the 1930s.  After World War II, the program grew in size and developed depth in the areas of

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structures and building construction.  A design emphasis emerged in the 1960s, with greater concern for urban design and social issues.

More recently the School has become more aligned with the institute's larger commitment and long-term legacy surrounding science, engineering and technology. Three distinct graduate research programs were established in Lighting, Architectural Acoustics, and Built Ecologies, broadening the intellectual diversity of the school as well as promoting a larger vision of architecture as a constellation of interdisciplinary exchange. Committed to the proposition that architecture at its best is a combination of art and science, where building design is rigorously informed by a strong technological and environmental underpinning, the RPI graduate is well prepared as a future practitioner, to respond forcefully and creatively to the unique challenges of our time.

### School of Architecture Mission

The School of Architecture's mission is "*to prepare creative, culturally and technologically astute and socially conscious practitioners of architecture and its related fields, for international practice in the 21st century.*"

In preparing our students to become future leaders in the profession, we ensure that they are: 1) creative innovators; 2) proponents of integrating design and technology 3) open to interdisciplinary collaboration and emerging practices in a variety of allied fields, 4) aspire to well-designed buildings capable of contributing on the highest level to the built environment and 5) conscious of the profound contribution architecture makes on a cultural, ethical and environmental level around the world.

To participate internationally and have global impact, architects must be nimble and prepared to recognize and address the unique context specific to a broad range of communities around the world.

### School Portfolio

The School offers two professional degree programs leading to NAAB-accredited Bachelor of Architecture (B.Arch) and Master of Architecture (M.Arch) degrees.  The B.Arch program has been continuously accredited by NAAB since 1945.  The M.Arch (first professional degree) has been continuously accredited by NAAB since 1979. In addition, the school offers a B.S. in Building Science, a Master of Science and Ph.D.. in Architectural Sciences with concentrations in Lighting, Architectural Acoustics and Built Ecologies, a M.Arch II degree in Architecture with concentrations in Ecological Urbanism and Environmental Parametrics and has two research centers: the Lighting Research Center [LRC] and the Center for Architecture Science and Ecology [CASE].

**B.Arch Program** – Beyond offering a comprehensive and rigorous architecture program in preparation for professional licensure, the program draws upon an extensive amount of disciplinary expertise from all three graduate research programs in the school portfolio: Lighting, Architecture Acoustics and Built Ecologies. Representing a broad diversity of important associated knowledge, students have the opportunity to broaden their intellectual diversity by studying at CASE in NYC for one full semester, or to pursue a minor in either Lighting or Architectural Acoustics.

In addition, the Institute has made it possible for high-achieving students to participate in "co-terminal" degree programs that allow architecture students simultaneously (typically after 6 years) to obtain concurrent B.Arch and Masters degrees (e.g. Masters of Engineering, or M.S. in Architectural Sciences with a concentration in Lighting or Architectural Acoustics, etc.).

**M.Arch Program** – Also conceived as a premier professional program, significant efforts have been made on the part of the leadership to develop a more distinct and unique identity.  As a result of recent curriculum changes, our M.Arch program (pending approval from NYS) will be a 3-year program. It is a first professional degree program for students holding bachelor's degrees in alternative fields.  Applicants

with previous architecture study may be considered for advanced standing.  M.Arch students are required to spend one of their semesters embedded in the Built Ecologies program, at the Center for Architecture Science and Ecology [CASE] in New York City.

**Graduate Research Programs –** Our School's three internationally renowned graduate research programs provide an exemplary educational experience for our M.S. and Ph.D.. students, as well as an impressive constellation of intellectual diversity invaluable to both the B.Arch and M.Arch professional programs. Undergraduates are encouraged to take courses, acquire minors, and pursue co-terminal degrees in any one of these three outstanding research programs.

The Master of Science in Architectural Sciences degree provides opportunity for advanced studies in a research context related to the Ph.D. program concentrations in Architectural Acoustics, Lighting and Built Ecologies. The Doctor of Philosophy degree in Architectural Sciences is designed for graduate students prepared to undertake innovative and substantive research that adds to the body of knowledge drawn on by the design disciplines, and who desire a career in teaching, research, specialized professional practice or consulting.  The doctorate is an inherently inter-disciplinary degree in which research is informed by both disciplinary depth and trans-disciplinary integration.  The program is structured to foster a community of students and scholars, a collaborative environment in which lateral flows of ideas and influences enrich the research agenda of each member of the community.

**Architectural Acoustics Program** - Established in 1999, it offers a rigorous curriculum in acoustics for effectively shaping sonic environments to achieve optimum acoustic performance and sound quality. Offering studies toward both Master of Science and Ph.D. degrees, this unique program provides the knowledge and skills required for the next-generation of acousticians involved in room acoustics, psychoacoustics, acoustic and vibration measurement techniques, and sound reinforcement to excel in a career of advanced practice and/or applied research.

**Lighting Program -** Established in 1988, as an academic and research outgrowth of our Lighting program, the Lighting Research Center [LRC] is considered the premier lighting research center in North America. Work focuses on the areas of LED development, Light and Health, and lighting product testing and validation. Forging strong ties with public benefit non-profit organizations, manufacturers, utilities, and government agencies worldwide, the LRC maintains a global network of funding support, educational outreach initiatives and innovative approaches in lighting that have contributed significantly to strengthening the performance of energy in the built environment. Acquiring over $100 million dollars in research awards from federal and industry resources since its inception, the center sustains a highly productive research agenda with global impact. Advanced studies research degree programs offered at the LRC are educating the next generation of lighting leaders.

**Built Ecologies Program** – Established in 2008, as an academic and research outgrowth of our Built Ecologies program, CASE (Center for Architecture Science and Ecology) is co-located at the offices of Skidmore, Owings & Merrill [SOM] in NYC and the Troy Campus.  CASE became an Institute-wide Center in 2014.  Its work focuses on accelerated innovation of radically new sustainable built environments through the development of next-generation sustainable building systems. CASE unites advanced architectural and engineering practices with scientific research through a unique and intensive collaboration between multiple institutions, manufacturers and professional offices within the building industry.  At CASE, actual building projects are used as research test beds. In addition to its research enterprise, CASE is home to the M.S. and Ph.D. Built Ecologies programs. All M.Arch students and select B.Arch students spend a semester there, taking courses and participating in research under the guidance of faculty and graduate students.

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**Ways in Which the School Benefits the Institution**

**School-based Pedagogically Innovative Initiatives -** In recognition of the unique challenges facing the profession of architecture today, Rensselaer's School of Architecture established a series of strategically important programs and initiatives for students throughout our professional programs aimed at strengthening the overall creative and intellectual breadth of our students. With an emphasis on increasing awareness concerning the importance of cultural diversity, interdisciplinarity, the study of architecture as a combination of art and science, collaborative engagement, community outreach, sustainability, leadership and global citizenship, the following activities and initiatives below represent a major educational asset for both the program as well as the institute at large.

**1. Commitment to Global Citizenship –** The School provides a culture that engages students in a wide array of rich educational and experience opportunities that are global in reach, technologically grounded, linked to research and experimentally progressive opportunities that are prepare them to lead in a changing profession and world. In recent years, some 70% of Architecture students have participated in a study-abroad (Bedford, Brown's or a semester in Italy, India or China) or the CASE program.

> _Study-Abroad Programs_ - Our highly popular programs offer B.Arch students semester-long programs in Italy, China and India, as well as numerous short international academic travel workshops integrated into on-campus design studios.  Additionally, the School is finalizing agreements, with a proposed launch date FA16, with architecture schools in Argentina and Chile as a way to increase student focus on Latin America. In recognition of the profound impact an international experience has on our student body, expanding the program into a new region of great cultural significance in the world represents a significant accomplishment for the program.

> _Bedford Traveling Workshop_ – Our School also offers students a unique architecture/ engineering [A/E] opportunity known as the Bedford Traveling Workshop, which takes select architecture and civil engineering students and faculty to a foreign country in early summer each year to study best practices, and exemplary innovative buildings, bridges and other structures that rely on a constructive interdisciplinary discourse.

> _Brown's Traveling Fellowship_ – Each year the School awards traveling fellowships to several faculty and students on a competitive basis. Substantial funding allows winners to travel to a location of their choice, conduct their study, and make a presentation and exhibit of findings upon returning to campus.

**2. CASE / SOM NYC Program –** CASE, which began in 2008, has now become an Institute-wide Research Center, providing opportunities for faculty and students in other departments to join CASE in a variety of multi-disciplinary research efforts focused on next-generation sustainable building systems. With the recent addition of two new Ph.D. faculty whose expertise is in environmental sustainability, the CASE offers a variety of new research opportunities both on campus and in the CASE offices at Skidmore, Owings and Merrill [SOM] in New York City.  Under the direction of Professor Anna Dyson, CASE engages undergraduates and graduate students in research projects with industry, government and other partners.

**3. Bedford Studio, Seminar and Traveling Workshop –** the Bedford Architecture/Engineering initiative creates cross-disciplinary experiences that address the increasing complexity and rising expectations for building performance and design. Under the direction of a visiting professorship designed to engage accomplished engineers with records of effective collaboration, there are three initiatives: 1) an upper-level interdisciplinary design studio, 2) an upper-level interdisciplinary seminar, and 3) an international traveling workshop, that in combination, provide invaluable knowledge and insight into the profound value of a more integrated approach for the profession of architecture.

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_Bedford A/E Interdisciplinary Studio_ – An upper-level architecture and engineering students work on a building design project structured to: raise awareness of the diverse responsibilities and agendas of architects and engineers, increase understanding of disciplinary language, and demonstrate the value of interdisciplinary input in the early design phases.

_Bedford A/E Seminar_ – An interdisciplinary course exposing students to progressive historic and contemporary building projects that rely heavily on cross-disciplinary integration. The course requires creative collaborative interdisciplinary engagement.

_Bedford Traveling Workshop -_ This international workshop sponsors the travel of six architecture students and six engineering students to an international location where concentrations of best practices and projects can be found. The workshop includes seminars at accomplished architecture and engineering practices, visits to acclaimed architectural projects, construction site visits, and a collaborative design exercise structured to catalyze interdisciplinary discourse.

The Bedford initiatives promote interdisciplinary discourse between Engineering and Architecture that has resulted in new minors and co-terminal degree options for architecture students while shaping the structural engineering track, with a focus on architectural projects.

**4. Capital Region Initiative -** To promote community engagement and service, the school launched the Capital Region Initiative in Fall 2010 as an opportunity to extend the 'classroom' beyond the Rensselaer campus. The school established a series of collaborative agreements with a broad set of cultural institutions throughout NY State that expressed interest in working with our students and learning more about the potential of building design as a way to transform their respective campuses. The Capital Region Partnerships include: The Shaker Museum in Lebanon, NY; The Hyde Collection in Glens Fall, NY; Sterling and Francine Clark Institute, Williamstown, MA; Storm King Arts Center, New Windsor, NY; OMI International Arts Center, Ghent, NY; and miSci: The Museum of Innovation in Schenectady, NY.

**5. ART_X@Rensselaer Initiative -** A programmatic and curricular construct with the goal of discovering art in science and science in art through trans-disciplinary inquiry and creative crossover, as outlined in the _New Polytechnic._ In support of this important Rensselaer initiative, the School of Architecture offers the following school-based interdisciplinary courses below, open to students and faculty throughout RPI.

_Performance Installation Production (PIP) initiative_ – An interdisciplinary collaborative studio that brings together students and faculty from the School of Architecture and HASS/Humanities Art and Social Sciences to create a multi-media event-based performance open to the general public. Experts contributing to the program include: architects, videographers, acoustic/digital composers, musicians, sound artists, poets, choreographers, dancers, graphic designers, and audio and structural engineers.

_Mestizo Robotics -_ This studio is an "art across the curriculum initiative" aimed to promote art, science and design interchanges among the institute's diverse academic units. Structured as a design-and-build seminar/workshop and studio is dedicated to development of interactive robotic devices with sensory capabilities for group behavior in relation to external forces (i.e. physical, environmental and virtual). This new course is open to students/faculty throughout the institute.

**6. BLAST>OFF>off: career development chats** - An evening roundtable discussion program between students and selected SoA faculty, with a focus on career development opportunities after graduation. Aimed at increasing student awareness of the broad range of professional opportunities available in the workplace beyond academia, one event is scheduled per semester. Committed to empowering the next generation of Rensselaer alum to assume leadership roles, this initiative is consistent with RPI's commitment to changing the world.

**7. Troy, NY Waterfront Revitalization Project—Urban Furniture Initiative** – This initiative with the City of Troy, NY, focused on creating Urban Furniture for Troy's Riverfront Park. With funding from the Troy Industrial Development Authority, a faculty-led design studio of 15 undergraduates generated a series of proposed play-scape designs for the public park.  This effort is part of a larger strategic plan to offer the school's design expertise to the City of Troy, a historic post-industrial city with potential for revitalization.

**8. AD-HOC Campus Design Charrettes -**Initiated by the University President, specific AD-HOC campus design charrettes are organized to focus on an area of the campus requiring design reassessment. These have included: a campus-wide sustainability workshop (which included participation from the school of architecture) as well as landscape design proposals for the '86 field (exclusive to the SoA).

**9. School of Architecture Lecture Series** – Open to the entire campus and the public, our School's lecture series provides attendees access to 10-12 leading architects, cultural theorists, historians, structural engineers, technologists, curators, and artists from around the world annually.

**10. School-based Summer Outreach Initiatives** - The Institute, as part of its mission to offer students the "highest standards of academic rigor and character development as a catalyst for lifelong learning, thoughtful citizenship, and upward mobility," partners with Harlem Academy to provide students, parents, and teachers an opportunity to explore science, technology, engineering, and mathematics (STEM), on our campus during the summer.  Architecture faculty participate in this program annually.

>    *Career Discovery Program* – This program provides high school students a two-week intensive on-campus Introduction to Architecture at Rensselaer. Offered for high schools students interested in architecture as a life-long career, this exciting exploratory workshop provides an ideal initiation into a range of skillsets essential to the beginning student of architecture such as: abstract thinking, schematic design, digital and physical modeling, craft, and presentation techniques.

**11. Smart Geometry Conference –** Our School brought the 2012 Smart Geometry conference to campus increasing the Institute's and School's international reputation as a leader in advanced building technology and innovative pedagogy (i.e. immersive and interactive environments).  More than 500 architects, faculty, students and industry experts from around the world joined this weeklong program of research, workshops, and conference symposia and lectures.

**12. CRAIVE Lab Initiative** - Providing a 360-degree multi-modal immersive environment for academic and research experimentation, simulations and gameplay, the CRAIVE Lab (a Collaborative-Research Augmented Immersive Virtual Reality Environment developed by an Architecture faculty member) represents the next-generation pedagogical classroom. The School has begun to target specific design studios that will use the lab, and researchers and faculty members from other departments/schools are finding ways to make use of this unique classroom and visualization facility.

**13. Service to the Institute** – Architecture faculty are actively engaged members of the Institution. Though the smallest of five School's, two Institutional Centers (CASE and the Center for Communication, Cognition and Culture [CCC]) are directed by Architecture Faculty. Committee memberships include the Faculty Senate, Faculty Senate Curriculum Committee, Resource Committee, Tenure and Promotion Committee, and the Assessment and Academic Standing Committees as well as numerous shorter-lived committees and task groups including the Middle States accreditation task group. An Architecture faculty member co-chaired the Institutes Core Curriculum Review and Implementation Committees and Architecture faculty participate widely on Ph.D. committees.

**Ways in Which the Institution Benefits the School**

The School and its programs greatly benefit from the polytechnic setting offered by Rensselaer. A top-tier technological research university with global reach and global impact, the Institute provides a vast culture of research and innovation that is intrinsically part of the ethos of the School. Well-known for success in

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the transfer of technology from laboratory to marketplace so that discoveries benefit human life, protect the environment, and strengthen economic development, the Institute's culture promotes foundational and applied research, experimentation, innovation and the ethical mandate to address global challenges.

In light of this visionary road map, the Institute focuses on five over-arching signature research areas that serve as a strong organizational framework for all five schools: biotechnology and the life sciences; energy and the environment; computational science and engineering; nanotechnology and advanced materials; and media, arts, science, and technology.

Given the extraordinary emphasis today in architecture concerning: energy and the built environment, next generation building systems, smart technologies, new sustainable materials and environmental stewardship, the opportunity to situate a School of Architecture within a Polytechnic Institute with such a vast technological platform represents an invaluable asset.

The list below represents significant institutional assets that benefit our school:
**1. Highly Selective Admission Standards** – Rensselaer's highly selective admissions standards ensure that our students are extraordinarily qualified, with a strong science and math background as well as exceptional standardized testing scores. Students admitted to our program are positioned to excel.

**2. Strong Scientific Academic Grounding** – All Rensselaer students take a series of science courses that provide a solid and comprehensive scientific grounding necessary to excel in a rigorous technological institute as a well as an architecture program that celebrates the significant role of the sciences.

**3. Critical Perspectives on Technology** - The Science and Technology Studies department, located in HASS, provides courses with a critical perspective on the role and consequences of science and technology in society. The HASS core includes a depth requirement in one area selected by the student and two communication-intensive courses – one outside their discipline and one within.

**4. Premier Technological Platform**
> _All-Institute Shop Facilities_ - Robust centrally managed plotting, rapid prototyping facilities and shops (metal shop, water-jet, laser cutting, 3D printing, vacuum forming, milling, etc.) supplement our school's Fabrication Lab, providing access to world-class technologies used in design and fabrication.

> _Super Computer_ - The petascale supercomputing system at Rensselaer clocks in at a top peak processing speed of 1048.6 teraflops, making it the 43rd most powerful system in the world, according to the most recent TOP500 list. It is a cornerstone of the Rensselaer Institute for Data Exploration and Applications, known as The Rensselaer IDEA. Related projects span the spectrum of high-impact global challenges and opportunities, including basic research, environment and energy, water resources, health care, business and finance, public policy, and national security.

> _EMPAC_ - The Curtis R. Priem Experimental Media and Performing Arts Center provides an extraordinary cutting-edge technological platform. Conceived as a living laboratory in support of bringing together the arts, sciences and technology, this $250 million dollar building designed by the internationally renowned architect Nicholas Grimshaw provides an exceptional venue for lectures, as well as for next-generation research.

**5. CLASS (Clustered Learning, Advocacy, and Support for Students)** – CLASS is a comprehensive approach to the student experience at Rensselaer. Through ongoing support, guidance, and co-curricular activities, CLASS connects students to a network of faculty, staff and other students, ensuring that they are part of a strong community of learners striving to become the leaders of tomorrow

**6. Robust Extracurricular Activity Opportunities -** Rensselaer has more than 160 clubs, sports, and organizations available for students, including: intramural sports clubs, extracurricular clubs, model railroad society, performing and visual arts clubs; a student-run newspaper; and service organizations

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including Habitat for Humanity, Engineers without Borders.

**7. Sports and Recreation** - Athletics participation is a vital part of the student experience at Rensselaer. Programs help student-athletes excel athletically and academically, while building leadership and teamwork capabilities. Seventy percent of Rensselaer undergraduates participate in athletics. Rensselaer offers 23 varsity teams and 50 intramural and club sports.

**Integrated Study of the Liberal Arts and the Specific Discipline of Architecture**
The school provides students with a larger critical cultural liberal arts perspective. Course content within required history/theory/criticism and design studio sequences, the international study abroad program and elective offerings contain invaluable knowledge and insights required to obtain a holistic understanding of the discipline across historical moments in time. The following course offerings subscribe this priority:

**1. History / Theory / Criticism Courses** - Beginning students must take the following courses addressing the relationships between Architecture and society, the human condition, philosophy and the development of various technologies in relation to culture: *The Ethos of Architecture, Architectural Media, Contemporary Design Approaches, Case Studies, The Building and Thinking of Architecture,* and *An Architectural Genealogy 1 and 2.* Additional required courses include: *Modernity in Architecture and Culture 1 and 2 and Cities/Lands*, as well as their complementary master's level courses (History. Theory, Criticism 1, 2 and 3), focus on the interrelationship between architecture, culture, society and the environment.

**2. Elective Offerings** - Electives that offer connections between architecture and a wider cultural context include courses such as: *Duchamp Seminar: Arnarchism Umped*; *Architecture in the Time of Synthetic Biolog; The Man Next Door: Hitchcock and the Architecture of Fear;* and *Latin American Architecture, etc.*

**3. International Study-Abroad Program** – Semester-long study abroad options enjoy wide student participation as they provide an immersive cultural experience that extends beyond the classroom. Programs provide access to both ancient and contemporary architecture through on-site visits, intensive collaborative engagement with students from our host schools, and cultural studies taught by our partner school faculty, Rensselaer students acquire invaluable insight into the unique and diverse cultural heritage around the world. Often prefaced by language studies and concerted efforts to engage and learn about the cultures in which they are embedded most programs feature a direct interface and team collaborations with students and faculty at a local partner institution. Master's students have the opportunity to apply for funded international travel workshops and research grants, and to participate in international workshops with partner institutions.

**4. Cross-Listed Student Enrollment** - Minors in Science and Technology Studies [STS] as well as other areas of [HASS] Humanities Arts and Social Sciences are encouraged for students in their final year. These students undertake a final project in a directed research area that is extra-disciplinary and engages integrated research of disciplines outside and within the discipline of architecture and urban studies.

**I.1.2    Learning Culture**

**Studio Culture Addresses Time Management, Health/Well-Being, School-Life Balance and Professional Conduct -** The School recognizes the significance of providing a vibrant, inspiring, nurturing and healthy studio culture for all of our students. Beyond our commitment to providing a top-tier educational experience for our students, great emphasis is placed on ensuring that both students and faculty are well-informed on the importance of time management, general health, well-being, work-school-life balance and professional conduct. The following outreach initiatives used to disseminate these important messages:

**1. Dean's All-School Meetings** – At the start of every semester, the Dean hosts an all-school meeting

attended by all students, faculty and staff in the School.  Besides sharing his visionary perspective, the Dean makes a point of addressing, at each of these public events, the importance of a strong and responsible studio culture.  The critical importance of learning time-management skills and subscribing to a healthy life-style are priority themes communicated to the entire school.

**2. Faculty Advisors** - Each entering freshman is assigned a faculty advisor for the duration of the program. Providing invaluable mentorship, the advisor addresses plan-of-study concerns, course selection, co-terminal opportunities, study-abroad options and a range of issues concerning the student's ability to effectively balance their school and life priorities.

**3. Student Mentorship Program** - Each entering freshman is assigned an upperclass student mentor who provides invaluable mentorship from a student's perspective.  These older students help address the complex and often daunting challenges of balancing school and life priorities.

**4. Dean's Student Advisory Council** – the Council is comprised of student representatives from the professional and graduate research programs.  Selected by their peers, they represent their constituent community at meetings held at least once per semester. They address the Studio Culture Policy as well as student input and recommendations, which are then considered by the Dean and school leadership.

**5. Online Studio Culture Policy** - The current Studio Culture Policy is available online for all the students and faculty as a primary means of dissemination.

**A Description and Assessment of the Learning Culture within the Program**
Beyond the success of the curriculum as the primary source of educational instruction in the School of Architecture, the overall 'learning culture' within both the B.Arch and M.Arch programs has grown significantly over the past several years yielding a great deal of energy and enthusiasm around events within and between coursework.  A growing number of exemplary student-led initiatives and well-attended co-curricular events are evidence of a genuine desire to learn.  These student- and faculty-led initiatives have contributed greatly to the teaching/learning culture and the vibrancy of the School:

**1. Section-Cut / All-School Pin-Up** – A group of students, seeking to increase awareness of the exciting and innovative design research taking place, created the all-school "Section-Cut Pin-Up" event. Presented every semester in the school's main gallery, the event features two students per design studio section in a poster session pin-up and public discussion. This highly popular initiative has generated much enthusiasm and provided students an overview of the diversity of the curriculum.

**2. Position Series** – (Student-Curated Lecture Series) - Established as an opportunity for the students to curate their own lecture series, expanding access to emerging architects, theorists, historians, landscape architects and urban planners, the *Position Series* features a Saturday afternoon presentations. Entirely student driven, this new initiative is testimony to our students as independent thinkers enthusiastically committed to the attainment of knowledge.

**3. Student Organizations -** The American Institute of Architects, Student Chapter [AIAS]  and The National Organization of Minority Architects, Student Chapter, [NOMAS]  are extremely active in promoting events including portfolio reviews, conversations with career specialists, and travel to regional lectures and events. Significant participation in (not-for-credit) charrettes, internal competitions and CANstruction further illustrate a culture of desire to learn. Student mentoring, organized by the AIAS, matches upper level students with those entering the B.Arch and M.Arch programs.

**4. SoA Lecture Series** – The Lecture Series, mentioned above, is an enrichment opportunity for all students and faculty, as well as the public.  Lecturers represent a wide variety of world-renown artists, engineers, architects and others involved in related fields.  On lecture days, select undergraduates join the lecturer for an informal luncheon and discussion. Later in the day, graduate students join the lecturer

for "Coffee and Conversation" in the Architecture Library, and, after the lecture and a reception at EMPAC, selected faculty and students join the lecturer and Dean for dinner and discussion.

**5. Browns Traveling Fellowship** - The culture of learning is greatly enhanced by the *Brown Traveling Fellowship* awarded annually to three faculty (one contingent, one tenure-track and one tenured faculty) and three students from the professional programs. Applications are reviewed by a selection committee that awards fellowships based on the merits the applications. Upon the completion of their fellowships, awardees present their work in an exhibition and public lecture open to the entire school.

**6. BLAST>off: career development chats** - As mentioned above, these events pair two faculty together every semester to engage in informal conversation (during pizza supper) with students on topics related to career development. The program has become increasingly more popular since its inception and represents an invaluable learning opportunity concerning the 'big picture' after graduation.

**7. Design Studios** - Studios, where knowledge from a broad range of courses is synthesized in the form of design proposals, are at the core of Rensselaer architectural education. Curated by a diverse roster of distinguished faculty with many pedagogical perspectives, studios expose students to the merits of: precedent research, analysis, iterative design, analog and digital practices, risk-taking, and important environmental, technological and cultural issues underlying the development of extraordinary architecture.

**8. Architecture Tours** - The School places great value on the *architecture tour* as a powerful alternative strategy for the transmission of knowledge. Examples of tours that have shown significant impact include; study-abroad programs in Italy, India and China; visits to NYC architecture offices and on-site construction tours (as part of the Integrated Design Development Studio) a site analysis tour (associated with the 2nd year design studio / capital region initiative) and building tours associated with each of the courses in the Environment and Ecology course sequence and Building Systems course..

**9. Unique Pedagogical Instruction -** The program has initiated a series of 'Hands-On-Learning' exercises associated with several courses. Both the *Environment Comfort and Energy* and *Environment and Ecological Systems* courses generated enthusiasm for the subject and a better understanding through direct measurement of environmental phenomena. Structures I and II use unique gaming strategies to test 3D physical structural assemblies to failure in real-time, giving students a first-hand understanding of the anatomy of 'structural demise'. Hands-On-Learning also is used extensively in studios, Performance Installation Production [PIP] initiative, and the Bedford A/E Seminar.

**10. Course Assistants Program -** Although nascent, a recent shift in the definition of our *course assistants* program from a for-pay program to a for-credit program, has led to a new initiative requiring learning outcomes for the learning skills associated with teaching alongside an assigned instructor.

**11. URP Program** – The Institute's Undergraduate Research Program (URP) provides real-world, hands-on research experience for students interested in contributing to faculty-led research. Students have an invaluable opportunity to work with leading academics and practitioners on project based research in areas ranging such as: building design, performance, lighting, acoustics, structure, built ecologies, or sustainability, etc.

**12. Dean's Student Advisory Council –** Discussed previously, the Council's role is to increase communication between the student body and the Dean to strengthen the School's academic vitality.

**13. Student Participation on Faculty Committees** – Students serve as members of the Library and Interactive Pedagogies committees, and periodically participate in Curriculum Committee discussions.

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**Studio Culture Policy**
**How it is Distributed -** The Policy, provided in supplemental materials, discusses studio-based learning as the core of the architecture student's professional education.  As noted above, the policy addresses matters of respect, modes of learning, time management, collaborations, research investigations, review and assessment of work, and studio spaces and furnishings.  The Policy is online, distributed by email, discussed by the Dean at the all-school meeting at the beginning of every year, and is discussed by studio faculty and students at the beginning of each semester.

**Level of Community Understanding and Engagement -** Understanding the purposes of the document and following it do not always align. While its purposes are with little doubt unassailable by faculty, staff or students, it is fair to question whether in every situation students make best and highest use of the studios and that every faculty member remains cognizant of the fact that students have other courses and should be leading rich lives outside the studio. While this is in the majority true, there are exceptions that the leadership of the school address with individual faculty members each semester, just as there are concerns that faculty address with individual students as a part of the learning experience.

**Evaluation and Update Process -** The policy is evaluated and updated every two years by the Curriculum Committee with input from staff and the Dean's Student Advisory Council.  The committees assess the level to which faculty, students, and staff understand the purposes and intent for which the policy was established and whether it requires revision.

## I.1.3    Social Equity

**Institute Initiatives for Diversity / Inclusion and how the Program Benefits**
The School of Architecture abides by the Institute's policy on Institute Diversity as stated by President Shirley Ann Jackson (www.rpi.edu/dept/diversity/):  *"Rensselaer must and will achieve true intellectual, geographic, gender and ethnic diversity in our students, faculty and staff, in order to draw upon the best talent available, and to prepare our students to work and lead in a global economy."* The President said further that: *"For any institution to reflect an entire world of intelligence and perspectives – to achieve global reach and global impact – it must, by its very nature, reflect, represent and respect people and viewpoints from every walk of life.  Rensselaer, as part of its official mission, aspires to such diversity – not just of cultures, races and genders, but of thoughts, disciplines ad ideas.  Nothing less."*

In light of the institute's unwavering commitment to strengthening diversity, the *Rensselaer Plan 2024* (*http://www.rpi.edu/plan/RensselaerPlan2024.pdf)* provides a compelling list of aspirations, including to: (1) recruit, empower, and competitively compensate a diverse faculty and staff, (2) recruit substantially more women, and ethnically and culturally diverse students, (3) focus participation in research as a means to cultivate underrepresented groups to pursue academic careers, (4) provide for our students an inclusive community, within a residential college model, that supports them in their personal growth and success, (5) provide all members of the Rensselaer community with the opportunities for professional development and growth, and (6) create a lively community discourse on important cultural, social, gender, and geopolitical issues.

For many years, the Institute has worked proactively to ensure a healthy, inclusive environment for students, faculty and staff who are LGBTQ (Lesbian, Gay, Bisexual, Transsexual, and Questioning their sexuality).  The Institute provides "Safe Zone" training several times per year to faculty and staff, to ensure an open, inclusive and productive environment for all.  Training includes basic education as well as sensitivity training and ways in which faculty and staff may serve as advocates.   The School of Architecture sponsors "Safe Zone" training sessions in the Greene Building, and the Dean requires all faculty and students to attend.

In addition, the Institute has recently updated its *Sexual Harassment* policy (http://www.rpi.edu/dept/hr/policy/17_Sexual_Harassmen_Policy.pdf) and has distributed procedures for

reporting instances of sexual harassment.  The Institute has established hearing boards to review cases of sexual harassment.  Dean Evan Douglis is the chair of the all-institute Hearing Board.

Each of Rensselaer's five schools is charged with preparing yearly Performance Plans aligned to the strategic framework of the *Rensselaer Plan 2024 9* (*http://www.rpi.edu/plan/RensselaerPlan2024.pdf*). There are firm expectations of the School of Architecture to show progress in this area from one year to the next. In response, the School has made 'a commitment to diversity' a cornerstone of its own strategic plan.

The School has taken deliberate steps to increase diversity in its student population, as well as in faculty hiring.  In 2013-14, the Institute made it possible for the School to hire three new tenure-track faculty. We hired three outstanding female faculty (Dr. Alexandra Rempel, Dr. Nancy Diniz, and Dr. Lydia Kallipoliti) who contribute to the intellectual and gender diversity of the School. With the addition of these new faculty this brings the number of tenured/tenure-track female faculty to 5 out of 19, or 26%.

In addition, we note that currently 1 (5%) faculty member is Black/African American, and three (15%) are Hispanic. Since the last NAAB visit, Professor Mariana Figuerio was promoted to Full Professor increasing female representation among our senior faculty from 1 to 2. Of our 5 full professors (not counting our Dean), 2 (40%) are female.

This is in keeping with the Institute's commitment to diversity and its strict adherence to affirmative action and diversity hiring.  This also is a reflection of the commitment on the part of our Faculty Search Committee to seek highly qualified female faculty who will serve as extraordinary role models especially to our growing number of female students.

In addition, it is noteworthy that one of our female faculty members, Professor Anna Dyson, is Director of the Institute-wide Center for Architecture, Science and Ecology [CASE], a long-term research partnership with the firm of Skidmore, Owings & Merrill in New York City.  She was promoted to full professor in 2011.

**Plans to maintain / increase the diversity of faculty, staff, and students**

**FT Faculty Recruitment** – The school will continue its commitment to diversity hiring by being proactive throughout its solicitation in search of outstanding women and underrepresented minority candidates.

**FT Faculty Mentoring** – The school will continue its commitment to faculty mentoring throughout the P&T process, in support of enabling our FT faculty to excel in the three primary categories for promotion; teaching, scholarly research and service.

**Contingent Faculty Hiring** – The School recognizes the invaluable contribution provided by women and underrepresented minority hires among our part-time faculty, and therefore will make every effort to seek out outstanding candidates to teach at the school from one academic year to the next.

**External Guest Critics** – In support of increasing the intellectual, gender and ethnic diversity throughout the school, we will continue to seek out a broad range of outstanding and diverse guest critics for our mid-term and final juries.

**All-School Lecture Series** – In support of increasing the intellectual, gender and ethnic diversity throughout the school, we will continue to seek out a broad range of outstanding and diverse guest lecturers for our all-school lecture series from one semester to the next.

**Student Diversity Data -** Regarding our student population, the School of Architecture is proud of its ability to attract and retain female and minority students.  Charts provided in our supplemental materials (http://www.arch.rpi.edu/naab/04-StudentDiversityCharts.pdf) reflect the Institute's and the School's

commitment to increase diversity.  The statistics clearly show that the School of Architecture leads the Institute in percentages of female and minority students.

**Harlem Academy Initiative** - Rensselaer, and in particular the School of Architecture, have worked diligently to increase the numbers of female and minority students.  Our admissions office targets high schools with high diversity populations and in the School of Architecture, we have begun working directly with several highly diverse high schools in order to encourage students to enroll in our programs.  In addition, the Institute sponsors the Harlem Academy annually, bringing a group of high-potential 7th and 8th grade students to campus for a 3-day program introducing them to Architecture, Engineering, and Science and Technology Studies.

**Student Organizations** - The School of Architecture supports two student professional organizations: AIAS, the student segment of American Institute of Architects; and NOMAS, the student segment of the National Organization of Minority Architects.  Both of our student organizations are very active and in Fall 2014, the School sponsored travel for 3 students to attend the NOMAS conference in Philadelphia.  Our NOMAS organization has grown from 10 to 27 in the past 2 years.

**Multicultural Student Clubs** - The Institute has 25 multi-cultural clubs on campus and 10 religious organizations.  The Institute hosts many diversity events annually including: Black Family Technology Awareness Day, Hispanic Heritage Month, Women's History Month, Safe Zone Training, Cultural Pride Night, Asian Awareness Week, and others.  The Institute's Office of Minority Student Affairs [OMSA] publishes a "Minority Resource Guide," which is available online at www.rpi.edu/dept/diversity/resources/html.

**Latin American Study Abroad Initiative** - In support of the program's commitment to increasing diversity among throughout the student population, the School of Architecture is currently in the process of finalizing study abroad agreements with schools in Chile and Argentina in anticipation of a start date of FY16. The larger objective is expose our students to the brilliant and inspiring cultural and architectural legacies of our friends in South America as well as increase awareness of our program in support of establishing student recruitment feeder opportunities for our B.Arch, B.S, M.Arch and II programs.

**Brazilian Exchange Program** – Rensselaer has agreed to welcome a selection of students from Brazil every academic year as an opportunity to reaffirm the university's commitment to promoting cultural exchange around the world. In light of that all-institute initiative, the School of Architecture currently has a total of 7 Brazilian students in the B.Arch program for the full academic year 2015-16.

**Increasing Student Diversity** – In the context of increasing the total number of women and underrepresented minority students in the School of Architecture, the leadership overseeing recruitment has made a significant effort every year to target high schools throughout the U.S with diversity populations (i.e. DASH High School, Brooklyn Tech, Bronx Science, etc.).

**Staff Diversity -** The staff in the School of Architecture includes administrative, clerical, business, research, and shop professionals and supervisors.  The School works closely with the Division of Human Resources to ensure that Affirmative Action policies and procedures are followed in all hiring decisions. All six of the professional administrative staff for the B.Arch and M.Arch programs are female; none is a member of an under-represented minority group.  The staff in the Lighting Research Center includes 19 research/scientific/administrative professionals.  Of those 19, eight are female and two are Hispanic.  Of the two Hispanics, one is female, and one is male.  Of the three Communications staff in the Lighting Research Center, two are female; none is a member of an under-represented minority group.


**The Process by which Plans are Developed and the Individuals Involved in the Process**

The Dean prepares yearly Performance Plans that include a comprehensive outline of proposed

initiatives associated with increasing student and faculty diversity throughout the School. Plans are submitted in narrative form to the Institute's senior leadership.  After these presentations, Deans present budgets linked to their Performance Plans. The process is rigorous and requires extensive commitment throughout the first half of every academic year. The Dean, in consultation with his leadership team (comprised of the Associate Dean, Head of Graduate Studies, M.Arch and II Directors, Dean's Executive Assistant, and Business Manager), devises messaging, recruitment and hiring plans to address the school's commitment to diversity.

The Dean is extremely proactive in his communication and charge to the Faculty Search Committee regarding the school's commitment to diversity and his expectation that they make every effort to solicit and consider as many qualified diversity candidates as possible for every one of the searches. Additionally, upon the launch of every faculty search, the school's faculty search committee receives a representative from Human Resources who provides clear guidance concerning 'affirmative action and equal opportunity' institutional and federal guidelines.


**How Initiatives are linked to Program Self-Assessment or Long-Range Planning.**

The School of Architecture yearly Performance Plans include past performance and future projection charts, providing critical data in order to assess progress from one year to the next.  The priority to increase student and faculty diversity is a shared goal that is considered on a continuous level in the context of part-time and full-time hiring, student recruitment, the selection of speakers in our all-school lecture series, promotion and tenure process, and external messaging.


### I.1.4     Defining Perspectives

The Defining Perspectives Chart (http://www.arch.rpi.edu/naab/06-M-Arch-DefiningPerspectivesChart.pdf and  http://www.arch.rpi.edu/naab/07-B-Arch-DefiningPerspectivesChart.pdf) indicates curricular and co-curricular activities that map to the defining perspectives demonstrating how these values transcend any one course or experience, are over-arching and reach every student in the B.Arch and M.Arch programs.

### A. Collaboration and Leadership

### Development of Interpersonal Skills to Foster Unity, Communication & Decision Making

Responsible leadership is emphasized from the outset of the educational experience. The sense of individuality that often emerges in courses such as design studios is tempered through a set of designed collaborative experiences requiring collective engagement and exchange. The relationship between the singularity of an architectural idea and the multiple participants involved in the realization of architecture is offered to the student body as a fundamental set of lessons reiterated over successive courses and collaborative experiences both within and outside the studio.

From the beginning, students are instructed in the dynamics of individual and collective engagement that is critical to the development of a set architectural values. Several required courses and studios - including the fourth-semester B.Arch housing studio Architectural Design Studio 4  (second-semester M.Arch Graduate Architecture Design 2), Integrated Design Development Studio (Graduate Architecture Design 4 for the M.Arch), Materials and Design, Materials and Enclosures, and Case Studies - structure collaborative work as a major course component.  Other courses provide a balance of individual and collaborative work.  Instructors coach students on development of team communication skills, cultural awareness and empathy, fostering unity, developing guiding principles and decision-making.

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In some courses, student course assistants (under faculty supervision) organize study groups and serve as mentors, fostering a community ethic of individual and shared responsibility in obtaining knowledge. This component is crucial as it offers students an opportunity to teach and learn from each other.

Beyond the formal curricular structure, students are supported as they form the creative, intellectual, and cultural fabric of the school. Events such as Section Cut Pin-Up and CANstruction allow students to organize learning experiences in which collaborative planning and the exchange of ideas are essential. Such events empower students, allowing them play a role in establishing dynamic learning environments.

**Conflict Resolution** - Since a central part of an architecture school's culture involves critique and debate, encouraging the airing of different points of view on various aspects of creating architecture is essential to the intellectual and ethical development of students and faculty alike. The School has taken great pains to establish and encourage a collegial and professional atmosphere among students and faculty where differences of opinion and ideas are dealt with civilly, respectfully, and intelligently. Faculty serve as exemplars in how to deal with conflict, creative differences, and debate in a mature and civil fashion.

Students are made aware of the inevitability of conflict that emerges when individuals enter into a collaboration with the unique dynamic of realizing a work of collective architecture. Students are encouraged to remain respectful and understanding of diverse viewpoints, and the backgrounds of all individuals who form a community. If contrasting ideas emerge within or outside of a curriculum framework, students are encouraged respectfully to debate and assess various solutions to problems.

**Preparing Emerging Professionals to Serve Clients and the Public -** Through the Capital Region Initiative, the importance of serving clients and the larger public is introduced early to our students.  In the first semester of the second year studio (first semester of first year for M.Arch students), studios engage institutional cultural client organizations to address their architectural design needs in a collaboration between the students, faculty and institutional leaders and staff.  Over the last five years, projects associated with the Shaker Museum, the Hyde Collection, The Museum of Innovation and Science, Troy Riverfront Park, and OMI International Arts Center have given students a means of envisioning a work of architecture while gaining experience addressing and responding to the complexities of a client's needs and aspirations.  Professional architects, trustees, staff and other members of the respective organizations are invited to attend critiques over the duration of the project. Where possible, exhibitions of studio work take place in the facilities of the cultural institutions at the end of the semester. The Capital Region Initiative extends the learning environment beyond the typical boundaries of the studio, and moves the creative search into a larger conversation, where feedback, exchange and input come from a wide range of participants and stakeholders.

**Engage Allied disciplines and Professional Colleagues** – The School is proactive in engaging allied disciplines, most particularly from engineering and the arts. Interdisciplinary engagement and direct interface with the profession are signature attributes of the professional programs as evidenced by:

> **1. Bedford Studio, Seminar and Traveling Workshop** - The Bedford Architecture/Engineering initiatives, as noted previously, include 1) an elective interdisciplinary seminar offered by a leading practicing structural engineer (the Bedford Visiting Professor), 2) the required Integrated Design Development Studio (Bedford Studio that is co-taught by an Architecture professor and the Bedford Visiting Professor), and 3) the annual Bedford Traveling Workshop. The seminar enrolls a balance of architecture and engineering students who are exposed to exemplary projects that rely on a close collaboration between architects and engineers and places students on interdisciplinary design teams tasked with the design of a pedestrian bridge or pavilion. The studio teams 5th year engineering and 4th year architecture students on the collaborative design of a building. The Traveling Workshop takes six architecture and six engineering students on a 10-day workshop to best A/E practices and exemplary projects in places such as London, Paris, Berlin, Tokyo and Sydney, etc. In addition to in-office seminars from leading engineering and architectural professionals and visits to projects that illustrate the importance of integration,

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interdisciplinary teams of students design a pavilion to enhance the discourse surrounding collaboration. The Bedford visiting professor also serves as a regular consultant and reviewer in the design studios.

**2. ART_X@Rensselaer Initiative** - The annual PIP initiative, discussed previously, is a design studio collaboration between architecture and art students and faculty who work with an artist of renown in the design, development (fabrication and/or construction) and performance of a live work.  In addition, Rensselaer has launched the Art X@ Rensselaer initiative, which aims to move art across the curriculum through interdisciplinary courses. The School of Architecture will play prominently in that initiative. In addition to PIP, the school will is offering *Mestizo Robotics,* an architecture course and associated seminar that is open to all disciplines.

**3. CASE / SOM NYC Program -** Few places are as interdisciplinary as the Center for Architecture Science and Ecology [CASE] where all Master of Architecture students and select B.Arch students spend a semester, embedded in the professional culture of SOM, one of the world's leading A/E firms, and a robust interdisciplinary research culture. Projects are characterized by collaboration between experts as wide-ranging as biologists, physicists, environmental engineering consultants, façade consultants, mechanical engineers, structural engineers, controls experts, experts in optics and architects.

**4. Professional Practice Courses** - Professional Practice 1 and 2 focus on project and practice management respectively, including instruction on the various consultants and stakeholders that are part of the design and construction team. The sequence focuses on the professional relationships between architects, clients, and other participants in the building process. These courses reinforce professional commitment and service to a client, while also discussing opportunities to engage and understand other disciplines in the building industry.

**5**. **Smart Geometry Conference** - The 2012 international Smart Geometry Conference, mentioned previously, provided students with exposure to interdisciplinary leaders and their work. Hosted at EMPAC by the School the conference provided students and faculty opportunities to collaborate and engage with architects, engineers, and computer scientists in the process of researching, conceptualizing and realizing a project. In preparing for the event, students worked months in advance with faculty to determine and organize the activities. Students also had the valuable experience of engaging other students, faculty, and practitioners worldwide in questions of material and technological exploration.

**6. Exposure to External Interdisciplinary Expertise** - In addition to the broad knowledge and experience student acquire concerning the profession and allied disciplines through courses and related outreach activities, students are encouraged to pursue minors and co-terminal degrees and to participate in a semester at CASE. During mid-term and final reviews, students interact with external guest reviewers who possess expertise and knowledge in the sciences, arts, and humanities, and offer students an invaluable opportunity to gain new insights.

**7. SoA Lecture Series** - The School's Lecture Series, curated to represent a wide variety of world-renown artists, engineers, and architects provides an important enrichment opportunity for students, faculty and others campus- and community-wide.  Besides attending the lectures, B.Arch and M.Arch students each have dedicated structured opportunities to meet with the lecturers during the day for informal discussions.

## B. Design

**How graduates are prepared to engage in design activity as a multi-stage process aimed to address increasingly complex problems.**

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**Students Learn Multiple Methods, Skills and Cognitive Processes -** The studio is the primary place for the synthesis of the design process. Immersion in design studio helps students form a fluid and dynamic understanding of architecture's complexities. Studios employ a wide range of approaches to engage and understand the design process. As students progress through the design sequence, they are exposed to numerous tools, methods, intellectual and creative frameworks demonstrating a deep-seated commitment to employing multiple ways of seeing and doing through a complement of digital and analog tools and methodologies, precedent studies, analysis and investigation techniques.

The curricula also integrate a number of co-requisite courses including a four course sequence in Digital Constructs that are mapped to the early design studios; Environmental and Ecological Systems [EES], mapped to the second-year second-semester design studio (second semester first year for M.Arch1); and Professional Practice 1 mapped to the Integrated Design Development [IDD] studio, required for both B.Arch and M.Arch students. In each case, there is a formal interface between select course assignments and the associated studio.  As noted in the latest curriculum reform (2013), it is evident that the semi-autonomous course model has great value, allowing non-studio courses to be taught based on first principles relative to a particular body of knowledge while also assisting and informing the particular studio content and methods.  In other words, the integrated/dis-integrated model ensures courses will be more than vocational training in how to use a particular digital modeling tool, environmental application or how to perform a code analysis on a single building type, etc. While providing those important grounding application outlets in the studios, the co-requisite courses also remain free to teach at a higher level.

> **1. Critical Software Practices** - Students receive a wide exposure to software applications and their particular biases and strengths, and are expected over time to be flexible, fluid and discerning with respect to their ability to migrate from one to another. In the first semester of Digital Constructs, students learn basic 2- and 3-dimensional skills in Rhinoceros, basic rendering in VRay, and graphics in Adobe Illustrator together with their underpinnings. In the second semester students learn more advanced techniques, and are introduced to procedural thinking through Grasshopper, which is taught both parametrically and algorithmically. Students learn the fundamental difference between these two ways of engaging a design tool.  In the third semester, students learn Maya, Fusion 360, and Mental Ray, and are introduced to GIS. In the fourth semester, they learn to use Ecotect and Diva as analysis and optimization tools. Java Script and Python scripting languages are taught to empower students to create their own digital tools. Each semester, students engage one or more of the software applications being taught as well as those they learned earlier in conjunction with, and as a complement to the simultaneous employment of physical modeling and drawing. Integrated Design Development Studio includes instruction in the premises behind, and use of Building Information Modeling [BIM] for their studio projects. There they gain both a working knowledge of Revit, and an understanding of its greater potential for integrated practice.

> **2. Fabrication Lab** - Starting in the first year, B.Arch and M.Arch students are introduced to the Architecture Fabrication Lab through a series of online and onsite safety training and orientation sessions. Coordinated studio projects teach the development of model making skills, including analog tools as well as laser cutting and 3D printing. As students progress, they use the Lab's many digital fabrication CNC tools including milling, vacuum forming and the ceramics lab. Second-year students are introduced to 3D printing and its advantages and shortcomings, and learn to create digital models suitable for these machines. In Digital Constructs 1, students are introduced to the laser cutter.  In Digital Constructs 2, they are introduced to three-axis milling. Digital fabrication is taught as a translational process, not simply an act of recreating a digital model in the physical world.

> **3. Advanced Environmental and Energy Modeling** - In the second year Environmental and Ecological Systems [EES] course students learn a number of environmental and energy modeling and analysis tools that they use as another way of informing their designs.

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**4. International Building Code [IBC] and Accessibility Standards** - In Professional Practice 1 students study the International Building Code [IBC] and accessibility standards, and apply their knowldege of the subject in their ISS studio design projects.

**Students Learn to Identify and Frame Problems from a Complex Milieu -** The complexity of projects increases as students progress. In early courses, they engage the fundamentals of abstract form, space and program as basic 2- and 3-dimensional representational skills are addressed.  Second-year students are challenged with mid- to large-scale projects of cultural and social content, and in which the complexity of geography, site, program, context and culture are simultaneously explored. The core sequence culminates in the Integrated Design Schematic Studio (IDS) and Integrated Design Development Studio (IDD), courses that serve as critical moments of broader yet more specific syntheses of information, regulations, technical and material parameters, practices and values.

Vertical/Option studios open possibility for the consideration of a wide range and scale of architectural problems, and how to frame and propose meaningful responses. By reverse engineering a contemporary project and the motivations and influences that formed it, the required Case Studies course provides students a broader perspective on the diverse influences; -technological, cultural, intellectual and other - that shape the architecture of buildings.

In the final project studio(s), within directed research areas set up by faculty, students demonstrate their ability to frame and respond to a contemporary problem that is part of the complex milieu. Students' work is ultimately presented publically and archived in a book.

**Students Learn Generative and Evaluative Strategies** – A defining characteristic of design instruction includes teaching students to be cognizant of strategies for generating and evaluating architectural ideas. In studio, students learn multiple ways of framing a problem within the parameters of given conditions and limitations.  Generative methods range from the use of a borrowed fragment or metaphor as a beginning strategy, to biomimicry, to the development of mathematically generated systems, structural and/or environmental form-finding. Contextual analysis and bioclimatic design, among others, are introduced, employed and discussed, some premised on working from the whole down to the component, others from the DNA or component code up to the scale of the whole. Students use evaluative analysis and visualization tools and methods to test schemes in relation to specific criteria, whether structural, environmental, regulatory, or in relation to experiential or sensorial criteria. Complementary methods of drawing and making physical study models are coupled with a wide range of digital-modeling, analysis, and visualization techniques.

Methods for generating ideas are mirrored with strategies of critically assessing and evaluating the steps in developing an architectural idea, concept and/or strategy. Students learn to understand the dynamic relationship between the quantitative and qualitative necessities of architectural design. Frequent desk critiques and public reviews allow students and faculty to discuss collectively and shape the progress of each student's work.  Central to this process is the manner in which faculty and students understand the parameters of a given problem, and how methods of critical evaluation are developed. Critique coupled with inquiry and reflectivity is essential to the learning and design processes. Inquiry is essential to critique as the asking of questions broadens the scope of a design response and assists in revealing unintended consequences. Reflectivity is crucial, requiring the designer to stretch beyond his or her current horizon and examine implications and consequence of their own biases on the development of a design response. Inquiry and reflectivity together form an ethical underpinning to the way the design process is taught.

**Cycles of Evaluation** - Conjecture is essential to imagination. Design is taught as an iterative and critical process that requires the continuous implementation of conjecture on the part of the student. Students are encouraged/required to imagine and partially develop multiple alternatives in response to a design

situation at multiple scales of investigation. They then must submit these alternatives to analysis and critique on the basis of external criteria (e.g., site, climate, structure, constructability, etc.) identified by the studio and by their own conceptual ideas and stated objectives for the project. The process of speculation and analysis typically culminates in a series of possible directions and solutions to a given design project. Through critical review and feedback, students learn to identify and implement the most effective and successful aspects of a design. Evaluation and implementation skills are cultivated as students are challenged to articulate the reasoning for their design decisions.

**Methods of Research** – Fundamental to the teaching of design process is engaging students in various modes of investigation. Studio projects typically begin with the necessity to investigate and understand the basic parameters related to a given project such as site, context, program, precedents, technologies, client aspirations, social issues, and conceptual possibilities. From this, students build hypotheses and paths of inquiry to create a coherent, responsive and provocative design.

As students progress, projects increase in complexity and research explorations take on greater depth, breadth and diversity. Investigations involve conducting site visits in order to understand the physical, historical and social aspects of a particular place; and may also include the use of library archives, scholarly literature, GIS data, and/or other resources – primary, secondary and tertiary – that may relate to specific questions regarding a given project. For example, at the start of second-year studio (first-year studio for M.Arch), which is dedicated to small institutional buildings (i.e. art and science museums) within the Capital Region initiative, students are simultaneously charged with conducting rigorous investigations into the specificity of the institution and site (i.e. archive and building history) as well as programmatic and typological precedents in the discipline of architecture that could contribute knowledge to the design considerations.

The Final Project sequence for both the B.Arch and M.Arch students overtly engages research and design and their relationship. A Methods Seminar focuses on various research methodologies, the development of a thesis and introduces students to graduate-level research tools and methods with respect to information access, literary searches, and the proper use and citation of texts and images. Symposia and lectures focus on the relative criteria and knowledge regarding students' final project topics and the relationship to contemporary architectural discourse.

**Technical Expertise** – The core courses in the technology sequence address the appropriate use of materials and their relationship to various aspects of design, construction principles, structural principles, and the ways that buildings respond to and perform with respect to natural and human-made environmental systems. Students encounter these subject areas throughout the first six semesters of the undergraduate program and first four semesters of the graduate program. Aspects of these issues are reinforced in the design studios, and are dealt with more comprehensively in Integrated Design Schematic Studio and in the Integrated Design Development Studio.

**Skillful Action and Judgment** - From the outset of the design sequence, students develop the skillsets and critical concepts necessary to conceive and advance design ideas. Parallel to the skills in visualization, and fabrication, students are taught to assess critically the decisions and results of the activities of making and creating formal and spatial artifacts. Faculty establish a framework for continuous evaluation of student work through desk crits and public reviews. Students learn that though some design decisions are fundamentally arbitrary, others can and must be made based on sound reasoning. Students are taught to pursue an understanding of the internal logic of a design situation through diligent application of thought and iterative practice, and to find ways to capitalize on the external constraints imposed upon a particular design situation (codes, program, structure, climate, societal imperatives, etc.). Students are taught that in architecture, even arbitrary decisions are subject to one's cultivation of a particular set of tastes and the pursuit of the often-elusive pleasures of design, have consequences.

## C. Professional Opportunity

**Educating students on the breadth of professional opportunities and career paths** - Students are exposed to a variety of best practices, both traditional and alternative, with respect to their underlying biases and aspirations, as well as to the significant differences in size, structure and makeup of different practices.  In the required undergraduate Case Studies course, students examine a contemporary building in different contexts including an in depth investigation of the firm and team that designed it. Students study the structure, size, services offered, history, background and biases of the firm and, whenever possible, interview someone from one of the practices (design, engineering or construction manager) who was responsible for the project. Students present and discuss their findings, thereby making each student aware of 10-12 different architecture firms.

In the IDD studio, students participate in a 3-day traveling workshop to New York City where seminars offered by principals/leaders of three to four firms (typically SOM, Grimshaw and Partners, SHoP, AECOM, and/or Snøhetta) give students a first-hand opportunity to experience the setting, hear guiding principles and ask questions.

In addition all M.Arch and select B.Arch students spend a semester at CASE within the NYC office of SOM, where they experience the professional culture of a leading multidisciplinary firm, and engage directly with their personnel, scientists and engineers on joint research projects.

**Understanding alternative roles for architects in the building industry** - Exposures to allied professions and roles are in part made possible through interdisciplinary courses with Engineering (Bedford) and Humanities (PIP). All professional program students also take required Professional Practice courses where a variety of firm types, diverse practice management models, traditional and alternative career paths and settings are presented and discussed. As indicated in the chart provided (see supplemental materials) numerous additional opportunities to gain exposure to and understanding of professional opportunities range from the previously mentioned Bedford Traveling Workshop, to BLAST>off-Off! events, to the Position Series, to visits to offices associated with our travel abroad programs, portfolio review opportunities and the annual career fair featuring as many as 30 practices on site.  In addition, the School Lecture Series features a diverse set of 11-12 lecturers who represent the many ways of practicing in a global landscape.

**Preparation for Transition to Internship and Licensure -** Each year the School's Architect Licensing Advisor addresses the incoming class, 1) to make certain they know that he is their Licensing Advisor and available for questions relating to internship and licensing, and 2) to detail the path to licensure and their eligibility to establish an NCARB Record and participate in the Intern Development Program [IDP].  In that session and follow-up communications, students receive links to the NCARB site and IDP Guidelines.  A second annual presentation geared toward upper year students who have already begun, or are considering entry into the IDP, discusses requirements for licensure and registration including the Intern Development Program and the variables between jurisdictions.  Although Rensselaer is in New York State (where IDP is only counted after graduation), most of our students will license elsewhere. Students are encouraged to establish their record and begin IDP regardless of where they think they may wish to register. The presentation covers recent changes in IDP, the ARE and when students/graduates may be eligible. This material also is covered in the Professional Practice 1 course.


## D. Stewardship of the Environment

**Courses Addressing the Environment and Design Practices Relating to it -** The ethos of sustainable practices is featured prominently in the core curriculum of both the B.Arch and M.Arch programs as well as in elective and other offerings. Two recent tenure-track hires in the area of environmental stewardship and bioclimatic design have enabled us to move forward confidently in developing a scientifically rigorous and ethically principled foundation on which our students are able to act. B.Arch students are introduced

to principles of environmental stewardship in their first year (Energy Comfort and Ecology [ECE]) through discussion of climate-responsive vernacular buildings, classical and architectural ecology, human thermal comfort, fuel types and end-uses in buildings, climate change, and embodied energies of materials. This prepares them for study of passive heating, cooling, ventilation, and daylighting in their second year and high-efficiency mechanical systems in their fourth year. M.Arch students, in lieu of taking ECE, spend a semester at CASE in the Built Ecologies Program where they take Built Ecologies 1, a course focused on environmental and bioclimatic design principles.

Second Year B.Arch and first year M.Arch students take Environmental and Ecological Systems [EES] in conjunction with their design studio. They focus on the use of quantitative climate and microclimate data, material thermal properties, and basic heat transfer and airflow relationships to design high-performance envelopes and controllable passive systems for heating, cooling, ventilation, and daylighting. Analysis and system designs are tailored to each student's studio project and are evaluated according to their abilities to meet ASHRAE 55 adaptive comfort zone requirements using both hand calculations and introductory-level building energy modeling. Half the instructional time is devoted to laboratory exercises, in which students evaluate performance of envelopes and passive solar heating, daylighting, shading, and natural ventilation systems of existing campus buildings, using research instruments (illuminometers, surface and air thermometers, infrared cameras, solar pathfinders, anemometers, and flow bubbles). These exercises, conducted along with design work, enhance students' experience and intuition regarding such systems.

In their third year, both professional cohorts take Building Systems and the Environment [BSE], which address high-efficiency HVAC and electric lighting systems, water and wastewater, and acoustics. Topics closely related to environmental stewardship include photovoltaics, air- and ground-source heat pumps, advanced VAV systems, photo-controlled electric lighting, and graywater systems.

Two elective courses, Sustainable Building Design Strategies and Sustainable Building Design Metrics, allow students to explore green building strategies, as well as LEED and other building rating systems, through detailed case studies.

In their final year, B.Arch students select a directed research area in which to undertake their final projects. Many are guided by ecological principles and thinking. The M.Arch students, complementing their semester at CASE, develop a masters project focused on either Urban Ecologies (Regional/Urban Scale) or Environmental Parametrics (Building/Urban Scale), giving the program significant distinction in relation to environment concerns.

**Courses with content on the laws and practices governing architects and the built environment –** Courses with content on the laws and practices governing architects and the built environment include ECE, EES, BSE, and BE1 all of which include ASHRAE 55: Thermal Environmental Conditions for Human Occupancy, Professional Practice 1 which includes instruction on the IBC, BSE which includes content on the International Building Code content, especially Ch. 12: Indoor Environment and Ch. 13: Energy Efficiency and the Sustainable Building Design Metrics and Sustainable Building Design Strategies which include, among regulatory laws instruction on LEED and other environmental standards.

**The Ethos of Sustainable Practices** - Students in upper-level sustainability courses are encouraged to prepare for and take the LEED Green Associate exam. Students in Building Science courses are encouraged to join the Society for Building Science Educators (whose mission is promoting education in passive and low-energy architectural design), and to attend conferences in green design, including the Symposium on Simulation and Urban Design, GreenBuild, the American Solar Energy Society Conference, and the Passive and Low-Energy Architecture Conference.


**E. Community and Social Responsibility**

**Examples of public and community projects/programs as structured elements within coursework -** The School's commitment to creating better places and increasing livability starts with The Capital Region Initiative in the required 2nd year B.Arch design studio (1st year for M.Arch). Recent studios focused on designs for the Shaker Museum, the Hyde Collection, The Museum of Innovation and Science, Troy Riverfront Park, and Omi International Arts Center.

Studios also regularly engage key sites in the City of Troy, which is transforming from a post-industrial city to a vibrant livable community.  Pressures to develop key sites are growing, and our housing studio course has used key sites such as One Monument Square and the hillside between the City and campus to develop students' understanding of urban design, its relationship between building design and public consequences. Similar urban sites have been taken up by upper-level studios, including one that designed Urban Furniture for Troy's Riverfront Park.  This work was presented to the City leadership and has promise to receive a second round of funding to realize several of the designs.

At CASE, environmentally-based research projects also relate to communities, including development of a new building material developed from the byproducts (husk and shell) of the coconut industry that promises to recycle what was previously waste material into a green product while creating an industry for the otherwise unemployed. Other CASE research includes development of novel flexible off-shore (mangrove-like) foundation systems to create artificial barrier islands that have the potential to protect cities vulnerable to sea level rise, and in particular, storm surge.

**Examples of public and community projects/programs outside of coursework** - Outside of class, students participate in CANstruction, which contributes significantly to the regional food pantry.  For several years running, in competition with local firms and organizations, they have been award winners and major contributors to the energy and success of the program, which is locally run by one of our alums. In addition, some students are involved in tutoring Troy High School students.

**Nurturing a Calling to Civic Engagement –** The Professional Practice courses introduce students to public processes, including zoning and planning meetings, and the significance of informed public input. Students are required to attend and reflect upon at least one public meeting in each course, preferably featuring a controversial project, to reflect on the different players, process and findings, and to take a position. Students are encouraged to become involved in issues related to local initiatives.

**The Programs' Approach to Each of the Five Perspectives**

To great extent, each of the defining perspectives characterize Rensselaer's B.Arch and M.Arch programs well and played a significant role in the 2013 curriculum reform initiative that is now phasing into the curriculum.

**Learning Culture** - many of the collaboration and leadership initiatives – in particular, student leadership in the Dean's Student Advisory Council, the AIAS and NOMAS - contribute to a strong culture inside and outside the classroom, through the Position Series and Section-Cut Pin-Up, broad participation of honors reviews, Brown's Fellows presentations and exhibitions, and lecture series attendance. We have a community of engaged learners who engage in not-for-credit activities as well as their coursework.  Within the studios and classrooms, constructive collaboration characterizes the way our students learn. It is a culture of design that builds on the integration of abstract ideas and pragmatic concerns supported by advanced technologies, techniques and workflows aimed at ensuring that students (and graduates) are prepared to think forward. It is a culture that connects to best practices in the professional world. Our students are motivated stewards of the environment and are increasingly responsive to the social responsibility that belongs to those who design built environments.

**Curriculum Design, Review, and Development** - The defining perspectives played a prominent role in our recent curricular reform, and in our faculty hires.  The perspectives were key in affirming and recommitting to the Capital Region Initiative, important in establishing the balance between collaborative and individual work, and in developing ways to execute and assess collaborative work in a learning environment. They were catalytic to creating a semi-autonomous Digital Constructs course sequence, enhancing the professional practice course sequence (from one to three required courses), key to committing to new hires in the area of bioclimatic design and the environment, and in creating a new course in Energy Comfort and the Environment in the first year.

**Specific Course Review, Development, or Revision** – The defining perspectives had significant impact on the design/re-design of courses including Professional Practice, where in addition to expanding the number of required courses, a new requirement to attend a public meeting exposes our students to public processes regarding development, regulations and the environment. The perspectives also factored into our changes to the fifth-year Methods Seminar course with respect to presenting different Research Methodologies to ensure that students understand their differences of approach and outcome; the splitting and expansion of the Design Development studio into a two-course Integrated Design studio sequence.

**Off-campus, Extra-curricular, or Co-curricular Learning Experiences** - The Defining Perspectives inform the selection of lecturers [All-School Lecture Series], as well as the addition informal student meetings with the lecturers. The perspectives support the importance of a vibrant student leadership team as evidenced in our Deans Student Advisory Council, the NOMAS and AIAS chapters, and their many recent initiatives, the BLAST>off! initiative, the Brown's Travelling Fellowship, the three-day IDD trip to various exemplary practices in New York City, and the Bedford Interdisciplinary A/E and PIP initiatives.

**Long-Range Planning for the Program** – The Defining Perspectives are critical to the long-range planning of the school as evidenced in the latest curricular reform. Faculty agree that the world and our profession are in a phase of significant transition, that we must graduate students with an understanding of overarching outcomes that help them understand that knowledge, technology, techniques and even the scope and possibility of our influence evolve. Students need elastic minds and willingness to engage and lead in those transitions, and to work successfully with others inside and outside their discipline. They need highly developed design and analysis skills, a broad awareness of the range of professional opportunities, and an awareness of the consequences of their actions on the environment and in society.

**Self-Assessment Activities for the Program** - Continual self-assessment to maintain these perspectives and realize our mission is taken seriously. The next section describes in detail our regular and rigorous commitment to outcome-based learning, and the review and assessment of individual courses, the curriculum and programs at the School of Architecture.


### I.1.5  Long-Range Planning

**Identifying multi-year objectives within the context of the institutional and program mission.**
Annual performance planning that moves from the school to the institute level, and through the curriculum committee and associated task group committees.

Performance planning, tied to the development of highest priorities, new initiatives, new and replacement faculty lines, and annual budget allocations is the means by which each Rensselaer portfolio (including the five schools) aligns hires, efforts, initiatives and resources to Institute-wide highest priorities [IWHP], program mission and objectives. In 2015 those priorities are aligned with the grand challenges of our time, pedagogical innovation, the student experience, and resource generation.  In addition to providing the current state of the school, the plan is organized by IWHP's, identifies portfolio (school) related goals and key initiatives, indicates how the school plans to address those goals and the resources required to do so.  After presentation and review at the Dean's Council and President's Cabinet, and discussion with

the Provost, a budget plan is developed and forwarded to Institute leadership. The annual Performance Plan is used as a guide for recruitment and marketing, and in 2014-15 resulted in the re-envisioning and re-launch of our 4-year Building Science B.S. program, and the re-envisioning of our M.ArchI post-professional program to become a Master of Science in Architecture program.  In addition, Performance Plans guide responses to signature thrusts, research programs, and institute initiatives such as the Art_X@Rensselaer initiative.  The Performance Plan also guides internal long-range planning in light of institute-wide highest priorities, the state of the profession, the School's mission and ongoing assessment of the programs.

Our Curriculum Committee, which meets bi-weekly, addresses curricular issues including development of new programs, revision of existing programs, assessment of programs in relation to stated mission and goals, accreditation standards, response to Institute initiatives, preparation of documents and presentations of proposed curricular and course changes to the Faculty Senate (Institute-wide) curriculum committee, internal policy changes, and catalog changes. In addition, task groups are charged with issues such as innovative pedagogical methods, School of Architecture tenure standards, etc.

Every few years, the planning process includes a thorough review of programs and curriculum in relation to:  state of the profession, state of the academy, accreditation standards, School mission and goals, and Institutional mission and goals.  In 2013-14, the Curriculum Committee undertook a comprehensive review of the B.Arch and M.Arch programs, and made (with input and approval from the faculty, Dean and the FSCC) several major changes to strengthen alignment with the School's mission, NAAB SPC's and Defining Perspectives.  Recent large-scale changes include: revisions to the B.Arch Program; revisions to the M.Arch Program (pending State approval); re-invention of the post-professional Master's Program; and relaunch of the Bachelor of Science in Building Science Program.


**Process by Which the Program Identifies Student Learning Outcomes**
Outcome-based learning is important in planning and assessment at both the program and course levels. Rensselaer's focus on learning outcomes is strongly reinforced at all scales of the Institute through the hire of a Student Learning Assessment Specialist (who operates out of the office of the Provost), the creation of a standing Assessment Committee with members from each school, and the use of Digital Measures [DM], a centralized online system for mapping learning outcomes to courses and their assessment.  With the exception of agreed-upon program level outcomes that are mapped to required courses, faculty are responsible for developing learning outcomes that meet the standards of the Institute, namely that each student demonstrate learning in a particular area. Much attention is paid to the difference between intentions (objectives) and accomplishments (outcomes).

The required use of Digital Measures, to create an online record for each course, includes completion of learning outcomes and student assessment.  Compliance is monitored by the Assessment Committee, Dean and ultimately by the Office of the Provost.  Specific course learning outcomes are not reviewed centrally unless the course is new, being revised, or if there is a comprehensive review initiated by the department or school. New and revised courses must first pass through the department and/or school curriculum committee responsible for ensuring that learning outcomes meet the standard of the institute. Following school-level approval by the curriculum committee and Dean, Associate Deans present new course(s)/program(s) or course/program changes to the FSCC, which scrutinizes, among other things – the learning outcomes for compliance before approving the course or program.

In 2013-14 the school's comprehensive assessment of the B.Arch and M.Arch programs led to a number of significant changes. Following a thorough analysis of the required course sequences, including a chronological listing of every course learning outcome and content area covered in each of the various required course sequences (Design, History/Theory/Criticism, Technology, and Professional Practice), the committee mapped the school's aspirations and mission to the NAAB Student Performance Criteria and Defining Perspectives, curricula of peer and aspirant programs and the changing profession, as the

basis for a collective discussion about the realignment, sunsetting and addition of required courses and their learning outcomes.  Program level outcomes, relating to the mission of the school and its vision for the development of 21st century leaders in the profession, were addressed at two day-long faculty retreats.  This led to an alignment between program-level learning outcomes and revised set of required courses designed to impact the professional programs and all professional program students.

Each affected (required) course was packaged together with its particular program learning outcomes, presented to, reviewed and passed by the FSCC. Program level outcomes were uploaded to Digital Measures and faculty are responsible for 1) listing the agreed upon course learning outcomes in accordance with the associated program level outcomes, 2) mapping assignments and 3) course evaluation criteria (grading) to them. Instructors are encouraged to add course learning outcomes as long as program-level outcomes agreed upon by the faculty are maintained and fulfilled. At the end of each semester, after receiving student evaluations, faculty are required to self-assess their course with respect to each of the learning outcomes, whether they were achieved and how they might improve the next time it is offered. We are currently phasing-in those changes to the curricula. (http://www.arch.rpi.edu/naab/08-Curriculum-Pre-Retreat-Documents.pdf.

**Data and Information Sources used to Inform the Development of Learning Outcomes**
Data and information used in this process includes: NAAB's SPCs and Defining Perspectives; a compilation of course syllabi, broken down into learning outcomes and content areas; an analysis of peer and aspirant schools' curricula; information from the Dean's Student Advisory Committee; ARE Pass rates published by NCARB; and the results from graduating student exit interviews.  In addition, the Curriculum Committee compares best practices by peer and aspirant schools and incorporates the expertise of our own faculty and colleagues in professional practice.  Our faculty also provide information they obtain from professional conferences and workshops, while serving as guest reviewers, and in best-practice discussions with colleagues from other schools.

**The Role of Long-Range Planning in Other Programatic and Institutional Planning Initiatives**
Long-range planning is a part of the ethos of the Institute, driven by the Rensselaer Plan 2024 that identifies institute-wide highest priorities and ensures, through annual performance planning, that each school Dean map their key initiatives to the overarching priorities of the institute. Within the context of an Institutional commitment to, and strengths in scientific and technological innovation, the School has built graduate research programs in areas of Lighting, Architectural Acoustics, and Built Ecologies. Long-range planning has led to the development of the Lighting Research Center and CASE, the development of a Ph.D. in Architectural Sciences, and all programs and centers that have a direct impact on our learning culture and professional program students.

Recent planning has led to: 1) a recommitment to and redesign of the 4-year Building Science program; 2) direct engagement in the Art_X@Rensselaer (Art across the curriculum) initiative; 3) sustaining and growing our international study abroad options in India, Italy and China including close attention to partnering with peer institutions at those locations; and, 4) development of a Latin American initiative. We also are continuing to build on the Bedford A/E initiatives, expand our marketing initiatives, and use BLAST>off! to expand students' awareness of professional traditional and non-traditional career options.

At the Institute level, Architecture's Associate Dean has assumed a leadership role in the review of the Institute's Core Curriculum, which has led to development of a new set of Institutional overarching outcomes.  He is currently co-chairing a committee charged with developing a new institute-wide core curriculum that is linked to the *Rensselaer Plan 2024*. In addition the curriculum committee is engaged in long-range plan to institute a sophomore summer session that will be phased in over the next four years.

**The Role the Five Perspectives Play in Long-Range Planning -** The five defining perspectives play prominently in long-term planning and the initiatives of the School. Consideration of collaboration and leadership has led to: 1) increased attention to the balance of collaborative and individual work inside

studios and courses; 2) development of new interdisciplinary collaboration experiences; 3) increased exposure to other disciplines through coursework, research and learning settings; 4) strategic strengthening of course assistantships, and 5) increasing the number of research opportunities that cultivate leadership. Additionally, strategic discussions of design led to a an agreement upon a revised, collectively owned core design sequence that structures first- and second- year studios with respect to specific learning outcomes and expands the Design Development studio into a two-course integrated design studio sequence.

Regarding professional opportunities, the school determined to: 1) strengthen the Bedford A/E initiative with full funding of the traveling workshop; 2) reaffirm the Integrated Design Development's field trip to best practices in New York City; 3) affirm the use of the Lecture Series to bring in experts from a variety of allied disciplines; 4) expand from one course in professional practice to three courses, including one dedicated to practice management; 5) create a digital constructs course sequence linked to studios and 6) launch the BLAST>off! initiative.

With respect to stewardship of the environment: 1) long-range planning through the performance planning process secured two faculty-line hires dedicated to areas related to bioclimatic design, 2) the faculty moved to expand the number of required courses in this content area from one to two for the B.Arch students, and 3) to require M.Arch students to spend one semester immersed in environmental and ecological design at the Center for Architecture Science and Ecology [CASE].

Regarding community and social responsibility, the school: 1) created the Capital Region Initiative in the second-year studio, 2) engages key community sites in the City of Troy, and 3) exposes students to civic engagement through required attendance and reflection on public meetings and processes relating to development and the quality of the built environment.

## I.1.6. Assessment

### A. Program Self-Assessment
**With regard to ongoing mission evaluation and multi-year objectives -** Self-assessment occurs at every level from faculty, to course, program, school and the Institution. As outlined in I.1.5 long-range planning, individual faculty members are required to self-assess their teaching and course(s) learning outcomes through Digital Measures each semester. For faculty whose course outcomes are linked to program outcomes this is particularly important.

**Course Assessment -** Within weeks of completing a course, and after receiving student evaluations, faculty members are required to assess their course, course learning outcomes, associated assignments and evaluation (grading) criteria through the Digital Measures course assessment module. Course assessment is designed to trigger course changes. As instructors are preparing syllabi for the next semester, they receive individualized communications, reminding them of program level outcomes that are linked to their courses.

**Student Course and Faculty Evaluations -** In addition to the Digital Measures course records and assessment (by faculty members), the Institute employs a system of student evaluations. Evaluation forms are given electronically to students at end of each semester. The results of the evaluations are shared with the individual faculty member responsible for the course and their department head. The statistical summary of the course evaluations, which rates the teaching and the course separately, and comments are generally seen as valuable.

**Institutional and Program-Level Self-Assessment -** Institutional and program-level assessment is ongoing through annual performance planning and through regional accreditation. Program-level assessment is undertaken locally by the schools and/or triggered by the Institute Assessment Committee

that requires all schools and departments develop and submit and update program-level outcomes for each degree-granting program. Subsequently, program level re-assessment is triggered by an accreditation cycle such as ABET, or NAAB, or may be voluntarily undertaken as was the case for the B.Arch and M.Arch programs in 2013 as outlined above in I.1.5 Long Range Planning. On a 10-year cycle, the Institute is reviewed by Middle States Commission on Higher Education with a focus on course learning, program and Institutional level outcomes and assessment.

In Architecture achievement of program level outcomes are assessed periodically by the Curriculum Committee and leadership team.  Part of that assessment includes a review of progress in addressing "causes for concern" raised at the last accreditation visit, progress toward meeting program goals and toward addressing shifting factors and new opportunities. Solicitation of faculty through the recent curriculum reform process was inclusive. Subcommittees assessed various curricular areas in relation to the mission and NAAB criteria. Students provided input via the Dean's Student Advisory Council, comprised of elected students from each class and program.  The Council is engaged in vetting materials and also in bringing student issues to the Dean's attention.

**How self-assessment is used in long-range planning, curriculum development, learning culture and responses to external pressures or challenges to the institution** - At Rensselaer long-range planning and assessment are closely wed. A description of the manner in which the results of program self-assessment informs long-range planning is integrated in section I.1.5. Not only did the most recent reform influence curriculum development with respect to perceived deficiencies, but was instrumental in finding ways to inculcate a greater sense of a unique architecture culture.  It provided students with an early experience in both material and environmental technologies and strategically realigned how digital tools and applications are taught and integrated with respect to our mission of ensuring that our graduates have a highly principled command of computational tools and techniques. It enabled us to better address integrative design in light of increasingly numerous and complex criteria associated with the profession, and to reshape the Final Project research/design experience to help students understand their professional role as agents of change.

**Faculty Assessment -** The Dean executes a performance evaluation of each faculty member in the areas of teaching, research/ scholarship, and service annually.  Following submission of a self-assessment report, faculty members meet with the Dean and receive a written summary of his evaluation.


**B.  Curricular Assessment and Development**
**A chart identifying all the parties in the curricular assessment process
(http://www.arch.rpi.edu/naab/09-CurricularAssessmentChart.pdf).**

**Students' assessments of the accredited degree programs' curriculum and learning context**

Assessments of the degree programs is obtained through annual exit surveys of graduating class and periodic surveys of faculty, alumni, and students. **A 2015 survey of B.Arch students** showed that in general, students strongly agreed that their academic program provides a strong education and understanding of the need for lifelong learning.  Students indicate overwhelmingly that they are effectively prepared to develop independent ideas, to consider and solve complex design problems, and to understand environmental impacts and concerns.  Students also express great satisfaction with their study-abroad opportunities, as well as curriculum enhancements, including charrettes, lectures and workshops.

The **B.Arch students** also expressed some concerns.  Only 62% agreed or strongly agreed that *the program provides ample opportunity to explore their interests in related fields, areas of inquiry, and to pursue minors.*  15% disagreed with the statement, and 23% remained neutral, making this a topic to be addressed by the Curriculum Committee in coming months.

Another area of student concern is the statement, *"the program provides students with opportunities to engage and learn from and with allied disciplines and professions."* While this may be the result of a tightly controlled and rigorous 5-year academic program, it will be a topic for the Curriculum Committee to discuss, since 7% of students disagreed and 30% remained neutral.

In a similar concern, only 67% of students agreed or strongly agreed to the statement, *"the program provides opportunities beyond the studio and classroom that further develop leadership and collaboration skills."* 8% of students disagreed, and 25% remained neutral, making this a topic for the Curriculum Committee to discuss. (It may be that the very full academic program in Architecture does not allow for many extra leadership and collaboration opportunities.)

**A 2015 survey of M.Arch students** showed that, in general they are very satisfied with the quality of their academic program. 100% of respondents said they agreed or strongly agreed with 11 of the survey questions, covering topics including lifelong learning, collaboration and teamwork, experience with a variety of approaches to Architecture, preparation for licensure and career, and environmental concerns.

On several of the survey questions, students expressed some dissatisfaction. 25% disagreed with the statement, "*The program provides students ample opportunity to explore their interests in related fields, areas of inquiry, and to pursue minors."* This may be a reflection of the fact that, in the interest of allowing students to minimize their time to degree completion, the M.Arch. program is filled with required courses and studios, setting students on an accelerated path to degree completion.

In a related question, 25% of students were neutral regarding the statement, *"The program provides students with opportunities to engage and learn from and with allied disciplines and professions."* Again, this may be a result of the tightly scheduled plan of study, which was established to allow students to progress through the program in a very efficient manner. It may be important, at a future Curriculum Committee meeting, to consider building flexibility into the demanding and rigorous M.Arch schedule.

The following statements, with which students expressed significant disagreement, will be matters for further discussion in future Curriculum Committee meetings: (1) 12.5% of students disagreed with the statement, *"Students are prepared to understand how architecture relates to its surrounding communities;" (2)* 12.5% of students disagreed with the statement, *"The program provides opportunities to understand the role the architect plays in the larger building process."*

**Graduates' assessments of the accredited degree programs' curriculum and learning context**

**A 2015 survey of alumni** less than ten years out showed that they generally provided very positive feedback about their experiences as students and the long-term value of their Rensselaer education. Similar to the B.Arch and M.Arch students, alumni gave very positive responses about being educated to understand environmental impacts and environmental/sustainability concerns. Although alumni had some specific complaints about too much design focus and not enough practical focus, the comments in general showed that alumni were well educated and reaping the benefits of an extraordinary education.

Alumni indicated that they felt they did not have many opportunities beyond the studio and classroom that were effective in furthering their leadership and collaboration skills. Current students rated this question more positively than the alumni, indicating that progress has been made in this area, although there is more to do, apparently. Similarly, alumni and current students disagreed with the statement that they had opportunities to engage with and learn from allied disciplines and professions.

Only 57% of alumni agreed that the curriculum provided ample opportunity for them to explore interests in related fields and areas of inquiry through minors, majors and co-terminal degrees. Again, this matches the responses of the current graduate and undergraduate students, and may be a reflection of the demanding and rigorous Architecture plan of study. Perhaps it will be a topic of discussion by the Curriculum Committee.

Some 14% of alumni disagreed that the School prepared them for internships, licensure and practice in the architectural profession.   This is interesting, since 91% of alumni reported that they are currently pursuing a career in an architecture-related field, and 87% agreed that the curriculum provided them with a strong education based on foundational principles the lead to lifelong learning.

In conclusion, there appears to be overwhelming agreement by alumni that their education has been valuable.  While the alumni did point out in the comments and in some survey responses that there are things that might be improved upon in the future, the overall response of alumni is extraordinarily positive.

**Faculty assessments of the accredited degree programs' curriculum and learning context**

**A 2015 survey of faculty** indicated that, in general, faculty have a high degree of satisfaction with the curriculum and the ability of the School to produce graduates who are equipped to succeed and lead in the profession of Architecture.  In particular, faculty indicated very strong agreement that the School's study-abroad and CASE opportunities provide students with important curriculum options.

Regarding curriculum specifics, faculty strongly agree that students are made aware of the environmental impact of building practices, that the program effectively prepares students to engage in and solve complex design problems, and that the program effectively prepares students to pursue architecture on an innovative level.  Interestingly, tenured and tenure track faculty rated the program much higher than contingent faculty with regard to preparing students to understand the relationship between design and the other components of the discipline of architecture.  One reason for the discrepancy may be that tenured and tenure-track faculty are more familiar with all the facets of the curriculum, including opportunities for interdisciplinary collaboration.  Tenured and tenure-track faculty provided a much more positive response to a question about minors, majors and co-terminal programs which, again, may simply indicate that tenured and tenure-track faculty are more knowledgeable about these matters.

It is also important to note that, in one of the few survey questions that deals directly with the professional growth of faculty, there was an overwhelming agreement – 85% - who indicated that supportive mentorship is provided to them.

Regarding financial investment in the School of Architecture, this faculty member said that infrastructure investment has been "low to nonexistent," and that the Fabrication Shop technologies are in need of upgrading.  This faculty member also said that "the poor acoustics of the gallery threatens its viability as a teaching platform."

On a more positive note, the faculty member expressed satisfaction that the School has been able to hire replacement faculty, and that those hired have been female, addressing a need for increased faculty diversity.  Additionally, the faculty member said that the design faculty are united and committed to the reformed curriculum which has "wide buy-in" and that the design faculty are a cohesive group.  In conclusion, the comments of the faculty member mirror the survey results, which indicate strong support for the curriculum and some concerns about the career development path for faculty in the School.

**A Description, if applicable, of Institutional Requirements for Self-Assessment -** See above in Assessment and Long-Range Planning.

**Section 2 - Progress since the Previous Visit**

**Program Response to Conditions Not Met**

**CONDITION 3.12  Professional Degrees and Curriculum (M.Arch)**

*VTR text: The Master of Architecture criterion has not been met.  It is a 3 ½ year program which requires an undergraduate degree in any field plus 112 credit hours.  The 3 ½ year Master's program has been continuously accredited since 1979/80.  At the time of the visit, the program required an undergraduate degree in any field plus 88 undergraduate credits plus 24 graduate credits.  The condition of accreditation requires at least 30 semester credit hours of graduate level by 1 January 2015.  The team recommends a transition that will establish an identifiable graduate level curriculum as soon as possible to help promote stronger intellectual integrity and a collective identity within the Master of Architecture program.*

**RESPONSE: M.Arch 1 curriculum revision.**

In 2010 the Master of Architecture curriculum was revised to conform to the requirement of having at least 30 credits of graduate-level coursework. This change in the template was approved by the School of Architecture and the Institute-wide Curriculum Committees and then became part of the curriculum, bringing it into conformance with the NAAB standard. The change was made by adding a requirement for 6 elective credits at the graduate level.

1. **Distinct identifiable Graduate Level Curriculum** - In 2014-15 the School, with approval of its Curriculum Committee, faculty, Dean, and the Institute's Faculty Senate Curriculum Committee, took the M. Arch through a curricular reform that increases the number of graduate credits to 47 at the 5000-level and 41 at the 6000-level (35 required and 6 elective). The remaining 12 credits are professional and general electives that may be fulfilled with courses at the 4000 (undergraduate), 5000 or 6000 level. Courses taken with B. Arch students (5000-level courses) require faculty to develop unique syllabi and have distinguishing content. We built in an expectation that M. Arch students with greater world experience and a prior degree should be able to reflect on their work and to position it more substantially than B. Arch students. The 6000-level courses are graduate courses unavailable to undergraduates, except by special permission.

2.  **Distinct Professional Practice and Research Culture Identity -** To establish an identifiable graduate-level curriculum, we integrated a semester at the Center for Architecture Science and Ecology [CASE] embedded within a professional practice and research culture. Working with Ph.D. students and without undergraduates significantly promotes stronger intellectual integrity and a collective identity of the M. Arch program. At CASE these students take 13 6000-level credits and are engaged in research projects relating to next-generation sustainable building technologies.

3. **Distinct Thesis Level Identity -** Furthermore, and to complement the semester at the CASE, the Final Project has been shifted to an association with the post professional students, placing M. Arch in a uniquely graduate culture for their final year of studio.

**CONDITION 13.14        Accessibility (B.Arch. and M.Arch. 1)**

*VTR text: Ability to design both site and building to accommodate individuals with varying physical abilities.  This criterion has not been met, again.  The course manuals indicated that students had an awareness of the ADA requirements.  However, the studio projects did not clearly demonstrate an ability to design for accessibility. Projects lacked identification of handicapped parking and curb cuts.*

_Some flat sites might work out to be accessible, but sites on sloping surfaces do not appear to have been closely studied nor solved. Some door and egress issues were not resolved. Areas of refuge in stairwells were non-existent in the majority of the design projects._

**RESPONSE:** In 2011-12 the school responded by:

1. **New Design Studio Module on Accessibility** - Adding a required 2nd Year B. Arch. (1st Year M. Arch.) design module integrating emphasis on site and building accessibility.

2. **New 'Tech Talk' on Accessibility** - The Design Development studio increased emphasis on accessibility through a 'Tech Talk' component dedicated to understanding and meeting accessibility standards from the curb to and throughout the building.

3. **Stronger Professional Practice + Design Development Course Interface** - Strengthening Professional Practice teaching on accessibility, including coordination with Design Development Studio to ensure substantial instruction regarding accessibility.

4. **Increased Faculty Awareness** - Awareness of need to include accessibility in studio projects.

Under the 2013-14 curriculum reform:

5. **Site Planning + Site Accessibility / New Learning Outcome** - Site planning and accessibility remained a learning outcome and topic of attention in the 2nd year fall B.Arch Design Studio (1st year fall semester M.Arch) as an integral studio requirement.

6. **New IDS Studio Course w/ Emphasis on Site and Building Accessibility** - Integrated Design Schematic Studio [IDS] includes learning outcomes and project design expectations dealing with site and building accessibility as part of the pre- and schematic design phases.

7. **Stronger Professional Practice + Design Development Course Interface** - Greater integration of co-requisite Integrated Design Development Studio and Professional Practice 1 courses increase emphasis on building and site accessibility through coordinated assignments and evaluation of design of accessible stairs with areas of refuge, and meeting accessibility standards.

## CONDITION 13.17   Site Conditions (B.Arch. and M.Arch. 1)

_VTR text: Ability to respond to natural and build site characteristics in the development of a program and the design of a project. This criterion was not met. Many projects were presented with sties that seemed like they could work; however, on closer examination projects did not clearly show an ability to respond to natural and built site characteristics. For example, there were no clear examples of ground level development including entrance, landscaping, access, drainage, parking etc. for sloped sites. There needs to be more attention paid to the sloping sites by showing appropriate contours and spot elevations along with building modifications to accommodate the site conditions. RPI is located in a setting where the dramatically sloping landscape forms provide convenient examples for students to visit and get a better understanding of the impact of contour changes._

**RESPONSE:** In 2011-12 the School responded by:

1. **New Design Studio Module on Site Conditions -** Adding a 2nd Year B. Arch. (1st Year M. Arch.) studio module on site conditions as a requirement, including emphasis on site condition analysis

and documentation, and ability to respond to natural and built site characteristics, especially on sloped sites with attention to landscape development, access, entrance, and parking.

2. **New 'Tech Talk' on Site Development** - The Design Development Studio dedicated a 'Tech-Talk' to site development including slopes, vegetation, trees, use of contours, cut and fill techniques, parking, hard and soft-scaping, as well as the development of a site plan. Some student-selected buildings in DD are on zero lot-line urban sites and not effective for this purpose.

3. **Increased Faculty Awareness** - The school also made a concerted effort to increase faculty and student awareness regarding the importance of site conditions in studio projects.

Under the 2013-14 curriculum reform:

4. **Site Conditions and Planning / New Learning Outcome** - Site conditions and planning became a learning outcome and topic of attention in the 2nd year fall semester B.Arch Design Studio (1st year fall semester M. Arch) as part of the studio project requirement. A module teaching design and management of slopes, contours, cut and fill as well as vegetation, roadways, parking, hard and soft-scaping has been added.

5. **New IDS Studio w/ Emphasis on Site Conditions and Planning -** Integrated Design Schematic Studio, required for the B.Arch students, has learning outcomes and teaching expectations regarding site conditions and planning as part of pre- and schematic design phases.

**Program Response to Causes of Concern**

**CONDITION 3.4   Social Equity (M.Arch 1 and B.Arch.)**

*VTR text: The cause for concern in 2010 is based on lack of faculty diversity.  There are only two women faculty who are full time. Both work primarily off campus.*

*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.*

*This criterion was met with concern in the two previous visits and again in this visit.  This team finds the original issues have only been partially resolved.  Student recruitment efforts have increased the number of women and minorities enrolled in the undergraduate program and there has been a significant increase in the level of student retention.*

*However, there continues to be an issue regarding the hiring and retention of female and persons from underrepresented groups to serve as full-time faculty members.  In addition, no women or minority faculty members have been promoted to the level of full professor, when asked about the historical record of promotion for women, RPI was not able to provide additional information.  With the assurances and immediate actions by the new dean regarding recent hires for clinical and adjunct faculty positions and with the diversity hiring goals set forth by the university administration, the team*

_is confident that the issue of social equity as reflected in the distribution of faculty positions will be rectified within an expedited time span. To temporarily bridge the gap regarding the lack of women and minority role models for the students, women speakers dominate the list of lecturers featured in the 2009-10 All-school Lecture Series. This year's adjunct and clinical faculty hires reflect a commitment to bring more women and minority architects to RPI._

**RESPONSE**

**SoA's Commitment to Diversity -** The School has taken strong steps to increase diversity among the full-time faculty, in response to the program's unwavering commitment to intellectual, gender and ethnic diversity. The School of Architecture abides by the Institute's policy on Institute Diversity as stated by President Shirley Ann Jackson (www.rpi.edu/dept/diversity/).

1. **Diversity Candidate Solicitation -** Specific teaching and research areas were identified as strategically important profiles. An aggressive faculty recruitment drive comprised of advertising in premier architectural journals, an extensive amount of School mailings, and personal outreach efforts helped draw a large pool of diverse candidates. Selected advertisement journals included: _Higher Ed Jobs, Inside Higher Ed, Diverse Issues in Higher Education, Chronicle of Higher Education, ACSA News,_ and _Women in Higher Education._ The Dean delivered a clear message to the Faculty Search Committee concerning the school's unwavering commitment to diversity and the importance of acquiring outstanding candidates with diverse intellectual, gender and ethnic profiles.

2. **Fall 2011 Successful Tenure Track Hires** - The Dean succeeded in acquiring support from the President for five (5) new Full-Time Tenure-Track lines. In the fall of 2011, SoA appointed five (5) new Full-Time Faculty to the program. Two were diversity hires (one female and one African American male). All five were exceptional and represented a major asset to our program.

3. **Fall 2014-15 Successful Tenure Track Hires -** In 2013-14, School was allowed to hire three tenure-track faculty. Working with the Office of Human Resources, we hired three outstanding female faculty (Dr. Alexandra Rempel, Dr. Nancy Diniz, and Dr. Lydia Kallipoliti). This is in keeping with the Institute's commitment to diversity and its strict adherence to affirmative action and diversity hiring. This brings the total number of tenured/tenure-track female faculty in the SoA to 5 of 19, or 26%. In addition, we note that currently 1 (5%) faculty member is Black/African American, and 3 (15%) are Hispanic.

4. **Faculty Diversity / Promotion 1** - Anna Dyson, who in 2008 was appointed Director of CASE, was promoted to Full Professor in the spring of 2011. This promotion was significant, given that Professor Dyson was the first female Full Professor in the School of Architecture.

5. **Faculty Diversity / Promotion 2** - Since the VTR, another of our female faculty, Mariana Figueiro, was promoted to Full Professor in July 2014. Now, of our 5 full professors (not counting our Dean), 2 (40%) are female.

6. **All-School Lecture Series** – Since Fall 2009, 27 or the 91 invited speakers in our all-school lectures series have been women, which means 30% of our speakers have been female. This sends another clear message to our students and faculty that we're committed to diversity.

7. **Diversity Task Force** – In Fall 2015, the Dean established a diversity task force to develop an official _policy on diversity_, which will be distributed to our faculty, staff and students.

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**CONDITION 7.0  Human Resource Development (M.Arch 1)**

*VTR text: Students and faculty recognize the effectiveness of the intensive infrastructure needed to advise students at multiple points within the B.Arch. undergraduate program. In contrast, students within the small M.Arch complained of inadequate and inconsistent advising. The Team is concerned about the School's ability to provide an effective advising program to students. This will become even more challenging as the graduate program increases in size and complexity. A clear and effectual advising system must be developed and implemented to meet the anticipated growth within the graduate program. Schools must have a clear policy outlining both individual and collective opportunities for faculty and student growth inside and outside the program.*

*The team finds this condition to be met with concern regarding mentorship and student advising for the M. Arch program.  The School of Architecture provides abundant opportunities for student involvement in academic and professional experiences beyond curricular instruction nationally and abroad.  Some of these events and programs include the Bedford Travelling Scholarship, the Center for Architecture Science and Ecology, foreign study travel to India, China, and Rome.  The spring Lecture Series and regional fieldtrips broaden the understating of architecture.  Many of these programs and events also contribute to faculty development and professional enrichment.  Along with the Lighting Research Center and EMPAC these facilities and initiatives act as both intellectual and physical resources for cross-disciplinary research and creative activities.*

*Although a strong campus ethos of progressiveness and professional relevancy is shared by university and school administration as well as faculty, a lack of clarity about the internal mechanisms to facilitate the professional development of faculty persists.  There is a need for additional articulation and campus-wide advocacy of the expectations for tenure-track faculty in the production of research, scholarship, and creative activities uniquely framed by standards within the field of architecture.  However, the team notes that the concern for strengthening or implementing internal mentorship between more senior tenured faculty and junior tenure-track faculty towards tenure is exacerbated by the deficit of tenured faculty.*

*Both, students and faculty recognized the effectiveness of the intensive infrastructure to advise students at multiple points in their academic experience.  It is noted however that this commendation in the area of advisement is limited to the B. Arch undergraduate program.  Students in the M. Arch have a different advisement system which needs continual support especially in light of future plans to increase the number of students enrolled in the program*

**RESPONSE:  M.Arch 1 Academic Advising**

The School of Architecture has made a concerted effort to provide a comprehensive, thorough and impactful student mentorship and advising program for all graduate students.

1.  **Increased Student Advisement** – The School expanded the administrative leadership team overseeing graduate studies to include a Head of Graduate Studies and a M. Arch I Program Director who serves as an official academic adviser to each M.Arch student. The Institute's Office of Graduate Education [OGE] requires the yearly filing of a formal Plan of Study document that mandates a meeting between the student and adviser. Students may also avail themselves of the Graduate Program Administrative Director, who is able to answer questions about degree requirements and School and Institute regulations. In doing this, the M. Arch program duplicates the

formal structure of the B.Arch program, which received the team's commendation. There is now a significant mentorship program in place for all of the graduate students.

**RESPONSE: Facilitating Professional Development of Faculty**

In response to the school's commitment to empower the professional development of the FTT faculty, the Dean established a series of important committees that have had a transformative impact.

1. **Tenure-Track Mentoring Program** – In Fall 2010, the Dean established a mentoring program by which all tenure-track faculty are assigned two tenured senior faculty to oversee their progress in scholarly research, teaching and service. Junior faculty are to meet with their mentors at least once per semester.  Mentors are expected to provide professional development advising in support of the junior faculty moving toward the promotion & tenure process. The Dean makes a concerted effort from one semester to the next, to share information regarding career development opportunities (i.e. peer-reviewed publications and conferences) with the junior faculty. The program has proven to be a resounding success, given that junior faculty now have strong mentorship support, and senior faculty are far more involved in the entire P&T process than ever before.

2. **Established Architecture Tenure Standards Task Force** -In 2012-13, the Dean created an Architecture Tenure Standards Task Force to develop an outline of standards relating to the diverse expectations for tenure-track faculty in the production of research, scholarship, and creative activities uniquely framed by standards within the field of architecture. The work of the task force was intended to clarify the diverse P&T candidate profiles in our School for the school's P&T committee, the Dean's Council, and Faculty Senate.

**Program Response to Change in Conditions (if applicable)**

The school's response to changes in the conditions has been significant.  A 2013-14 inclusive and thorough curriculum review and reform of the B. Arch and M. Arch programs in the context of NAAB's Defining Perspectives and student performance criteria led to a number of related changes, including:

1. **Increased Faculty Expertise** - Adding two full-time faculty members in the area of environmental analysis and design, in response to *Stewardship of the Environment.*

2. **Expanded Core Courses** - Expansion of the core (required) environmental conditions and design courses from two to three, with the additional of a first-year course in Energy Comfort and Ecology for the B. Arch students, in response to *Stewardship of the Environment.*

3. **Strengthened M.Arch Program Distinction** - Creating a dedicated semester at CASE for the M. Arch students, in response to *Stewardship of the Environment.*

4. **Expanded Professional Practice Courses -** The expansion of the Professional Practice sequence from one course to three.  Professional Practice 1 is re-dedicated to project management and is a coordinated co-requisite with Integrated Design Development Studio.  Professional Practice 2 is dedicated to practice management.  The Economics of Architecture will address the economics of the design and construction industries and has yet to be phased in.  In response to *NAAB SPCs associated with Realm C.*

5. **Expanded Professional Practice Courses -** The expansion of the core studio sequence with the addition of Integrated Schematic Design Studio for the B. Arch students that serves as a primer and

prerequisite to the Integrated Design Development Studio.  In response to *NAAB SPCs including B.1 Pre-design, and B.2 Site Design, and Realm C.*

6. **Strengthened Methods Course -** Specific attention to the methods course in the final year of the B. Arch and M. Arch studies, including focused attention on understanding the various theoretical and applied methods of research.

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**Section 3 – Compliance with the Conditions for Accreditation**

**I.2.1    Human Resources and Human Resource Development**

**Faculty Resumes and Matrices**

- Faculty Resumes are available by accessing link http://www.arch.rpi.edu/naab/10-Faculty-Resumes.pdf ).
- Faculty Matrices for 2013-14 and 2014-15 are available by accessing link **xxxxxx**.
- A Faculty Matrix for 2015-16 will be made available in February 2016.

**1. Human resource development opportunities** - At Rensselaer, professional development of faculty and staff is a priority, and for students, human resource development is our very business.  The School's policy is to "broadly educate men and women who will be able to exert constructive leadership in society and to contribute to human welfare.  Both for the enrichment of Rensselaer and for the greatest contribution to society, Rensselaer seeks to nurture an environment for Faculty and students from a variety of geographical, intellectual, ethnic, economic, and cultural backgrounds." … "Rensselaer strives continuously to attract and nurture a Faculty of outstanding scholarship and educative ability and will work to provide those material facilities and opportunities needed for optimal achievement and intellectual growth."[1]

Rensselaer has been consistently ranked highly as an employer, in no small part due to its benefits policy which can be viewed at http://hr.rpi.edu/update.do?artcenterkey=270.  Key components of that policy include generous tuition benefits, a parental leave policy, and sabbatical leaves for faculty.

The Institute and the School of Architecture provide opportunities for faculty to remain current in their knowledge of the changing demands of the discipline, practice and licensure through an explicit understanding that their active employment is nine-months per year, leaving three months for research and scholarly production including the possibility for creative activities and design production. During the academic months it is also expected that a portion of their time be dedicated to research and/or scholarship.  In Architecture, one path to tenure is through critical practice that uses design as a form of research production that is disseminated and recognized as significant by one's peers.

**How Faculty Remain Current in the Discipline** - Faculty remain current in their knowledge of the changing demands of the discipline, practice and licensure by a variety of means including but not limited to professional practice as licensed Architects, practice under licensed Architects, practice as designers and builders at a variety of scales, and through continuing education as required by the AIA and/or licensing jurisdiction. A substantial percentage of professional program faculty engage in design practice as part of their scholarly and research pursuit. In addition, faculty members remain current in their discipline by engaging in research and scholarship, and presenting at conferences and symposia.

**Faculty with Architecture and/or Engineering Practices**

Full-Time
- **Lonn Combs**, co-Founder/Principal, Easton + Combs, Architects, (Licensed Architect)
- **Gustavo Crembil,** Them
- **Demetrios Comodromos**, co-Founder/Principal, Method Design (Licensed Architect)
- **Josh Draper**, founder/partner, PrePost
- **Lydia Kallipoiti**, Principal, **E**co**R**edux research network **+** ANA*cycle* design+writing studio, (Licensed Architect)
- **Will Laufs**, Founder/Principal, Laufs Engineering Design, (Licensed Engineer)
- **Mark Mistur**, AIA -  Founder/Principal Mark Mistur, Architect (Licensed Architect)

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Adjunct
- **Koray Duman**, Founder/Principal, Buro Koray Duman (Licensed Architect)
- **Yael Erel,** Design Practice (Licensed architect - Israel)
- **Melanie Fessel**, Director of Design, Terreform ONE (Licensed Architect)
- **Oliver Holmes**, Independent Consultant – Energy and Sustainability, (Licensed Engineer)
- **Carla Leitao**, Founder/Principal, Speculatis Aeterna (licensed in the EU)
- **Murat Mutlu**, Founder/Principal, International Office of Architects (Licensed Architect)
- **Richard Peckham**, AIA, V.P. / Executive Principal, CSArch Architecture (Licensed Architect)
- **Stephen Reilly**, AIA, Lacey, Thaler, Reilly, Wilson Architecture + Preservation. (Lic.Architect)
- **Kyle Stover**, Founder/Principal, Kyle Rx Stover Architecture and Design (Licensed Architect)
- **Lauren Thomsen**, Architectural Designer, EYP, (Licensed Architect)
- **Farzam Yazdanseta**, Project Architect, Actual/Office LLC

## Faculty with Design Practices

Full-Time
- **Evan Douglis**, Founder/Principal, Evan Douglis Studio LLC
- **Ted Krueger,** Technologist / Interdisciplinary Design
- **Michael Oatman**, Artist
- **Chris Perry**, co-Founder/Principal, pneumastudio
- **Anthony Titus**, Artist

Adjuncts, Lecturers, Professors of Practice
- **Francis Bitonti**, Founder/Principal, Francis Bitonti Studio
- **Adam Dayem,** founder, actual/office
- **Fleet Hower**, Fleet Hower, LLC
- **Serban Ionescu,** Serban Ionescu Studio
- **Ajmal Aqtash**, Form-ula
- **Erik Churchill**, Bldgworks
- **Brian Deluna,** Designer
- **Edwin Liu**, ISOFORM
- **Joachim Mitchell**, Founder, co-president, Terraform ONE
- **Murat Mutlu,** Founder/Principal, INOA/Internaional Office of Architects
- **Stefano Passeri,** Designer
- **Kyle Stover,** Founder, Kyle Rx Stover Architecture and Design

## Resources Available to Faculty and the Extent to which Faculty are Able to Use these Resources

**Sabbatical Leave Policy -** Rensselaer's sabbatical leave policy encourages faculty to take advantage of this plan once in every ten years, "*for the purposes of professional development through study, research, scholarly activity or service in government, industry, universities or consulting in the practice.*" Tenured faculty with 6 semesters of service, and upon request of the faculty and approval and Provost, may be given leave of one semester with half salary. Tenured faculty with 12 semesters of service, and upon request of the faculty and approval of the Dean and Provost, may be given leave of two semesters with half salary or leave of one semester with full salary. Sabbaticals provide opportunities for practice as well as for fellowships, travel, visiting teaching positions, research and scholarship.

**Sabbatical Information** - The following faculty have taken Sabbatical leaves since 2007:

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| Faculty Name | Time Period | Activities |
|---|---|---|
| David Bell | Fall 2010 semester | 1. Wrote article for *JAE*.<br>2. Worked on writing of three books: *Bernini & Borromini: Theater and Heresy; Jefferson's University as American Dream; and Adolf Loos: The Irritation of Modernity.*<br>3. Wrote an article for a conference attended in January 2011. |
| Ted Krueger | Fall 2007 semester | 1. Worked on doctorate.<br>2. Attended Heinz-von Foerster Conference in Vienna, Austria and other conferences in Canada, Czechoslovakia, and France. |
| Mark Mistur | Spring 2014 semester | 1. Autodesk "Educator in Residence Fellowship" at IDEA Studio in San Francisco, CA.<br>2. Research for and writing of book on Performance Based Design, Vol. 1 (Momentum Press), in progress.<br>3. Working as editor of book collection series, "Performance Based Design," in progress. |
| Michael Oatman | 2015-16 Academic Year | 1. Work on new materials for his courses, including seminar with EMPAC Artist Laurie Anderson.<br>2. New research in his art studio. Develop a website and archive of his work.<br>3. Travel to Scotland to develop an art project and conduct research.<br>4. Develop new work in his studio in Troy, NY. |

**Start-Up Funds -** Rensselaer's policy of awarding new full time faculty hires start-up funds as a means to support the early career scholarship, research, and professional development of new faculty hires is particularly helpful. Funds may be used for research activities including but not limited to hiring assistants, purchasing equipment and travel to conferences and workshops. If faculty do not use all their start-up funds in their first two years, they may apply for an extension of time to use the funds. Currently, faculty in the School of Architecture who have start-up funds include; Alexandra Rempel, Nancy Diniz, and Lydia Kallipoliti. Since the last accreditation five (5) other new faculty hires received Start-up funding as well.

**Travel, Conference and Professional Meeting Attendance -** In addition to faculty sabbatical leaves and release time, the School, under certain circumstances, will provide funding towards conference fees and travel support to tenure-track faculty that no longer have any start-up funds available or tenured faculty unable to acquire support funds from research grants. (See list of supported travel below.)

**List of Conferences and Faculty Travel**

| Faculty Name | Date | Event |
|---|---|---|
| Jonas Braasch | July 2014 | Organized 2nd Annual International Conference on Deep Listening, held at Rensselaer. |
| Lonn Combs | May 2015 | Invited, through peer-review process, to present at the 2015 Daylight Symposium in London in August 2015. Presentation is entitled, "Constructing in Natural Light: the Aesthetics of Well-Tempered Domestic Environments." |
| Gustavo Crembil | October 2014 | Presented a paper at the 2014 ACSA Fall Conference |

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| | | at Dalhousie University in Halifax, Nova Scotia. Paper is "Working-Out: Thinking While Building." |
|---|---|---|
| | | Presented work at "Tactical Robotics: Latin American Media Art at the Intersection of the Pedagogy," an international symposium held at the University of North Texas. |
| | August 2013 | Art/Research Residency at the Sachaga Art Center in Peru. |
| Mariana Figueiro | March 2015 | Keynote speaker at Light Symposium 2015 in Stockholm, Sweden. |
| | December 2014 | Traveled to Swedish Energy Agency and met with Nobel Laureate in Physics, Hiroshi Amano. |
| | August 2014 | Grand Rounds Presentation at the Mount Sinai Icahn School of Medicine, and at Mount Sinai St. Luke's Roosevelt Hospital, discussing lighting characteristics affecting the visual and circadian systems of older adults, sleep and behavior problems, and light therapy solutions. |
| Jean Paul Freyssinier | February 2012 | Presented work at "Strategies in Light 2012," in Santa Clara, CA. This is a LED lighting conference. |
| Mark Mistur | | AIA Convention (National) 2015, Atlanta |
| | | AIA State Convention |
| | | Architect Licensing Advisor Summit |
| | | IDP Coordinator Conference |
| | | Atiner Conference, Athens Greece, 2012 |
| | | ACSA Administrators Conference, 2012 |
| Ted Krueger | March 2015 | Presentations at several schools in Brazil. Presentations included: "Redesigning Human," and "A Gene for the Anthropocene." |
| | June 2014 | 3-week workshop at University of Brazil that included team-based projects building technologically enhanced wearable sensory devices. Students were from Automotive, Aerospace, Biomedical, Software and Electrical Engineering programs. |
| | | Presented a series of 6 lectures at several universities in Brazil. |
| Carla Leitao | April 2015 | Co-organized a "Designed Matter Symposium" held at SUNY Buffalo to explore developments in science and engineering, and how they can be used to re-imagine design of cities, buildings and consumer products. |
| Nadarajah Narendran | February 2012 | Presented work at "Strategies in Light 2012," in Santa Clara, CA. This is a LED lighting conference. |
| Chris Perry | March 2015 | Co-organized and co-hosted a round-table event at Whitebox Art Center in New York, featuring *PAJ* editor Bonnie Marranca. |
| | | Chaired a panel, "Disciplinary Centrism" at the ACSA annual conference in Toronto, Canada. |
| Mark Rea | December 2014 | Traveled to Swedish Energy Agency and met with Nobel Laureate in Physics, Hiroshi Amano. |
| Ning Xiang | June 2013 | Faculty and students contributed a series of papers to the International Congress on Acoustics, held in Montreal, Canada. |

In 2012, the School of Architecture hosted the SmartGeometry Conference, an international, inter-disciplinary event that ran from March 19th-24th, 2012, bringing some 500 attendees and presenters from around the world to the Rensselaer campus. Entitled, "Material Intensities: Simulation, Energy and the Environment," the conference comprised of (10) research cluster groups, (4) "talkshop" events and (5) keynote lectures, engaged a high percentage of SoA faculty and students throughout the weeklong event. Two of the faculty in the School of Architecture, were selected in a competitive process to serve as cluster leaders: Prof. Dyson (*Bioresponsive Building Envelopes*) and Prof. Vollen (*Form Follows Flow).*

- **Demetrios Comodromos** and **Jefferson Ellinger** (Co-Coordinators)
- **Evan Douglis**, Dean, (Keynote Speaker)
- **Anna Dyson**, (Cluster Leader: Bioresponsive Building Envelopes)
- **Prof. Robert Hull** of the Materials Science Department in School of Engineering, (Keynote Speaker)
- **Mark Mistur**, Associate Dean, (Conference Site Director)
- **Zbigniew Oksiuta**, (Talkshop Speaker)
- **Jason Vollen**, (Cluster Leader: Form Follows Flow)

**Study Abroad Directorships -** Faculty members also are selected each year to serve as leaders of our Study Abroad programs. Our faculty members have opportunities to go to Italy, China, and India immerse themselves in the culture of the host country, and participate in joint educational opportunities with faculty at the foreign universities where they and the students spend an entire semester.

| Faculty Name | Semester | Location |
|---|---|---|
| Zbigniew Oksiuta | Fall 2015 | Rome |
| David Bell | Spring 2015 | India |
| Elena Perez-Guembe | Fall 2014 | Rome |
| Kyle Stover | Spring 2014 | China |
| Ted Krueger | Fall 2013 | Rome |

**Brown's Traveling Fellowship -** The School of Architecture offers an annual opportunity to be awarded a Brown's Traveling Fellowship. Each year, (3) SoA faculty – (1) tenured (award: $12,000), (1) tenure-track (award: $12,000) and (1) contingent – (award: $7,500) are selected to receive a fellowship that provides them funding to study a topic of their choice in a foreign country.
Upon their return, they are required to make a presentation to the faculty, staff and students so everyone may learn from their experiences. Attached is a list of recent Brown's Fellowship faculty winners and the titles of their travel proposals**.**

| Faculty Name | Year | Travel Location / Project Title |
|---|---|---|
| N. Narendran | 2015 | Asia/South Asia / *Understanding Lighting Practices in Rural Homes of South Asia and Asia* |
| Anthony Titus | 2015 | Japan / *Projected Futures: Contemporary Japanese Museums and the Art of Display* |
| Yael Erel | 2015 | London, England / *Constructing Reflections* |
| Ted Krueger | 2014 | Brazil / *Sensory Substitution* |
| E. Perez-Guembe | 2014 | Netherlands / *Real and Imaginary* |
| Lonn Combs | 2014 | Germany (has not traveled yet) / *Between Form and Belief* |
| Ted Ngai | 2013 | Western United States / *A Visual Guide to Speleomorphology: The Landscapes of Calcium Carbonate Formations* |
| Andrew Saunders | 2013 | London, England / *Sartorial Tectonics: Fabricating Cultural and Material Affects of British Textiles* |
| Ning Xiang | 2013 | China / *Study of Acoustics Innovations in China's New Performing* |

| | | |
|---|---|---|
| | | *Arts Centers, and Development of New Room-Acoustics Capabilities* |
| Julia Watson | 2012 | Bali and Indonesia / *Landscape Architecture without Landscape Architects: On the Subaks of Bali, Indonesia* |
| Mariana Figueiro | 2012 | U.S, Canada, Switzerland, Germany, UK and Brazil / *24-hr Lighting Scheme for Older Adults Around the World* |
| Zbigniew Oksiuta | 2012 | Japan / *Clap with One Hand* |
| Mark Mistur | 2011 | France and Germany / *IT'S ABOUT TIME: Re-Forming Design Practice and Architecture and Engineering Education* |
| Gustavo Crembil | 2011 | South America / *The State of Informal, a Comparative Catalog of Latin American Cities* |
| D. Comodromos | 2011 | Spain and France / *Know How Know What: Analogical Models, Documented Construction + Projected Simulations* |

**Guest Reviewers** – In support of the School of Architecture's is commitment to increasing the intellectual diversity throughout the program, distinguished practitioners, engineers, theorists, historians, artists, industry experts, and researchers from related fields, are invited to share their unique perspective and experience with our students and faculty on a continuous basis as 'guest reviewers'. School of Architecture Faculty also keep current in their fields by serving as reviewers at other architecture schools in the United States and internationally. A vital part of the educational program at Rensselaer's School of Architecture is the review of student work by outside reviewers. The review process is conducted as a public event and open to the entire school. This is an exciting and important part of the curriculum for each of our studio courses, and it also provides our faculty with important opportunities to meet with colleagues from other schools and disciplines, as well as architects with practices in New York City, Montreal, Philadelphia and other major metropolitan areas.

Our faculty regularly serve on each other's studio reviews, and as invited guest reviewers at others schools providing them many opportunities for intellectual exchange.

**Faculty Serving on Juries as Critics at Other Schools**

| Faculty Name | Date | Event |
|---|---|---|
| Gustavo Crembil | 2014 | Tectonics & Construction Curriculum Committee, Lawrence Technological University (Michigan) |
| | 2013 | Macapa Municipality, Amapa, Brazil. |
| | 2012 | Macapa Municipality, Amapa, Brazil. International Dual-Degree Graduate Program, College of Architecture and Urban Planning at Tongji University, Shanghai, China. |
| | 2011 | One-week design charrette on urban design and development for Iquitos Municipality, Loreto, Peru. Also served as guest critic at Rhode Island School of Design, Washington University in St. Louis, Universidad Nacional de Cordoba in Argentina, Universidad Catolica de Cordoba in Argentina, Universidade de Sao Paulo in Brazil, City College of New York, Lawrence Technological University (Michigan) and Cranbrook Academy of Art. |
| Anna Dyson | | Yale University, Columbia University, Syracuse University, Parsons, University of Pennsylvania, Pratt |

| | | Institute, Massachusetts Institute of Technology. |
|---|---|---|
| Ted Krueger | 2015 2014 2014 | Universidade Federal do Rio de Janeiro, Brazil Several universities in Brazil Clemson University Cranbrook Academy Lawrence Institute of Technology (Michigan) Pratt Institute |
| Carla Leitao | 2013 2011-12 | Jury in Peer Review, "Future Traditions," Regional International Workshop, Portugal. Jury/Nominator Lisbon Architecture Trienale, Premio/Debut/Award. Roving Critic at Columbia University Graduate School. |
| Mark Mistur | 2015 2013-14 2012-13 | SUNY Buffalo Georgia Tech Stanford University Berkeley University California College of the Arts Auburn University University of Arkansas, Auburn University (Rome) University of Arkansas University of Calgary Bath University (UK) École Especial d'Architectur (Paris) University of Arkansas (Rome) Auburn University (Rome) City College Undergraduate Architecture |
| Michael Oatman | | Rhode Island School of Design Vermont College CEPT University in Ahmedabad, India Maine College of Art State University of New York at Albany |
| Anthony Titus | | Art Center Environmental Studies in Pasadena, CA; Barnard College in NYC City College Undergraduate Architecture in NYC; Columbia University GSAPP Cornell University APP Harvard Graduate School of Design Massachusetts Institute of Technology Parsons/New School in NYC Rhode Island School of Design SCI-Arc in Los Angeles CA: University of Idaho University of Maryland at College Park; Yale Univ. |

**Tuition Benefits Policy -** For regular full-time employees and their spouses, Rensselaer will pay 75% of the cost of tuition for a maximum of 2 courses per semester up to a maximum of 6 courses in each fiscal year for courses taken at Rensselaer. Rensselaer also offers benefits (External Tuition Policy) for regular full-time employees who take courses at schools outside Rensselaer. Reimbursement is 75% of the cost of tuition, and coursework. All coursework must be job-related and approved in advance by the immediate supervisor and Department Head, Dean or Vice President, The Human Resources website (http://rpi.edu/dept/hr/tuition_files/TuitionBenefitEmployeesSpouses.pdf) describes the details of the tuition policy.

In the School of Architecture, the Business Manager is currently completing a Master of Business Administration program through the State University at Albany. Staff also remain current by attending on-campus workshops and meetings on student advising, diversity, purchasing, and other work and learning-environment related matters.

**Parental Leave Policy -** A parental leave policy provides relief from teaching for one semester with full pay with the potential for a one-semester extension at half-pay (See Faculty handbook for details / http://www.rpi.edu/dept/provost/facultyhandbook1-06.pdf . In the case of tenure-track faculty, a parental leave results in an automatic extension of the tenure clock (unless the faculty member choses to forgo this option), in order to ensure that having a family and being a productive and successful member of the faculty with every opportunity to advance, are not in conflict.

**Professional Development that Contributes to Program Development -** Many individual professional development opportunities also contribute to program improvement. The development of the Bedford A/E seminar and studio can be credited in part to the development of an international network of architectural and engineering professionals through the Bedford Traveling workshops.  Sabbaticals have resulted in fellowships that inform the development of new pedagogies relating to the integration of BIM.  The Brown's Fellow program has added richly to the learning culture of the school through faculty and student presentations and exhibitions. Experiences from conferences, workshops and travel regularly enrich the classroom and discourse of the school.

**Faculty Workloads** - At Rensselaer, faculty are responsible for teaching and do not rely on Ph.D. Teaching Assistants for more than assistance delivering the courses. In Architecture, especially the professional programs, even that is rare. There is a rich culture of exchange between students and faculty especially as it relates to studio culture and the many contact hours (typically 8-14 hrs. per week) dedicated to that setting. Architecture faculty are committed educators and apt to make even greater time commitments to promoting student achievement on field trips, workshops and semesters abroad, etc.

Tenure and tenure track faculty nominally have a four-course load per year although this may be adjusted, based upon release time granted by the Dean attributed to the allocation of significant research funding on the part of the faculty or for those assuming an administrative role on behalf of the school. For studio instructors it is typically one 5 or 6 credit studio and one 2-credit seminar per semester.  Non-studio instructors in Architecture will typically teach two four credit courses per year.

Each year, workloads and teaching assignments of all faculty are developed in relation to administration loads, service loads and funded research obligations. Associate Deans have a two-course load reduction, program heads and center directors a one course reduction, and faculty with substantial research obligations (>$200k) a one-course reduction, but no faculty member is permitted to teach less than one course per year.  The Dean reviews the loading annually and makes provisions for special circumstances relating to service and in some cases relating to the tenure clock, etc., to ensure that faculty have sufficient time to engage in productive research and scholarship.

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

For a complete listing see List of Faculty Research and Activities  (http://www.arch.rpi.edu/naab/15-Faculty-Scholarly-Activities.pdf).

**Faculty Lectures**

| Faculty Name | Date | Event |
|---|---|---|
| **Gustavo Crembil** | April 2015 | "Informal Practice(s)," California State University at Long Beach, College of Arts. |
| | June 2014 | "Haptic Thinking: Contemporary Craft in Architectural Education and Practice," World Congress of Designers, Dalian, China.  Invited speaker. |
| | October 2013 | Presented a paper, "Mestizo Robotics" at the 2013 RE-NEW Festival and Conference in Copenhagen. |
| **Evan Douglis, Dean** | April 2014 | Keynote speaker at the Future Cities conference in London. |
| | November 2014 | University of Cincinnati ACSA Administrators Conference Phila, PA. |
| **Yael Erel** | December 2014 | Show and artist talk, "Revealing Lightscapes," at miSci museum in Schenectady, NY. |
| **Mariana Figueiro** | September 2014 | TedMed talk on 9/12/14 at Kennedy Center in Washington, D.C.  On lighting and health. |
| **Ralph Ghoche** | December 2012 | Presented lecture at Columbia University as part of a *History in Architecture* course. |
| **Ted Krueger** | November 2012 | Presented a lecture at the New Jersey School of Architecture, NJ Institute of Technology. Chaired the Laskey Charrette at Sam Fox School of |
| | February 2014 | Architecture at Washington University in St. Louis. Panelist at "The Future of Food: Redesigning the Food Supply" at Stone Barns Center for Food and |
| | April 2014 | Agriculture in Pacantico Hills, NY. |
| **Russ Leslie** | November 2012 | Attended 3rd International Off-Grid Lighting Conference in Dakar, Senegal. |
| **Ivan Markov** | April 2015 | Presented an invited lecture at Harvard University's Graduate School of Design, and another at Princeton University's Civil & Environmental Engineering Dept. |
| **Mark Mistur** | February 2013 | Invited Lecture at the Rome Center: "Eco-logics: A New Paradigm for the Design of Urban Environments" |
| **Nadarajah Narendran** | November 2012 | Attended 3rd International Off-Grid Lighting Conference in Dakar, Senegal |
| **Chris Perry** | October 2013 | Presented a lecture at the New School in NYC Presented a paper at the annual Phyllis Lamber Conference at the University of Montreal. |
| **Alexandra Rempel** | April 2015 | Presented a paper at the Symposium on Simulation and Urban Design in Washington, D.C. |
| **Anthony Titus** | Fall 2014 | "Marginal Tactics," at University of Wisconsin Milwaukee. "Blank Field," Bennington College, Bennington, VT. |
| | February 2013 | Invited speaker at University of Maryland symposium on future of architecture and relationship between Art & Architecture. |

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**Faculty Exhibitions, Installations, Projects, etc.**

| Faculty Name | Date | Event |
|---|---|---|
| **Gustavo Crembil** | October 2013 | Opening of exhibition of his students' work at the MiSCI museum in Schenectady, NY. |
| **Evan Douglis, Dean** | September 2015 | Shanghai Biennale (invitational) |
| **Mark Mistur** | May 2015 | Opening of Challenger Learning Center, Schenectady, NY – Mark Mistur, Architect - $1.6m |
| **Michael Oatman** | September 2014 | Exhibition, Nuit Blanche 2014 (the White Night) , a 12-hour art festival showing the works of 40 international artists who were invited to exhibit.  Oatman's project, *The 8th Wonder*, is a 25-foot inflatable sculpture supported by scaffolding, which serves as the site of a music endurance work by cellist Paul deJong and Prof. Oatman, who plays drums and percussion. Several students assisted with the project. |
|  | Aug-Dec 2013 | Exhibition entitled, "An Armory Show," with Prof. Kenneth Ragsdale (RPI Arts Dept.) at the Opalka Gallery at Safe Colleges in Albany.  Project pays homage to "The Armory Show" of 1913, which was held at the 69th Regiment Armory in NYC and presented by the Association of American Painters and Sculptors. |
|  | March 2013 | Supervised a student production entitled, *The Machine Starts,* an interactive performance piece based on E.M. Forster's 1909 science fiction novella, The Machine Stops. This was part of the School's PIP program (Production-Installation-Performance). |
|  | Feb-Sept 2013 | Exhibit, "Some Assembly Required," at Albany International Airport in Albany, NY. |
|  | April 2013 | "Michael Oatman: Another Fine Mess," opened at the Thompson Gallery at the Cambridge School in Weston, MA, as part of the gallery's "Collage at 100" series. |
|  | October 2012 | His monumental collage, "The Branch," or "The Site of our Complete Liberation," was featured in the inaugural exhibition of the Ruth and Elmer Wellin Muerum at Hamilton College in Clinton, NY. |
| **Anthony Titus** | 2015 | Group exhibition, *Measure*, at Storefront for Art and Architecture in NYC. |
|  | February 2015 | Exhibit of 20 new paintings at Friedman Benda gallery in NYC. |
|  |  | Exhibition entitled, "Oblique Strategies," at the Peter |

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| | January 2013 | Fingesten Gallery at Pace University. |
| | June 2014 | Work is included in the exhibition and accompanying catalog, *Vienna for Arts Sake!* Curated by Peter Noever. |
| | 2014 | *Surface Mining*, AAP, Cornell University, solo exhibition. |

**List of Faculty Research Projects**

| Faculty Name | Date | Event |
|---|---|---|
| **Jonas Braasch** | September 2014 | Working with Prof. John Wen (RPI) on a project to transform less expensive, human-friendly industrial robots into affordable assistive robots capable of assisting quadriplegics and other disabled persons with daily living and health tasks. |
| **CASE** | Current | Faculty and students are working with colleagues in Ghana to develop building materials from coconut husks (the parts that are discarded after the coconut is harvested). In Ghana currently, most building materials are imported, and the disposal of the coconut husks is creating pollution problems, since the husks are often burned or dumped in rivers. With a grant from NEXUS (New Energy Accelerator for Upstate New York), CASE is working to accelerate commercialization of coconut for integrated building applications and transform building practices. |
| **Gustavo Crembil** | August 2013 | Developed a robotic prototype with video documentation ad a book draft, through a project supported by a Production Incentive grant from VIDA 14.0 Art & Artificial Life, the Telefonica Foundation in Spain. |
| **Lighting Research Center** | December 2012 | Developed a concept for roadway illumination to provide lighting for crosswalks in traffic circles. Research sponsored by NYS Energy Research and Development Authority (NYSERDA) and NYS Dept. of Transportation. |
| | October 2013 | Study on *Sleep Deprivation* for the naval Medical Logistics Command. |
| | December 2013 | Research on Incubators for Premature Infants, sponsored by National Institutes of Health. |
| | December 2013 | Working with researchers at Duke University, studying sleep and insomnia patters in lemurs with expectation that it will help researchers understand sleep disturbances in people with dementia/Alzheimer's and |

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|  |  | whether light therapy can help. |
|---|---|---|
|  | March 2014 | Research on "Lighting Africa" testing services, sponsored by the World Bank. |
|  | July 2014 | NIH sponsored study entitled, *Individually Tailored Lighting Systems to Improve Sleep in Older Adults.* |
|  | February 2015 | Research entitled, *Warning Beacons for Front-Line Service Worker Safety,* sponsored by National Institutes of Health. |
|  | February 2015 | Federal Aviation Administration research study entitled "Airport Lighting and Visual Guidance: Technology and Human Factors Research." |
| **Alexandra Rempel** | November 2014 | She and Prof. Anna Dyson and other RPI partners received a "Knowledge and Innovation Program" seed grant from the RPI Office of Research. |
| **Anthony Titus** | 2013 | Graham Foundation Grant, *Twisted Siblings: Relationships Between Contemporary Painting and Digital Architecture.* |

**List of Faculty Awards, Honors, Etc.**

| Faculty Name | Date | Event |
|---|---|---|
| **Lonn Combs** | June 2015 | His firm, Easton+Combs is among five finalists for Florida International University's *Emerging Architects Initiative Installation* at the FIU Modesto A. Maidique Campus in Miami.  The installation is to be housed by French-Swiss architect, Bernard Tschumi. |
|  | March 2015 | Received the Distinguished Alumni Award for Professional Achievement, from the University of Kentucky College of Design, given to recognize alumni who have made significant contributions to society and whose career and accomplishment have brought distinction to their profession, local community and the College of Design. |
|  | December 2012 | His practice, Easton+Combs, was recognized for innovative work in Architectural Record's 2012 Design Vanguard series.  The firm was one of 10 selected by a jury process resulting from an open call of design firms worldwide. |
|  | 2011-12 | Fellow at the American Academy in Rome: Gorham P. Stevens Rome Prize Winner in Architecture. Proposal: "New Vectors of Liquid Stone: speculations on the Material Innovations of Pier Luigi Nervi and the Roman Tradition." |
| **Demetrios Comodromos** | May 2014 | Received a national Architeizer A+ Award for |

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|---|---|---|
| | 2014 | architecture and collaboration for the Louisiana State Sports Hall of Fame + Regional History Museum, which was done by his firm, *Method Design*.<br><br>Named one of America's Most Admired Educators by *Design Intelligence*. |
| **Nancy Diniz** | June 2015 | Won a prize in a competition for Milan EXPO 2015, which has a theme of "Feeding the Planet – Energy for Life." |
| **Evan Douglis, Dean** | February 2015 | Received the John Q. Hejduk Award from the Irwin S. Chanin School of Architecture at The Cooper Union. Award is given annually to a graduate who has made an outstanding contribution to the theory, teaching and/or practice of Architecture. |
| | 2015 | Named one of America's Most Admired Educators by *Design Intelligence*. |
| **Koray Duman** | May 2015 | His firm, Buro Koray Duman Architects in NYC, received a Bronze Award of Merit from SARA NY (Society of American Registered Architects, New York Council) for his project entitled, "Design Within Reach – 57th Street." |
| **Anna Dyson** | September 2012 | Received the 2012 ACADIA Award for Innovative Academic Program. |
| **Mariana Figueiro** | February 2015 | Invited to serve on editorial board of newly formed journal, *Sleep Health: Journal of the National Sleep Foundaiton."* Additionally, her paper was selected for publication in the inaugural issue, released March 2015. |
| **Carla Leitao** | February 2015 | Her design practice, *AUM Studio*, is featured in a new book, Global Design, edited by Pedar Anker, Louise Harpman and Mitchell Joachim. |
| **Lighting Research Center** | June 2015 | Bloomberg Philanthropies announced the 4 cities selected to receive up to $1 million each as part of the Public Art Challenge. The Lighting Research Center's submission (for Albany-Troy-Schenectady) was selected. The LRC plan is to illuminate up to 300 vacant homes over the next several months in order to regenerate interest in once-vibrant neighborhoods that currently have high-vacancy rates. |
| **Mark Mistur** | December 2014 | Trustee's Outstanding Teaching Award, is the highest teaching award of the Institute recognizing outstanding accomplishments in classroom instruction. |
| **Nadarajah Narendran** | December 2012 | Awarded a patent entitled, "Solid-State Light (SSL) Source Light Bulb." |
| **Zbigniew Oksiuta** | February 2012 | Awarded the Ars Bioarctica Residence at the University of Helsinki the Finland. |
| **Chris Perry** | June 2015 | Elected to the Board of Directors for the Association for Computer Aided Design in Architecture (ACADIA). |
| | February 2015 | His design practice, *pneumastudio,* is featured in a |

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|  |  | new book, Global Design, edited by Pedar Anker, Louise Harpman and Mitchell Joachim. |
|---|---|---|
|  | June 2014 | His design practice, *pneumastudio,* has been commissioned to design an experimental pavilion for the OMI Internaitonal Arts Center in Ghent, NY.  The design studio also has been commissioned to submit a schematic design proposal for the 7th Street Park in Hudson NY, in support of the city's application for a state grant to redesign the park. |
|  | May 2014 | His students were awarded 2nd Prize in  the *WT SmartCity Award* in Milan, Italy, International urban and Architecture Competition. |
|  | 2013 | Recippient of the MacDowell Colony Fellowship for a 3-week residency. |
| **Anthony Titus** | June 2014 | Wrote Foreword for the book, <u>The Great White Whale is Black</u>, by Anthony Candido.<br><br>Peer reviewer for *Journal of the British Interplanetary Society*, related to a special issue on architecture and outer space. |
| **Ning Xiang** | October 2014 | Received the 2014 Wallace Clement Sabine Award of the Acoustical Society of America.  The award is presented to an individual who has furthered the knowledge of architectural acoustics, as evidence by contributions to professional journals and periodicals or by other accomplishments to the field of architectural acoustics. |

**Student Support Services**

**1. School-based and Institute Advising** - Both the Institute and the School of Architecture offer a wide range of advising and career planning services, creating many opportunities for students to engage with faculty and professional staff to assist in developing and achieving their goals.  In the School, every student is assigned to a faculty academic advisor who provides academic, personal and career guidance as the student progresses in their program.  M.Arch students are assigned to the M.Arch 1 Director who personally oversees their development.

On the first day of classes in the first year of the B.Arch program, the school holds a "Meet Your Advisor" session.  Subsequently, students are required to meet with their advisors at least one time per year, and must do so to be cleared for registration. Faculty advisors assist with a number of issues relating to course registration, developing plans of study that include the integration of a semester abroad and/ or at CASE, minors and/or the pursuit of a co-terminal degree.  Students may also receive notifications of concern originating from their instructors through an Electronic Warning System (EWS) that generates emails to advisors, CLASS Deans (Clustered Learning, Advocacy and Support for Students) in student life and to ALAC (Advising & Learning Assistance Center). Notifications may be the result of poor test performance, low performance on assignments, poor attendance or more specific personal concerns that trigger the advisor to reach out to the student. Should ALAC and/or CLASS see a pattern for a particular student intervention may be initiated.

**2. Mandatory Faculty Training Sessions** - In 2014, in response to student exit survey indications that students wanted more from faculty advisors, the School held two mandatory training sessions for all faculty who serve as advisors, providing them with updated information about curricula, research and internship information, co-terminal degrees and other relevant information. In 2011 and 2014, the School of Architecture initiated two mandatory preemptive information and training sessions with senior professional staff from the Institute health center regarding early warning signs with respect to stress, depression, and potentially harmful behaviors and how faculty and advisors should respond. The school also has a full time Student Services Administrator who is available to assist students with registration, minors, and degree clearance, etc.

**3. Architect Licensing Advisor (ALA)** - The school's Architect Licensing Advisor (ALA), Prof. Mark Mistur, holds a mandatory meeting with first year professional program students annually to introduce himself as their ALA, present and discuss what it means to be an Architect and the path to licensure, including the establishment of an NCARB Record, the Intern Development Program (IDP), the Architecture Registration Exam (ARE) and the various jurisdictions.  He gives optional talks to upper level students who are, or are soon to be engaged in internships. He is available to students for questions and advising on matters relating to the profession at all times. Faculty members provide assistance in finding internships, making recommendations and in some cases hiring students as interns during the semester break periods. The school also maintains a list of internships, scholarships and posted positions on our web site.

**4. Career Development Initiatives** - The School sponsors a <u>Career Fair</u> every spring. All students are encouraged to attend, since many of the companies in attendance seek summer interns as well as new graduates.  Starting in Fall 2012, the Dean launched a "Blast-Off: career development chats" program that occurs once per semester, bringing students and two faculty together for an informal suppertime chat about career paths, options for graduate school and professional employment, working internationally, etc.  In the last two years, the AIAS and NOMAS student groups have run a "<u>Position Series</u>" of Saturday workshops in which they invite professionals to talk with students about jobs, starting a practice, creating a portfolio, etc.  Our AIAS students also run a student mentorship program, assigning each new first year student with an upperclass mentor for the year. Resume development, interviewing and cover letter writing strategies are addressed through portfolio review days, resume and portfolio workshops and presentations by faculty and local professionals.

**5. CLASS** - The Institute initiated the CLASS (Clustered Learning, Advocacy and Support for Students) several years ago, adopting a system to reorient the student experience focusing on six developmental themes delivered through clustering students by cohort and residential community.  The themes are: personal development, leadership development, cultural development, community, and communiversity. Each class year has a CLASS Dean who together with professional staff from student life is responsible for and gets to know that cohort. CLASS is particularly effective for the important first two years when on campus residency is required.  Details are available at
(see http://admissions.rpi.edu/undergraduate/life/class.html)

**6. Additional Institutional Support** - The Institute offers students a comprehensive array of services through the Dean of Students office, the Advising & Learning Assistance Center (ALAC), the First-Year Intervention Program, the Counseling Center (see http://studenthealth.rpi.edu/counseling.php) within the Health Center, and the Center for Career and Professional Development.
(see https://www.rpi.edu/dept/cdc/)

The Advising & Learning Assistance Center (ALAC) ( see http://alac.rpi.edu/) offers advising, intervention, study skills, tutoring, and other services, plus language and culture programs for international students. The *Learning Assistant Program* engages selected student assistants who live in first-year residence halls and are liaisons to the ALAC.  The *Teaching and Learning Assistance Program* trains selected

graduate students to tutor, advise and mentor undergraduates. The *First-Year Intervention Program (FIP)* is a mandatory mentoring program for 1st-year students whose GPA drops below 1.5 in the Fall semester.

**7. Student Handbook** - The Dean of Students Office provides a comprehensive "Rensselaer Handbook of Student Rights & Responsibilities," (see http://www.rpi.edu/dept/doso/resources/judicial/docs/2014-2016RPIHandbookofStudentRightsandResponsibilitiesAUGUST2014.pdf), which is made available to students when they enter Rensselaer.  The Handbook covers student-teacher relationship, confidentiality of student records, student rights in the classroom, grounds of disciplinary action, academic integrity, leave-of-absence policy, use of buildings and facilities, maintenance of public order, sexual misconduct and harassment and other matters of importance.

**8. SoA and OGE Support Services** - Graduate students receive support services through the School of Architecture administrative offices and also through the Institute's Office of Graduate Education (OGE) (see http://gradoffice.rpi.edu/setup.do), which offers administrative, academic, and curriculum guidance. OGE provides confidential academic and personal counseling, problem resolution services, academic orientation, training for teaching assistants, international student services, professional development and other services.

**Architect Licensing Advisor**
The school's Architect Licensing Advisor (ALA) is Mark Mistur, AIA.  In support of this activity and staying current with NCARB's ever-changing rules, he attends the annual Licensing Advisor Summit (ALAS – formerly the IDP conference).  He is also a member of the AIA Continuing Education Committee at the national level and a licensed Architect in the State of New York. He makes presentations to and regularly communicates with students in the professional programs about the fundamentals of IDP as well as changes in the program and internships, and he mentors students with respect to internships.


**I.2.2    Physical Resources**

**1. Facilities Overview** - The Greene Building, home of the School of Architecture, contains all the design studio spaces, seminar and lecture rooms, Dean's conference room, faculty and administrative offices, public pin-up spaces including the main Greene Gallery, computer lab, fabrication lab, Ph.D. spaces and research labs (providing spaces for the architectural acoustics department as well as CASE), Publications production and archive offices, a gallery and black-box room for showing and reviewing students' work, seminars and lectures and the school's very own architecture branch library.

The Dean's Conference Room was recently upgraded and is used occasionally for classes requiring advanced technology.  A recently purchased mobile "touch screen smart board" is used throughout the building, as needed, to connect students in the Greene Building with students, professionals, and others at remote locations.  Named after Benjamin Franklin Greene, the Institute's second director and 19th century advocate for Rensselaer to create North America's first Architecture program, the building was constructed in 1930 for the purpose of housing an architecture department (later school).

Architecture has since expanded to and beyond the confines of Greene's 43,400 sf. (net assignable space) to include the scheduled use of classroom spaces on the core campus, a facility housing the Lighting Research Center in downtown Troy, an education and research center facility [CASE] embedded in the offices of SOM in New York City, and studio and classroom spaces periodically used in Italy, India and China. (see below)

**2. Faculty Space Allocation** - The program provides studios, classrooms and seminar spaces for the role of teaching. To fulfill their role in scholarship, service and advising, full-time faculty are provided an office within the Greene building. Assistant, Associate and Full Professors are assigned a private office. Lectures and Professors of Practice share an office, as do part time faculty who do not have scholarship,

service or advising expectations.

**3. Additional Space Requirements** - With the expansion of student enrollment in the professional programs, the creation of the new post-professional Geofutures program, the allocation of space for CASE's upstate research, the school will need to acquire additional space cross-campus beyond the Greene building to facilitate this added student population.

The School's short-term solution has been to keep core facilities of administration, faculty offices, exhibition space, project review space, seminar rooms, studios and workshop(s) together.  To do so, several Greene classrooms have been converted to studio space, with an increasing and effective reliance on scheduling Institute multimedia and laptop classrooms and lecture halls (out of Greene) scheduled according to the course delivery format.

**3. Off-Campus Facilities** - The LRC is located on the 3$^{rd}$ and 4$^{th}$ floors of the historic Gurley building in downtown Troy, just a short walk from campus.  In addition to housing the lighting education and research programs and its offices, classrooms and labs, it is also location to the telepresence and Virtual Acoustics Environmental Lab.  Our most recent expansion is to the 24$^{th}$ floor of 14 Wall Street in NYC, at the location of Skidmore Owings Merrill (SOM) where 1,460 sf. of space are dedicated to the Built Ecologies education and research program and CASE for as many as 22 students, including 12 B. Arch or M. Arch students, per semester.

**4. Study Abroad Program Facilities** – The school has arrangements to use studio and classroom space and infrastructure at each of its international programs: in the University of Arkansas Rome Center each Fall semester; in India at the Center for Environmental Planning and Design (CEPT) in Ahmadabad (alternate Spring semesters); and at Tongji University in Shanghai, where the university provides a studio, classroom space and infrastructure (on a bi-yearly schedule in the spring).

**5. Facility Overview** - In 1998-9 the Greene Building was made accessible with the addition of an accessible connection to grade and an elevator linking the principal floors.  A small mezzanine and split-level basement area beneath it cannot practically be made accessible and are used for faculty offices.  These comprise a minority of the overall office inventory in Greene, the majority of which are accessible.  Faculty assigned to those offices can meet with students in other locations and should accessibility be an issue for a faculty member, office assignments can be managed.

**Greene Building Index of Floor Plans (http://www.arch.rpi.edu/naab/22-FloorPlansForGreeneBuilding.pdf).**

- Greene Building (Troy Campus)
  - Basement
  - Mezzanine
  - Level One
  - Level Two
  - Level Three
  - Level Four

- Gurley Building (LRC)
  - Level Two

- 14 Wall Street (CASE @ SOM)
  - Level 24

- Rome Center
  - Empire Wing Level 1
  - Gabriella Wing Ground Level

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**Greene Building Facilities**

| | | |
|---|---|---|
| 1 | Seminar rooms | 561 sf. |
| 2 | Lecture Rooms [1,2] | 2,961 sf. |
| 10 | Studios [3] | 15,050 sf. |
| 16 | Faculty Offices [4] | 3,367 sf. (74 to 484 sf. each) |
| 9 | Staff Offices | 1,715 sf. |
| 3 | Project review/exhibition spaces | 3,737 sf. |
| 1 | Architecture Library | 4,166 sf. |
| 1 | Computer Facility | 1,318 sf. |
| 1 | Workshop | 4,166 sf. |
| 4 | Research Areas | 1,580 sf. |

**Seminar room(s)** (GR204) - Seminar rooms include large tables and chairs and are used for small classes based on discussion and presentation format. There is currently one schedulable room (GR204) that is furnished to serve this purpose for as many as 18 students. Projection setup and teardown is required.  To supplement the small inventory of spaces vs. seminar space needs the Dean's Conference Room GR117 may be scheduled for individual meetings but cannot block regular time slots. Likewise, pin-up spaces (GR101) and the Gallery (GR201) and exhibition space GR201 can be signed out but not scheduled and do not have tables or projection.

**Lecture Rooms** (GR207,GR120) - Lecture Rooms include the Gallery that is used for studio presentations, large meetings and presentations. Though its acoustics can be challenging, particularly for simultaneous reviews and large meetings a linear focused sound system assists for podium presentations. Greene 120 is a registrar classroom scheduled by the registrar however Architecture is typically able to block it for substantial periods. Though its tablet armchairs are restrictive, dual project screens make it the best venue for presentations to groups between (20) and (50).

**Studios** (GR402, GR403, GR305, GR301, GR206, GR208, GR118/119, GR12, GR02) - In addition to the relatively expansive 4th floor studios, we have a north lighted third floor studio (GR305 that is typically home to the IDD studio, a relatively large studio on the second floor and a number of smaller studio rooms that were previously classrooms (GR206, GR208, GR012, GR002). GR301, which was previously a student run café/lounge has also been converted into a small studio space.

**Project Review Spaces** (GR101, GR207, GR401) - The School shares three dedicated review spaces including the 2050sf Gallery space for large reviews, GR401 (when it does not have to be dedicated as studio space - varies semester by semester) and GR101, a small pin up room. The exhibition space (GR201) also doubles as a pin up space when not in use for exhibitions.

**Exhibition Space** (GR201) - A 510sf exhibition space, "The Fishbowl" that can double as a small review space, was recently created.

**The Architecture Library** (GR306-309) - The Architecture library is a 4,150 sf. space including book stacks containing the Institute's Art and Architecture collection, periodicals relating to art and

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[1]  The Gallery is used both as a lecture space and as a Project Review / Exhibition Space.
[2]  Additional Institute lecture rooms and multimedia-equipped laptop classrooms are scheduled for Architecture each semester.
[3]  Fall semesters include a studio in Rome, spring semesters include a studio space in either China or India.
[4]  An office space is assigned to each full-time faculty member.

architecture, study tables and a large library table meeting area. It is home to a visual resources slide library, large format (11x17) scanning, printing and copying equipment available to students and casual seating areas.

**The Digital Futures Lab** (GR210) -  The Digital Futures Lab is a 1,300 sf. classroom lab with 36 high-end desktop computers, each with dual monitors, and four built in HD projectors.  The room can be split visually by dropping the center screens.  This allows it to operate as a single large space or simultaneously as a classroom on one side and workspace on the other.

**The Fabrication Lab** (GR014, GR016, GR017, GR019, GR021, GR022) - The Fabrications Lab is 4,150 sf. including a 380-square-foot ceramics laboratory; a 440-square-foot laser / 3D printing suite with two laser cutters and a 3D printer; and a 430-square-foot milling suite with a 4'x8' bed, 3-axis CNC milling machine.  A general shop / machine room is equipped with traditional hand and power tools and an 840-square-foot class / benchroom space that accommodates shop-based classes and project assembly work. This room also contains a structural testing machine with a capacity of 100Kn. 2014 saw the addition of a spray booth at the East end of the building.  It is fully automated and exhausts through a carbon filter.  Access to the shop is dependent upon passing a Learning Management System Safety course.  The LMS also offers courses on 3D printing, spray painting and 3-axis milling templates.

**Faculty Offices** - Faculty offices are distributed throughout the building in the basement, mezzanine, first, second and third floors. Tenure Track and tenured faculty have a private office for teaching preparation, scholarship and advising. Lecturers and Professors of Practice share a large office (GR304) and Part-time adjuncts share an office (GR102)

**Research Spaces** (GR001, GR003, GR010, GR0111) - Research Spaces are in the Basement and dedicated to the Architectural Acoustics Program and to CASE. CASE also shares research specific spaces in other departments and buildings on campus and at the primary CASE location at 14 Wall Street in NYC.

**Dean's Office / School Administration Suite** (GR115-117) - Located on the first floor this 1,700sf space is home to the Deans office and conference room, Executive Assistant, Business Manager, Business Administrator and Business Coordinator.

**Student Services / Graduate Suite** (GR103-106) - This 725sf suite includes offices for the undergraduate Student Services Administrator, Graduate Program Administrator and Graduate Program Director, as well as a lounge shared by faculty and students.

**Publications Office** (GR401A) - In recent years the school created a publication office that is assigned to a renovated air-conditioned fourth floor space near archiving. (replaced the prior archiving space)

**Archiving** (GR403A) - In recent years the school carved this 500sf space from the studio on the fourth floor for archiving
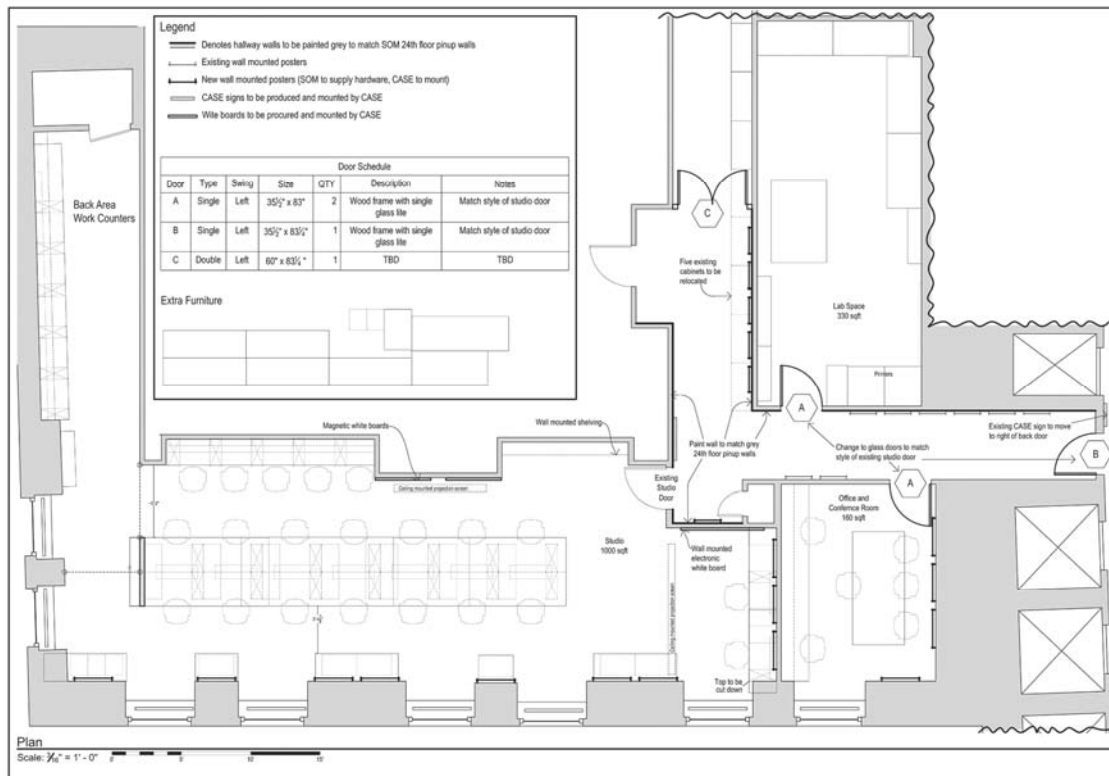
**Spray Booth Room** (GR007) - A new 125sf spray booth room has been created on the basement level for students' use.

**Off-Campus Facilities**

    **1.  The Center for Architecture Science and Ecology, 14 Wall Street, New York, NY** - The Center for Architecture Science and Ecology (CASE) is co-located within multiple labs and offices on the main campus, and is co-located within a facility in New York City at 14 Wall Street on the

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**3.  The Rome Center, Rome Italy -** While this semester is key to developing global perspective and some of the program outcomes of the school it is not required or associated with any of the NAAB student performance criteria. The Rensselaer Polytechnic Institute Italian Studies program is hosted by the University of Arkansas Rome Center (UARC), located in the Palazzo Taverna (Via di Monte Giordano 36 00186), one of the oldest palaces in the center of Rome. The building today houses many different activities, from private residences, to banquet halls, diplomatic residences and artist studios. The UARC is housed in the Empire and Gabrielli wings of the Palazzo where the historic headquarters of the INARCH (Istituto Nazionale di Architettura) was located for about thirty years.

The spacious studios used by several programs including our own, are housed within the 16th century wing of the palazzo compound and include design and humanities studios, classrooms, AV rooms, a library, faculty and staff offices as well as computer labs. It is also where the main offices are located. The computer labs operate on a Windows network with PCs and a wireless network. An internet connection through an HDSL/wi-fi line offers access to the web. The lab is equipped with laser printers, 2 plotters and scanners (A3 and A4 and one wide format) and a laser cutter.

- The **Upper Studio** (Empire Wing) located on the first floor is comprised of the main offices (including the Student Services Coordinator), the Library, the "Yellow Room", 2 classrooms ("Fresco 1" and "Fresco 2") and the beautiful Main Hall for lectures and reviews.  This part of the UARC is dedicated to courses, projections and conferences.
- The **Gabrielli 1** studio, on the ground floor of Palazzo Taverna, is used mostly for practical activities. It is set to allow students to work on their projects and includes printers, plotters, and cutting areas. The studio comprehends many meeting rooms, three large studios, toilets and a relaxing area.
- The **Gabrielli 2** studio, is also located on the ground floor of Palazzo Taverna; it has two large studios for up to 30 students, one computer lab and the printer/plotter and laser cutting suite.



*Fresco 1 classroom*                                         *Yellow Room studio*

*Empire Wing - Level One*
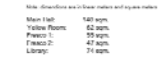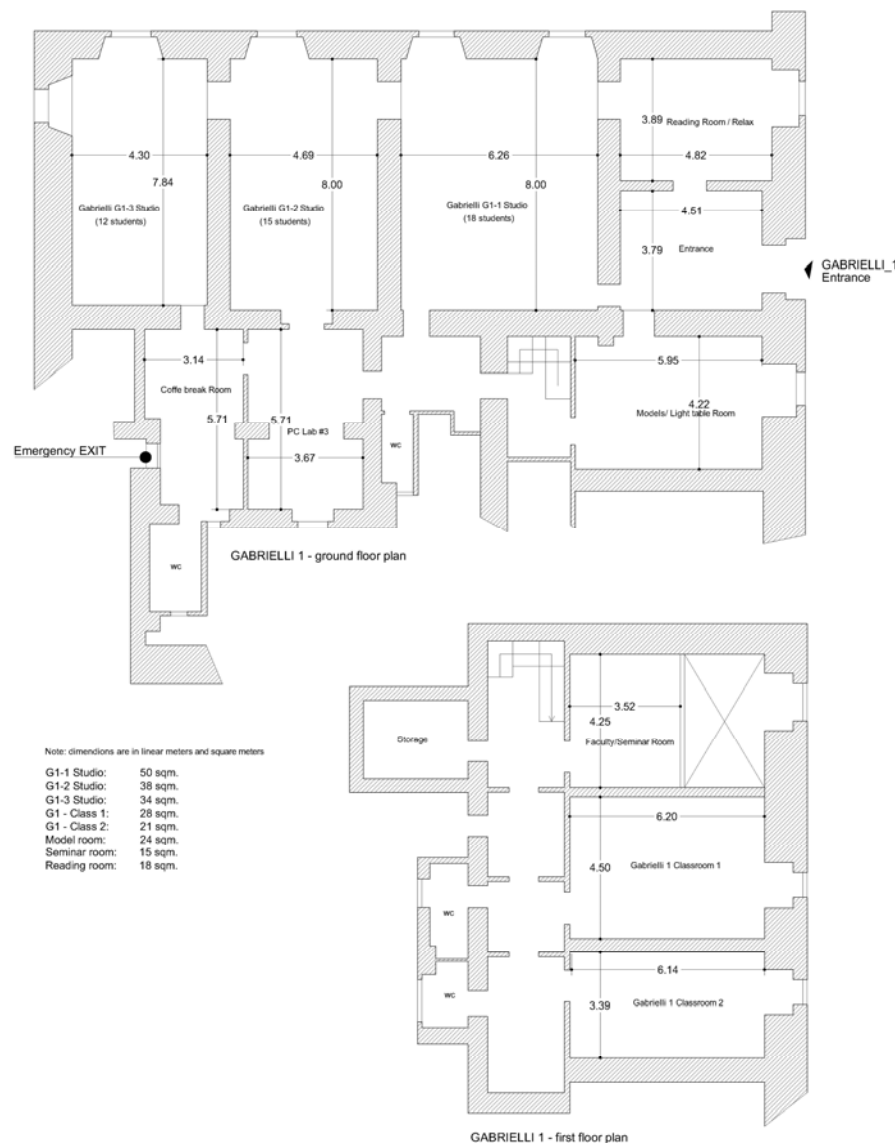
*Gabriella Wing – Ground Level*

**4. China and India Study Abroad Programs** - While this semester abroad is key to developing global perspective and some of the program outcomes of the school, it is not required or associated with any of the NAAB student performance criteria. Both of these semester-long International programs are associated with well renowned highly ranked schools of Architecture in University abroad and provide as part of their agreement with Rensselaer, studio and classroom spaces and infrastructure that are equivalent to and shared with their own students. The assigned spaces change annually but include studio furnishings and access to infrastructure. At the Center for Environmental Planning and Technology (CEPT) In Ahmedabad RPI is provided with studio space and access to various facilities at CEPT. These include the library, fabrication shop facilities, printing and copying facilities, and virtually every other amenity and privilege offered to CEPT's matriculating students. Our students also have access to CEPT's Wi-Fi system at no cost. CEPT is open to all students 24/7.

*CEPT Studio – India*
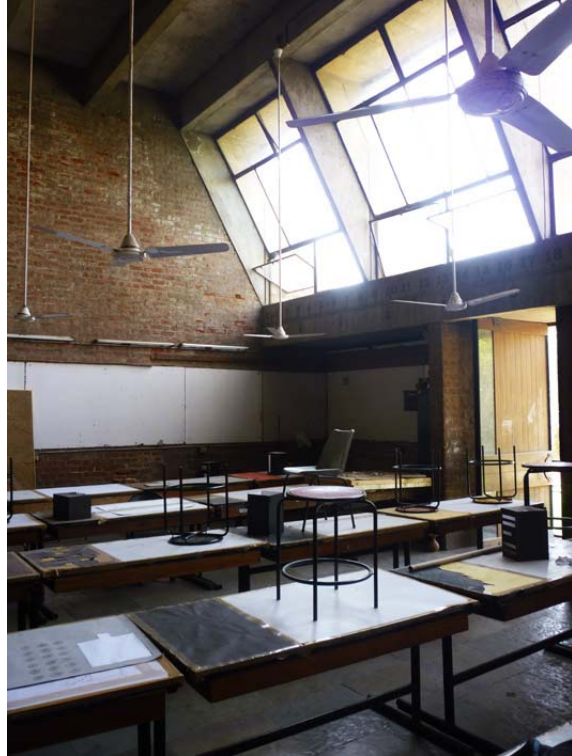


*CEPT Studio - India*

At Tongji University in Shanghai, our hosts provide mid-size classroom/studios that are accessible 9-5 pm with wireless LAN and access to fabrication labs as well as access to review space.



*Tongji University – Studio*



*Tongji University - Classroom*

**2. Rensselaer's Hardware and Software Infrastructure** - Rensselaer is a leader in the use of computing to support education and research.  The Division of the Chief Information Officer [DotCIO] provides information services, technology, and support for this effort.  DotCIO is committed to providing quality information solutions, bringing world-class services and support to the Rensselaer campus.  The many accomplishments of the DotCIO staff include one of the nation's first laptop programs (requiring all

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entering freshmen to have a laptop computer for use both in and out of the classroom), support of interactive learning (including Learning Management Systems [LMS] courses), state-of-the-art electronic information access, search and retrieval services by the Libraries, and on-line student and administrative services. At Rensselaer an integrated information environment is integral to teaching, learning, and research.  Rensselaer employs a first-rate information culture and a robust information infrastructure.  We must sustain this advantage, valuing information literacy at every level and implementing new methods for scholarly communication and electronic interactions.

**3. Services of DotCIO include:**

- A/V Media Services
- Accounts
- Administrative Applications
- Cable TV
- Campus Computer Store
- Data Warehouse
- Email (including Webmail)
- Help Desks, Consulting
- Libraries, Research
- Machining / Manufacturing Services
- Mobile Computing (laptop program)
- Networking
- Printing
- Repair & Maintenance Services
- RPILMS (WebCT)
- Student Information System
- Telephones / Telecommunications
- Web Publishing

**4. Rensselaer's Mobile Computing Program** - For over 15 years, Rensselaer's Mobile Computing Program has offered students a laptop package that includes a powerful laptop computer, software applications and accessories at a competitive price.  The laptop computer maximizes CPU power and discrete graphics capabilities in portable form factor.  Students are not required to participate in the program, but historically, over 65% of students do.

The Fall 2015 laptop package is built around a 15.6" Lenovo ThinkPad W541.  The main hardware features of the ThinkPad W541 are:

- Intel Core i7-4710MQ processor, 6MB cache
- 16 GB PC3-12800 RAM (8GB + 8GB)
- 15.6" FHD 1920 x 1080 LED backlit display)
- 256GB solid-state ATA3 OPAL 2.0 hard drive
- NVIDIA Quadro K2100M graphics (2GB)
  (Switchable to Intel Graphics media Accelerator 4500 MHD)
- Ports include two USB 3.0, two USB 2.0, one VGA, one 4-in-1 multiread card slot
- 36-month manufacturer's warranty and ThinkPad Protection

The software packages that are preinstalled on the ThinkPad W541 include:

- Microsoft Windows 8.1 Enterprise (64-bit)
- Microsoft Office Professional 2013 (32-bit; 64-bit available for user installation)
- Microsoft System Center Endpoint Protection
- Maplesoft Maple symbolic algebra program (64-bit)
- MathWorks MATLAB (64-bit)

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- Siemens NX CAD package (64-bit)
- National Instruments LabVIEW (local installer)

In addition to the standard Rensselaer software suite, architecture students have:

- Adobe Creative Cloud [2D Image and Graphic Design]
    - Students subscribe and load it directly on their personal laptop
- Rhino 5.0 – Modeling – 13 30-seat Educational Lab Kits, for a total of 390 seats
    - 240 seats are in our floating license server
    - 60 seats (two Lab Kits) are used for fixed-license installations in Rome and NYC
- Grasshopper [generative modeling plug-in for Rhino] – unlimited licenses
- V-Ray [photorealistic rendering plug-in for Rhino] – 30 floating licenses
    - Distributed through a license server, and can be used from off-campus via VPN
- Autocad Architecture 2016 [3D building design]
    - Educational license are available to students using their RPI student credentials
- Autodesk Education Master Suite [125 Floating Licenses] includes:
    - o Revit
    - o Robot
    - o Simulation CFD Design Study Environment
    - o Sketchbook Designer
- Autodesk Entertainment Creation [125 Floating Licences] – includes:
    - o Maya
    - o 3ds Max
    - o Softimage
- DOE 2.1E [building energy simulator] – unlimited licenses
- Ecotect 5.5.0 [environmental analysis tool] – 10 floating licenses
    - Distributed through a license server, and can be used from off-campus via VPN
- WeatherTool 2.0 [weather data tool] – 10 floating licenses.
    - Distributed through a license server, and can be used from off-campus via VPN
- RISA-3D 9.0 [Structural Analysis Tool] – 30 floating licenses
    - Distributed through a license server, and can be used from off-campus via VPN
- SolidWorks 2015 – unlimited floating licenses.  Administered by the campus.
    - Distributed through a license server and can be used from off-campus via VPN
- LightTools 8.3.0 [Light Analysis and Design Tool] – 10 floating licenses
    - Distributed through a license server, and can only be used on-campus
- Cisco VPN Client [remote connectivity] – unlimited client licenses
    - Administered by campus
- Adobe Connect Enterprise [video conferencing and remote collaboration]
    - Unlimited licenses – administered by campus.

The students use their laptops in laptop classrooms (over 25), the library, and other locations across the campus.  Each laptop classroom includes a power outlet and a network port for each seat.  Laptop classrooms range in size from 25 seats to over 70 seats.  The library and other locations have power outlets and network ports plus wireless networking to provide complete coverage.

Supplementing the students' laptops are public and departmental desktop computing facilities.  These facilities include computer classrooms and computers located in public areas.  Over 400 desktop computers (80% Windows, 14% Linus/Unix, and 6% Mac) are available to students in over 25 locations.  One PC classroom has been especially configured to support Architecture students and other power users.  This classroom include high-end desktops running 64-bit applications (as well as 32-bit) on PCs with 16 GB RAM and high-end graphics under 64-bit Windows 8.

**5. Campus Network** - The campus network backbone is redundant 10G and 1G Ethernet running over fiber.  The residence hall rooms have a network port for each resident.  There are over 8,000 network

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ports on campus plus over 90% of campus buildings have wireless coverage including residence halls. The campus has a 200 Mbps connection to Internet 2 and a 300 Mbps connection to Internet 1 that can be bumped up to 800 Mbps when needed. Rensselaer leases dark fiber to redundantly connect the main campus to the Computational Center for Nanotechnology Innovations as well as Internet 1 and Internet 2 facilities in Albany, New York. This dark fiber is terminated on our DWDM gear which allows Rensselaer to scale to multiple 10G connections as needed.

**6. SoA Digital Futures Lab** - In 2010, the Institute supported the development of the Digital Futures Lab in the Greene Building, featuring 32 high-end Alienware ALX51 design workstations and four video projectors. The lab serves as a teaching lab and high-powered resource for high-end analysis, visualization and rendering, especially for upper level students whose design studio models are too heavy (complex) for laptops.

**7. SoA Computational Hardware** - The following computational hardware and accessories are available in Greene for architecture student use:

- Dell Optiplex 760 (Qty. 4) – Acoustics Lab
- Dell Optiplex 240 (Qty. 4) – Fabrication Lab
- Dell Optiplex 270 – Studio
- Lenovo G530 (Qty. 2) – Presentation Laptop
- EPSON and Acer Video Projectors
- 19" – 21" CRT Monitors (Qty. 50) – Secondary monitors for studio and DD students
- HP DesignJet 750C Plotter – Studio 305
- Xerox C3545 Network Printer
  Library 11x17 Printer

**8. SoA Online Storage** – In addition to 25 MB of file storage in their RCS directories, students have FTP access to a file server with a total capacity of 750GB.

**9. SoA Networking** – All classrooms and studios are equipped with 100-BaseT Ethernet connections. In addition, wireless internet connectivity is available throughout the entire Greene Building, using 802.1x GTC-PEAP security. Students can also use Cisco VPN Client software to remotely access campus computing resource from off-campus residences or anywhere with Internet access.

**10. SoA Printing** - Students and faculty can also print and plot to over 75 public printers around campus, including three HP DesignJet 1055C high-resolution color plotters. In Greene, architecture students and faculty also have access to the Digital Fabrications Lab's peripherals and tools, including:

- 2 laser cutters – one small format Universal and one Zytec 48" x 48" large format bed
- 4 x 8 foot bed 3-axis router - milling machine
- Z-Corp – 3D Printing
- Drying Oven
- 30 Ton Ceramic Press
- Large Kiln
- Test Kiln
- HotWire Cutter
- Clay Mixer/ Pugmill
- Structures Testing Machine
- Planer
- Joiner
- Table Saw
- Panel Saw
- Mitre Saw
- Band Saw (2)

- Drill Press (4)
- Scroll Saw
- Lathe
- Vacuum Former

**11. SoA Technical Support** - Technical support is available to all students at the RPI Helpdesk by phone or in person seven days per week.  In house support from Architecture's Director of Information Technology is also available to students, faculty and staff four hours per business day, to handle issues specifically related to Architecture hardware and software.  Service includes PC and Mac troubleshooting, virus removals, software update installation, software license management, hard drive data recovery, operating system upgrades and installations. For faculty the Director of I.T. also assists with hardware upgrades, technology planning consulting, and remote access setup and is responsible for the Greene Building IT infrastructure including the servers, projectors, plotters and printers associated with the Architecture specific hardware and software applications and their licensing.

Computer hardware repairs can be performed on campus by RPI's computer repair center, certified for warranty repairs by Dell and Lenovo and Apple.  For those participating in the laptop program loaner computers are available during repair periods.

**12. SoA Computing Resources for Faculty**

> **Hardware** - Each full-time tenured or tenure-track member is provided a laptop for coursework and scholarship.  Depending on needs and user preference, laptops will currently either be a Lenovo W541 (or equivalent Windows-based laptop), or a MacBookPro (or equivalent Macintosh).  Faculty have access to the Rensselaer network and infrastructure and peripheral devices including the fabrication lab, 2 and 3D printing.

> **Software** - Faculty have access to the same software that is available to students (see above). The following software are also provided to faculty:

> - Microsoft Windows Enterprise 7, 8, 8.1, 10
> - Microsoft Office Professional 2013 (for Windows)
> - Microsoft Office Professional 2011 (for Macintosh)
> - Adobe Creative Suite CS6 Design Premium

> **Online Storage**

> - In addition to 50MB of file storage in their RCS directories, faculty members have private accounts on an FTP file server with a total capacity of 750GB.

> **Technical Support** - Faculty also have access to expert support from Architecture's Director of I.T. four hours per business day.

**13. Center for Architecture Science and Ecology Computing Infrastructure** - In addition to bringing their laptops and having remote access to Rensselaer software as described above, each student is provided with a dual-monitor desktop.

> Each station is equipped with the following software:
> Adobe CS63 (SOM license)
> AutoCAD (SOM license)
> EcoTect
> Grasshopper
> Microsoft Office (SOM license)

Rhino
Weather Tool

Software available for installation on the workstation through RPI includes:
Abaqus
Fluent
LabView
MapInfo
Maple
MasterCAM
Matlab
MSC. Nastran
MSC.Adams
MSC.Patran
Solidworks

All stations are networked to printing including:
11x17 printers (2)
Large-Scale Plotting

Additionally, students will have access to;
3D Printer
3' x 4' Laser Cutter

**Changes to the Physical Resources, either Under Construction or Proposed.**

No significant changes are underway or planned at this time.

**Identification of any Significant Problem that Impacts the Operation or Services**

**1. Studio and Pin-Up Spaces** - Depending on the number of students at CASE and/or abroad, the school has had to convert pinup space to studio space. As the number of students in studio-based programs increase, we will need additional studio and pinup spaces. The Division of Administration is mindful of the limited capacity of the Greene building in relation to the school's long-term commitment to increasing student enrollment, and has assured the SoA leadership that they will provide the necessary support required to accommodate for this new growth.

**2. Studio and Classroom Furnishings** – The school is committed to provide state-of-the-art work stations for all of our students in relation to the tools used in contemporary design settings (which includes: a large monitor, tabletop, storage unit and chair). Funds required to upgrade the current studio and classroom furnishings in order to achieve this goal are acquired through yearly a Capital Funding request.

**3. Digital Futures Lab Technology Refresh** - The challenge of refreshing high-end technology in the Digital Futures Lab every 4-5 years is critical to its mission of extending teaching and the capacity to design using advanced visualization and computational analysis in the design workflow. Given that the lab is in its fifth year, updated hardware is now of strategic importance. Funds required to upgrade the digital futures lab in order to achieve this goal are acquired through a Capital Funding request

**4. Create an Environment and Energy Lab** - Given a rededication to the B.S in Building Science program, increased attention to CASE classes upstate and a renewed focus on Energy and Environment

in the B. Arch and M. Arch programs demonstrated by two recent full time hires, the School will make a request through the Capital funding process to secure support for a future research lab.

**5. Leveraging Laptop Computing** - Laptops provide ubiquitous 24/7 access to computing and have been enormously enabling to students, the curriculum and program; however, the increasing demands on processing and for larger and dual monitors to perform upper-level integrated design work points to the need for increased student access to high-end desktop labs and software as well as to the already robust computing infrastructure and peripherals.

The school is currently examining strategies to 1) Incorporate a requirement for dual monitors in studio – either provided by the school or by the student. 2) Require architecture students to upgrade their computer before entering their 4$^{th}$ year and 3) Employ distributed computing to a greater degree in association with laptops in the form of remote batch / cloud rendering by remote processors etc.

**6. Shop Expansion** - Given the mission of the school, *"to prepare students for leadership in 21$^{st}$ century practice …"* we must equip them in the best use of the most advanced technologies and techniques relating to the integration of design and making that is increasingly pervasive as a way of thinking and doing. To do so, requires access not only to a wide range of tools and equipment (large format 3D printers, robotic technology, and metal tube bending machines), but also the space and capacity to handle the educational workflow and demand.  Additionally, increased staff will be required to oversee the increasing technological demands of the shop. In support of this strategic goal, the school will apply for Capital Funding.

**7. Distance Enabling Learning Formats** - To make opportunity for second year M.Arch students to participate in the Built Ecologies program at CASE in New York City the ARCH 5150 Structures 2 course is synchronously taught at the Troy and CASE location. Using Rensselaer's DCC337 facility and tech support to establish a two-way audio/video link, downstate students are able to participate in real time. Multiple cameras focus on the professor, students, the overhead and/or work he wishes to show. CASE based students can ask question through a student helper present in the room.


*DCC337 – Real-time, Two-Way Connect*


*DCC337 – Professor Station*

I.2.3  **Financial Resources**

**Description of the Institutional Process for Allocating Financial Resources**

**1. Yearly Performance and Budget Plans** - Since 2001, the institute has been working with a budget process that is inextricably linked to annual Portfolio Performance Planning. This process represents the culmination of an integrated planning approach designed to link strategies with action and to measure progress toward achieving the objectives outlined in the strategic plan. Each fall, portfolio owners, including each of the five academic deans, are tasked with developing Performance Plans. The Dean of the School of Architecture first develops a set of Key Initiatives specific to the SoA that are also in

alignment with the institute's Rensselaer Plan 2024. The next step includes a detailed Performance Plan report that addresses how the School's Key Initiatives link to the Institute-Wide Highest Priorities. Following presentations to the Dean's Council and President's Cabinet, a Budget Plan is created corresponding to each of the initiatives in the Performance Plan for the upcoming fiscal year. This budget plan is done by incremental budgeting; the Dean either starts with the previous year's budget and then requests additional funding for specific initiatives or is asked to submit a revised budget based upon a reduction mandated by the Finance department. This plan is then assessed by Provost, the Chief Financial officer and the President in relation to the budget plans of all the portfolios. Final approval is issued by the Board of Trustees.

**2. School Budget** - Within the approved annual budget are two categories; salary and non-salary (Education & General, E&G). The salary portion, covering all SoA full-time faculty and staff (and benefits), represents approximately 92% of the school's budget and is non-discretionary.  An annual merit increase percentage pool is typically provided to the Dean for distribution based on individual performance linked to annual faculty and staff evaluations. The non-salary portion, covering costs ranging from part-time adjunct hires to travel, hardware, software and office supplies etc., is discretionary and allocated based on approved budget line items by the Dean and Business Manager of the School.

**3. GAP Funding** – GAP funding is typically provided to portfolios throughout the institute, in order to provide support for replacement hires, due to sabbaticals, leaves of absences, open lines and departures. Annually the School assigns teaching responsibilities and develops faculty workloads to determine "the Gap" between the budget and the instructional needs. This fiscal data, in the form of a request for Gap Funding, together with a justification, is submitted as a request to the Office of the Provost for approval. The institute acknowledges that the SoA does not have sufficient permanent faculty lines in their yearly budget and is in the process of making as many GAP funded lines permanent in the future.

The line for short-term full-time lecturers and part-time adjuncts to meet the instructional needs of the school's programs is typically insufficient due to sabbaticals, leaves of absence, open lines and departures.  Annually the School assigns teaching responsibilities and develops faculty workloads to determine "the Gap" between the budget and the instructional needs. This fiscal data, in the form of a request for Gap Funding, together with a justification, is submitted as a request to the Office of the Provost for approval.

**4. Capital Improvement Requests** - In addition, there is a process by which Schools and other portfolios make proposals and applications for capital improvements from a dedicated institutional pool. Capital improvement awards, tied to key initiatives, school's highest priorities and institute-wide highest priorities are reviewed by the Administration and allocated on a highest priority and impact basis.

**5. Faculty Performance Compensation** - Each April, Human Resources issues the faculty merit program guidelines. The merit guidelines are for all tenured and tenure-track faculty, professors of practice and lecturers. The guidelines include a range that merit awards must adhere to. Merit awards are based on overall academic performance to include, but not limited to, teaching, research, scholarship and service to the community.

**6. Faculty Equity Adjustments** - In addition to faculty merit, the Provost accepts recommendations for equity adjustments. This process allows the school to address areas where faculty salaries have created an inequity within the same-ranked faculty.

**7. New FTT Hiring Lines** - For new hires of tenure track faculty, faculty positions are requested through a faculty-hiring plan that is tied to performance planning and submitted to the Provost. The plan includes salary and startup funding as well as justification of how that position is critical to meet both the School and the Rensselaer Plan goals.

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**8. Capital Project Funding** - Capital Project Funding procedures were put in place in 2001 as part of the Performance Planning process, which includes an assessment of priority needs for each portfolio/school and/or division.  These expenditures can be facilities-related and include leasing of real estate, deferred maintenance and/or renewal needs, or they may be related to other initiatives within the portfolio that require capital funding.  In all instances, requests must be considered high priorities and consistent with the Portfolio Performance Plan.  Since the last accreditation, Architecture garnered $748,012 in support to renovate a portion of the building to establish a new Digital Futures Lab.

|       | Proj # | Project_Name | Project Cost |
|-------|--------|--------------|--------------|
| FY10  | 10044  | Greene Building Digital Futures Lab | $748,071 |
| FY10  | 10025  | Greene 207 – Replace Homasote in Gallery | $13,700 |
| FY11  | 11014  | Greene 201 – New Lighting | $5,988 |
| FY11  | 11002  | Greene 401A – Publications Office Refurbishment | $25,795 |
| FY11  | 11003  | Greene 403A – Construct Wall for Archival Room | $7,398 |
| FY12  | 12083  | New Furniture for Faculty Offices | $14,839 |
| FY15  | 15028  | Architecture Spray Booth – Room Repurposing | $25,086 |
| FY15  | 15025  | GR M112 (Office upgrade) | $6,507 |
| FY15  | 15026  | GR M108 (Office upgrade) | $2,000 |
| FY15  | 13098  | GR 117 Dean's Conference Room renovations | $14,884 |

**Description of the Expense Categories Over Which the Program has Either Control or Influence**

**1. Education and General (E&G) Funding** - This is based on undergraduate and graduate enrollment, is provided by the Institute, and distributed annually through the budget process that is approved by the Board of Trustees. The school's E&G funding has seen a modest increase in the last five years (primarily due to faculty merit increases); the following table shows historical E&G data for the school. There is a reduction in the FY16 budget that has been accommodated through adjustments in special programs and reallocation to non-E&G funding. Our overall budget has increased due to faculty and staff merit.

**2. Institute Support for Education and General Expenses**

| Fiscal Year | Budget | Expensed |
|-------------|--------|----------|
| 2010 | $3,161,312 | $3,227,933 |
| 2011 | $3,711,522 | $3,726,239 |
| 2012 | $3,912,770 | $3,943,250 |

| | | |
|---|---|---|
| 2013 | $4,201,306 | $4,201,024 |
| 2014 | $4,211,167 | $4,182,767 |
| 2015 | $4,117,741 | $4,151,750 |
| 2016 | $4,206,293 | |

**3. Revenue Categories Over Which the Program has Control or Influence** - The School, through the Dean and Business Manager, has control or influence over the non-salary E&G portion of the budget, based on a number of preapproved budget line items including:

Facilities Support
Graduate Research Support
Equipment and Office Supplies
Discretionary funds
Faculty Expenses
Lectures
Publications Office
Student Workers
Student Recruiting

These represent approximately 8% of the School's budget, and in a typical year are supplemented with between $200,000 and $500,000 of Gap Funding specifically for instructional hires that are controlled by the Dean for semester and year-long part-time adjunct hires, and by the Dean (with endorsement by the tenure-track and tenured faculty of the School of Architecture) for full-time one- to three-year lecturer and professor of practice (non-tenure track) hires.

In addition to faculty and staff merit increases (limited to a % pool provided to the Dean), the non-salary E&G line items and annually awarded Gap Funding, the School has several endowments that generate restricted expendable revenues.

**4. Endowments** - In total each year, the school receives approximately $200k in restricted endowment income. This funding is used to support international programs, contingent faculty salaries, lecture and exhibit series, travel, academic programs, faculty, and student enrichment, and/or other designated purposes. Interest earned from the following endowment accounts provides the majority of the support.

- Dean's Development Fund generated by interest from Dean's Development Fund Endowment devoted to support alumni development and other special projects - $18,000

- Samuel F. Heffner '56 Fund to support computer facilities and academic program development - $26,000 per year.

- John Huberty '40 Fund to support computer facilities and academic program development - $4,000 per year

- Mabel Marsh Fund to support school lectures, critics, underwriting of student projects, and related extra curricula activities - $47,000 per year

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- • <u>Lee Harris Pomeroy '54 Fund</u> is used to support innovative teaching that demonstrates the creative use of technology in architecture - $7,000 per year

- • <u>James E. Penn Bequest</u> to be spent at the dean of architecture's discretion - $98,000 per year – currently underwater and projected to receive only 20% of annual income ($19,000)

- • <u>Leslie Seward VanCampen '36 Fund</u> to support faculty salary for the school's artist in residence - $32,000 per year – currently underwater and projected to receive only 19% of annual income ($6,000)

- • <u>S. Edward Jeter '60 Fund for the School of Architecture Fund</u> to support educational programs in the School of Architecture on topics dealing with the practical application of business to architecture and architecture to business - $3,000 per year.

5. **Gift Income** - Gift income varies from year to year. Generally the school receives, on average, $155k in donations for various events, projects and initiatives. The Lighting Research Center receives approximately $1m in gift funding.  The Center for Architecture and Ecology in NYC is now an Institute-Wide Center. They continue their agreement with Skidmore, Owings and Merrill (SOM), who gives $175k in funding together with in-kind contributions of just over $2 million annually.

6. **Designated Annual Gifts** - Included in the above gift funding, we receive:

- • <u>Bedford Traveling Workshop</u>: $20-$30k yearly for an Interdisciplinary Bedford Traveling Workshop initiative. Each summer, (6) School of Architecture students, (6) School of Engineering students and (3) faculty, embark on a structures traveling workshop to investigate concentrations of best interdisciplinary A/E practices internationally.

- • <u>Production Installation Performance (PIP)</u>: The Jaffe family provided $60k for the first 3-year PIP installation. Their recent gift in 2015 is $75k for our Production Installation Performance (PIP).

- • <u>All-School Lecture Series</u>: The School of Architecture receives $20k-$30k in funding for the lectures held each fall and spring semester. Most lectures are held in the prestigious EMPAC building. The entire campus is invited to a reception prior to the lecture. Lecture guests includes world-renowned architects.

7. **Non-Designated Annual Gifts to Architecture** - A small amount of gift funding is provided to a "general" gift fund. This amounts to, on average, $1,500-$4,000 over the last four (4) years.

8. **Development Information as of Fall 2014**

- • Total number of school of architecture alumni (Grad and undergrad)     3,079

- • Total number of school of architecture alumni making at least one gift to Rensselaer during the past 10 years                                            910         34% of total

- • Total number of school of architecture alumni donors to Rensselaer whose lifetime giving is $2,500 or more.                                357         12% of total

- • Raised for school of architecture by the campaign        (896 donors)     $8,861,773

9. **Scholarship, Fellowship and Grant Funds Available for Student and Faculty Purposes**

- Wilson Graham Memorial Fund endowment for students in financial need, with preference given to married students - $1,000 per year

- George T. Droste, Jr. Memorial prize Fund to provide an award to the student with the highest average grade in the Structures sequence within the School of Architecture - $5,000 per year.

- Jon D. McKee '49 Award for International Architectural Studies Fund to provide financial support to students to participate in one of the international programs offered by the school of architecture - $3,000 per year.

**Scholarships for Undergraduate Students** - Most assistance from Rensselaer is based on financial need and determined by the Office of Financial Aid based on the difference between college costs and what student and family can be expected to pay. Rensselaer is committed to making a quality education financially possible for undergraduates and their families.  The Institute is equally committed to making a complex process as straightforward as possible. Prospective first-year students as well as upper-class students apply for financial aid by submitting only the Free Application for Federal Student Aid (FAFSA).

To provide access to a quality education for high-quality students, Rensselaer offers substantial financial aid from its own funds.  Scholarship grants are awarded after full consideration of the following factors: relative financial need, academic achievement and promise, qualities of character as suggested by recommendations submitted on behalf of the student, evidence of willingness to help oneself by working, and participation in community and school activities. Students do not apply separately for these awards.

**Industrial, Foundation, and Endowed Scholarships -** Many scholarships are given to Rensselaer by corporations and foundations and through the generosity of alumni and friends. Some of these scholarships are available to first-year students and continue for four years; others are available only in the upper-class years.  A list of these scholarships is available through the on-line catalog. http://admissions.rpi.edu/aid/scholarships.html.

**The Rensselaer Medal** - For more than 90 years, Rensselaer Polytechnic Institute, in conjunction with high schools around the world, has awarded the Rensselaer Medal to promising secondary school students who have distinguished themselves in mathematics and science. The Medal was first presented in 1916 with two purposes: to recognize the outstanding academic achievement of young men and women, and to motivate students toward careers in science, engineering, and technology. This merit scholarship, with a minimum value of $15,000 per year, is guaranteed for four years for each medalist who is accepted and enrolls at Rensselaer. (Five years for the B.Arch program or a Co-Terminal Program.) Since the last accreditation visit the following medals have been awarded to architecture students:

> F10 – 9 medals
> F11 – 9 medals
> F12 – 17 medals
> F13 – 11 medals
> F14 – 6 medals

**Robert S. Brown '52 Fellows Program** - The School of Architecture Robert S. Brown '52 Fellows Program provides an exciting travel-study opportunity for undergraduate students, graduate students and faculty. The Robert S. Brown '52 Travel Fellowships are awarded each year to faculty and students in the School of Architecture.

**Goal of the Student Fellowship:** The intent of the Brown Fellows Program is to provide a unique opportunity for students within the Rensselaer architecture program to consider architecture as an international discipline with global reach. Through the generous support of our alum Robert S. Brown, students will be able to experience in person the brilliant legacy and traditions of historical and contemporary architecture from around the world that is integral to a proposed research investigation that supports an academic and career trajectory. Offered as a compliment to their education here in the US, this unique travelling fellowship is also intended to provide a multi-cultural experience, in preparation for assuming a leadership position within the discipline in the years ahead.

Three (3) $5,000 fellowships for travel expenses are awarded annually to students (normally in their penultimate year) based upon competitive submission of a study plan proposal. Recipients of Brown Fellowships are obliged to present a public presentation and provide a final report of the results of their study to the school. (2) Fellowships are awarded to students who propose international travel, while (1) fellowship is awarded to a student who is selected to attend a one-month residency at Le Corbusier's Mill Owner's Building, in Ahmedabad, India.

**Goal of the Faculty Fellowship:** The intent of the Brown Fellows Program is to provide a unique opportunity for faculty within the Rensselaer School of Architecture to develop their research within the context of a travelling fellowship. Support funding covers international travel, lodging, and food throughout the duration of the on-site research period as well as the means of disseminating that research in an exhibition and/or publication upon their return. The fellowship is intended to reward exemplary scholarship and innovative design within the profession of architecture and assist in enabling new research to enter in to the public realm. It is expected that the outcome first be presented at Rensselaer and further disseminated in a traveling exhibit, lecture, or publication that reaches beyond Rensselaer.

Three (3) faculty fellowships are awarded annually; one in each of the following faculty categories: $12,000 to one (1) tenured faculty, $12,000 to one (1) tenure track faculty, and $7,500 to one (1) contingent faculty.

Selections of both students and faculty are competitive based on awards by a jury consisting of (2) members of the general faculty within the School of Architecture, (1) practicing architect beyond Rensselaer, and a former student Brown Fellow. The names of the finalists are forwarded to the Dean for final selection.

**M. Arch Scholarships -** Historically M. Arch students were provided merit scholarships that were funded through the school's E&G budget. However, with budget reductions and reorganization the funding for this support was reduced to only support the current students. This greatly impacted attracting new students and in 2008 no new M.Arch students matriculated.  To rectify this program and help rebuild the enrollment, the Institute initiated a program of merit scholarships in the Fall of 2009 for exceptional members of each year's entering Master of Architecture class.  Awards were made on the basis of GRE scores, GPA's, and a review of the applicants' portfolio.  The Institute awarded scholarships allowed for an average discount rate of up to 40% for each semester of the program. The program is six semesters in length.  No other institute support is available to M.Arch students as only Ph.D students qualify for teaching or research assistantships (TA or RA).

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### 10. Other Funds Available

**Principal Investigator Research Support (PIRS) -** The institute returns to faculty principal investigators support that is calculated based on the indirect cost recovery expenditures on sponsored research contracts in the prior fiscal year and is distributed annually. The full year distribution is 3 percent of the indirect cost recovery. Research support funding is for infrastructure and research development support that cannot be funded on grants.

**Sponsored Research -** Research activity in architecture is a sea change for the School.  Within the Performance Plan, the case is made for the need for the Institute to recognize the limitations of the School's budget to support this transition, and help seed the change in areas such as release time, cost sharing and startup packages comparable to science and engineering.  Acoustics has seen some recent success with an initial St. Gobain award with additional awards projected.  The Center for Architecture Science and Ecology has funding ranging between $500k-$770k in recent fiscal years. The Lighting Research Center, now in its 27th year, averages approximately $4 million dollars in research awards per year.

### 1. Pending Reductions or Increases in Enrollment and Plans for Addressing These Changes

|  | **Fall 2014** | **Fall 2015** |
|---|---|---|
| **B. Arch** | 279 | 262 |
| **M. Arch** | 17 | 19 |
| **M. Arch II (M.S. Arch)[5]** | 5 | 8 |
| **B.S. Building Science** | 0 | 4 |
| **CASE (MS and PhD)** | 12 | 9 |
| **LRC (MS and PhD)** | 11 | 14 |
| **Acoustics (MS and PhD)** | 14 | 13 |

After several years of steady growth in the B. Arch program, the enrollment in 2015 has decreased. In response, significant efforts in the School of Architecture and admissions to address this challenge are being implemented throughout the fall of 2015. New initiatives include: (1) strengthening the message and outreach solicitation numbers associated with the external consultant firm Fire Engine Red that is working on behalf of the SoA to increase UG enrollment, (2) offering a total of six webinars promoting the B. Arch and B.S programs, (3) email solicitation to guidance counselors, art teachers and technology instructors from over 3,000 high schools (efforts in the SoA independent of the admissions department), (4) increase the solicitation pool currently in the admissions department, (5) the distribution of new digital flyers associated with the summer career discovery program as well as the B. Arch and the B.S program, (6) the distribution throughout the U.S. and abroad of a digital copy of the school's 632 page selected student work book entitled *INFLUX*, (7) expanded outreach efforts in South America for UG and graduate students, (8) increased number of scheduled on-campus visits, (9) the selection of faculty to travel to various high schools in the Northeast as part of a solicitation drive, and (10) the appointment of over

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[5] Pending Title Change

twenty-five Student Ambassadors in the SoA to reach out to their former high schools and inform them of Rensselaer's outstanding architecture program.

**2. Pending Reductions or Increases in Funding and Plans for Addressing These Changes**
For Fiscal Year 2016, the School of Architecture was required to submit a 95% contingency. Decisions regarding future programs were made in order to meet the guidelines for the SoA budget. In order to meet the budget, the Italy Study Abroad Program will be conducted every other fall rather than every fall semester. As a result, students will still have the opportunity to travel to China or India and other study abroad opportunities will be offered. Additionally, the Dean's yearly discretionary funding typically used for student recruitment efforts will now be significantly reduced.

**Changes in Funding Models for Faculty Compensation, Instruction, Overhead, or Facilities** - There have been no substantial changes since the last accreditation visit.

**Planned or in-progress institutional development campaigns**

The Dean works closely with Institute Advancement to secure funding for priority areas for the School of Architecture. A matrix outlining a broad range of targeted areas critical to the continued vibrancy of the school is established (i.e. student scholarships, technology platform upgrades, all-school book publication, Bedford Chair summer traveling workshop, student support associated with the study abroad program, all-school lecture series, CASE / Center for Architecture Science and Ecology endowment and naming of the school) and used as a strategic guide for both the Dean and IA officers in the context of scheduling their outreach efforts every academic year. They meet with donors on a consistent basis as well as invite them to visit campus. The Dean's Leadership Advisory Council works with the Dean and School to help solicit funds from external donors.

**I.2.4    Informational Resources**

**Library and Information Resources**

**1. Institutional Context -** As part of the Division of the Chief Information Officer, the Rensselaer Libraries support Rensselaer's educational and research endeavors by providing access to needed scholarly content.  Complementary to this, the Libraries provide learning and social spaces aimed at enabling learning and discovery and offer online, as well as in-person, consultation on information resources.  The Rensselaer Libraries' main library, the Folsom Library, is a short walk from the Architecture Library which, along with the School of Architecture, is located in the Greene Building.  The Architecture Library was established in 1929, and thus is approaching a century of collection-building and service to the School of Architecture.  The website for the overall Rensselaer Libraries is http://library.rpi.edu and for the Architecture library is http://library.rpi.edu/architecture.

**2. Library Materials** - At the end of Rensselaer's fiscal year 2014, the Rensselaer Libraries held 353,099 print book titles and provides access to 131,038 electronic books.  The Architecture Library holds 11,373 print titles,1,747 electronic book titles, an extensive art and architecture periodicals collection and 117,000 slides. Currently, the Libraries subscribe to over 20,000 electronic journals.  Key Architecture packages include Archivision, ARTbibliographies Modern, Arts & Humanities Full Text, Arts and Humanities Citation Index, Avery Index to Architectural Periodicals, Bibliography of the History of Art, BuildingGreen Suite, Design and Applied Arts Index, International Bibliography of Art, Oxford Art Online, ProQuest: Arts & Humanities and Saskia Ltd. Cultural Documentation. A Collection Development Team meets weekly to review electronic resource usage statistics and make renewal, cancellation and new subscription decisions.

Methodologies for meeting the needs of Rensselaer's programs, faculty, researchers and students include:

### Books

1. Purchasing individual print and electronic books based on subject librarian selections, patron requests and aggregated book subscription packages. Electronic book titles displayed in RensSearch, the Rensselaer Libraries website and online catalog, include thousands of publisher titles that are not owned by the Rensselaer Libraries but which, after a patron browsing them for 5 or 10 minutes results in a transaction triggering either a short-term loan or purchase of the electronic book. From the patron's perspective, the process appears to be just another electronic book in the catalog. The Rensselaer Libraries are increasingly reallocating portions of the book budget from librarian-selected to Patron-Driven Acquisition (PDA) eBooks.

2. Providing loan access via the Rensselaer Libraries' website and online catalog (RensSearch) linkage to ConnectNY, a resource-sharing consortium of 18 private New York State institutions of higher learning. The members of this consortium have agreed to use library system middleware that provides an online, merged catalog of the 18 ConnectNY institutions' library book catalogs containing over 9 million book titles. This consortium also provides a courier service that continually routes books between member libraries in order to provide access to the books in 2 to 4 business days. Pratt Institute, which just joined ConnectNY this year, has a School of Architecture.

3. Providing traditional interlibrary loan access via the worldwide OCLC library cooperative.

4. If only one chapter of a book is of interest, that chapter may be obtainable by the Libraries' participation in the RapidILL consortium's "Rapid Book Chapter" program where a scanned copy of the chapter is sent from the library that has the book in their collection to the requesting library.

5. Submittal of a "Purchase Request" form via RensSearch, the Library's website and online catalog. Book requests are routed to selection librarians for purchase consideration, if appropriate, or a response is sent to the patron suggesting they request the title via one of the Rensselaer Libraries' interlibrary loan options.

### Journal Articles

1. Subscribing to electronic journals individually and/or via an aggregated package.

2. Providing traditional interlibrary loan access via the worldwide OCLC library cooperative.

3. Membership and participation in RapidILL a revolutionary article delivery system developed at Colorado State University. Rensselaer is a participant in RapidILL's Academic Pod E that includes many prestigious institutions of higher learning including a good number of institutions with notable engineering programs such as Carnegie Mellon, Georgia Tech, Johns Hopkins, and the University of Wisconsin.

4. If article is still unavailable, due to exceeding the annual "fair use" copyright restriction for a particular journal, the Interlibrary Loan Librarian will usually purchase the article directly from the publisher, or via the Copyright Clearance Center's "Get It Now" document delivery service and email, in PDF file form, to the patron.

5. Submittal of a "Purchase Request" form via RensSearch, the Library's website and online catalog. If warranted in the Libraries' judgment, the title is added to the Materials Request list for subscription consideration given funding coverage and prioritization over other requests.

Drawing upon its strong tradition of providing innovative ways to find and obtain information, the Rensselaer Libraries is transitioning from a "Just-In-Case" to a "Just-In-Time" library model. The electronic resources environment and nascent patron-driven electronic book loan and acquisitions offerings provide the tools to analyze usage and provide users with exactly what they want, when they want it. It's also increasingly more cost and labor workflow effective to purchase, or obtain via interlibrary/consortia loan or fee-based short-term loan mechanisms, electronic delivery of articles from journals with lower Rensselaer usage statistics. The transition to the "Just-In-Time" model represents a shift in library resource expenditures from speculation and anticipation by librarians to real and immediate needs by patrons – preferably in electronic format.

This transition builds on recent pilot patron-driven acquisition (PDA) projects undertaken by the Rensselaer Libraries and also in conjunction with the ConnectNY consortium. The evolution from a print-based physical collection of books and a subscription electronic journal model to an on-demand "Just-In-Time" model focused, whenever possible, on electronic/online delivery, will accelerate as publishers become increasingly more flexible in their own business models.

**3. Library Facilities and Services -** Folsom Library serves as the main library for the Rensselaer campus, and houses materials in support of all curricula. The building has four floors covering 108,028 square feet, with the majority of the collections available in open stacks directly accessible to users. Most materials may be borrowed. Reference books, print journals, and archival materials are restricted to building use.

The second floor of the library is the main floor where one enters, and where the Service Desk is located. Reference services are available in person during standard business hours, by phone, and online via a Library Support web form. General questions may be asked at the Service Desk, during staffed hours. Class Reserves materials are made available by the Public Services staff, as well as requests submitted to InterLibrary Loan. The Class of '96 Reading Room, in addition to comfortable seating, houses a rotating collection of approximately 350 trade fiction and nonfiction books. There are popular magazines as well as a selection of travel books. The magnetic poetry board is a popular feature as is the chess board. The nearby DVD collection has over 4500 titles for loan. Also on the second floor is The Library Café, open weekdays, from morning to evening. It serves beverages, and a variety of snacks, soup and sandwiches. Counter and table seating are available.

The first floor is occupied by the libraries' Technical Services department, compact shelving with older journals and theses, a vinyl album collection, a book-swap shelf, and tables and carrels for study. The Center for Communication Practices occupies offices on the first floor, and a high-tech classroom is under construction.

The third floor is devoted to books and journals supporting the humanities. The Institute Archives and Special Collections are located in the Fixman Room. The fourth floor, on which the majority of the engineering and science books and journals are housed, is primarily a quiet study area with impressive views of Troy and the Hudson River.

The Architecture Library occupies 4184 sf on the third floor of the Greene (Architecture) building and serves as a kind of living room for the school. It houses the Art and Architecture section of the Institutional collection including the key architectural journals and packages listed above as well as a visual resources collection and slide library. Staff provide students and faculty assistance with access to the network of scholarly resources to which Rensselaer belongs, and specific searches. They also review Final Project books for conformance with standards and arrange for binding and cataloguing and continually assess the collection and acquisitions. The Architecture Library also serves as a study location equipped for scanning and printing materials related to research as well as for students' studio and course projects.

**4. Library Staffing** - The Director of the Rensselaer Libraries oversees both the Folsom and Architecture Libraries including a staff of eighteen, which includes six librarians, three archivists, and six library associates or specialists.

Below the director-level, there are managers who supervise staff in three areas of operations:
The Manager of Public Services supervises the Reference and Instruction, and InterLibrary Loan librarians, four Folsom Library Associates and one Architecture Library Specialist, who provide services for the Service Desk, Class Reserves, InterLibrary Loan and stack maintenance. The Manager of Technical Services supervises the Technology and Metadata Librarian, the Cataloging Librarian & Architecture Library Liaison, and a Library Specialist who performs acquisitions and serials functions. In Archives, the Institute Archivist, who is also the libraries' Head of Collection Development, supervises the Assistant Institute Archivist, and an Automation Archivist. In administration, reporting to the director, there is an Administrative Assistant, a Business Coordinator, and a Senior Systems Administrator who provides IT support for the libraries.

**5. Consortia -** The Rensselaer Libraries participate in a number or library consortia that provide benefit to the Architecture program.  The most important is ConnectNY, consisting of 18 independent New York State colleges and universities with the mission to share collections, leverage resources and enhances services through cooperative initiatives and coordinated activities.  This past year, ConnectNY and NExpress, a consortium of seven independent institutions of higher education in the New England states, agreed to provide a linkage for their shared print book programs.  The Renesselaer Libraries also participate in RapidILL, an interlibrary loan network, and in the Capital District Library Council (CDLC). Finally, the Rensselaer Libraries has long participated in New York State's Coordinated Collection Development Agreement that provides an annual grant to be used for print books.  The Rensselaer Libraries appropriates this annual grant to Management, Computer Science and Architecture print books.

**6. School of Architecture Library** - The Architecture Library is staffed full-time by a Library Specialist, with support from a Librarian who shares Folsom Library (main library) and Architecture Library responsibilities.  Student workers, all from the School of Architecture, play a key role in running the Architecture Library.  The Architecture Library is under the supervision of the Manager of Public Services of the Rensselaer Libraries.  The Manager of Public Services reports to the Director of the Rensselaer Libraries, who in turn reports to the Vice-President for Information Services and Technology and Chief Information Officer.

> **Equipment and Furnishings -** There are spacious areas on all four floors of Folsom Library, providing seating for more than 500 people, with tables for group study, and desks and carrels for individual study.  A total of fifty-four small and medium size study rooms are freely available, located around the perimeters of mainly the third and fourth floors, with a few on the first floor. Two larger group-meeting rooms on the third floor can be reserved for collaborative work. A seminar room and conference room on the main floor are also available for reservation. Lounge areas with comfortable seating are scattered around the four floors.
>
> Wireless LAN access is available throughout the library and several hundred ports are available for wired connections. A total of 24 public computers are in the building that can be accessed with a Rensselaer Username and password, and guests may be signed on by a staff member. There are scanners and printers on every floor of the library, including a KIC Bookeye 4 scanning workstation on the second floor. There are two microform readers with printing capability on the first floor, and a photocopier on the third floor. Also, in one of the first floor study rooms is a turntable to accompany the nearby vinyl album collection.
>
> In the Architecture Library there are five large study tables, each with lighting and seating for six. This is complemented by a large meeting table /area and several more casual, comfortable

seating areas.  The lighting and décor provide a cozy, traditional library setting conducive to serious individual study, as well as group projects.  Within the library are two large format scanners, 4 smaller high-end scanners, eight workstations, two photocopiers and a network-connected color printer accessible for student use students.  The Architecture Library has wireless LAN access available.

**Library Hours**

During the academic year the Folsom Library Building is open

| | |
|---|---|
| Mon. – Thur. | 7:30 AM – 3 AM (Service Desk closes at midnight)* |
| Friday | 7:30 AM – 9 PM |
| Saturday | 10 AM – 9 PM |
| Sunday | 12 PM  – 3 AM (Service Desk closes at midnight) |

During the academic year, the Architecture Library is open:

| | |
|---|---|
| Mon.-Thurs. | 8:30 AM – 9 PM |
| Fridays | 8:30 AM – 5 PM |
| Saturdays | 2:00 AM – 6 PM |
| Sundays | 3:00 AM – 9 PM |

## I.2.5  Administrative Structure and Governance

**The Institute** - Rensselaer is a private university with a Board of Trustees. The President sets the vision and mission of the Institute. Since her arrival in 2000, Dr. Shirley Ann Jackson, in conjunction with her leadership team, established both the *Rensselaer Plan and The Rensselaer Plan 2024*; comprehensive strategic plans aimed at elevating the institute 'to achieve greater prominence in the 21st century as a top-tier world-class technological research university with global reach and global impact.' Conceived as a visionary roadmap for the institute to address pressing global challenges specific to the 21st century, the leadership throughout the institute is committed to rigorous annual performance plan procedures which ensure an evergreen examination of these larger aspirations in relation to each of the school's respective priorities. The President's cabinet is comprised of the Provost, ten Vice Presidents, the Chief of Staff, and the Secretary of the Institute and General Counsel. The University consists of five Schools, led by Deans who oversee their respective portfolio and report to the Provost, the Chief Academic Officer of the University: [see Institute's Organizational Chart - https://www.rpi.edu/president/bot/

Academic Leadership – Direct Reports Chart

**Board of Trustees** – Arthur J. Gajarsa, Chair

**President** – Dr. Shirley Ann Jackson

**Provost** – Dr. Prabhat Hajela

**Academic Deans**

- School of Architecture – Evan Douglis
- School of Engineering – Shekar Garde
- School Humanities, Arts and Social Sciences (HASS) – Mary Simoni

- Lally School of Management and Technology – Thomas Begley
- School of Science – Curt Breneman

Each of the five Deans report to the Provost and is part of the *Provost's Dean's Council.* The *Provost's Dean's Council* includes: the five academic Deans, the Vice-Provost and Dean of Undergraduate Education and the Vice Provost and Dean of Graduate Education. Under the performance planning process employed at Rensselaer, each School is referred to as a 'Portfolio'. The Deans are the 'Portfolio Owners', responsible for annual review reporting, strategic and implementation planning, faculty and staff hiring, accreditation oversight, budgeting, fundraising, student recruitment, outreach, accreditation and public relations linked to the overall short and long-term vitality of their respective schools.

**The Board of Trustees** - The Board of Trustees works with the President to oversee the Institute. The Board meets several times each year to receive updates on the programs and finances of the Institute, and to act on matters of importance. Officers of the Board of Trustees are: Chairman, Vice Chairman, Secretary, and President Shirley Ann Jackson.

> The Board of Trustees is comprised of 25 members, including the officers noted above. (Additional information is available at https://www.rpi.edu/president/bot/)

**The President and Leadership Team** - The Honorable Shirley Ann Jackson has been President of Rensselaer Polytechnic Institute since 1999. She is the Institute's 18th President. Prabhat Hajela, Ph.D., is the Provost, the chief academic officer of the Institute. (Information on the Cabinet Members and Deans is available at www.rpi.edu/president/cabinet/index/html.)

### President's Cabinet

- Prabhat Hajela, Provost
- Charles Carletta, Secretary of the Institute and General Counsel
- Elisha Mozersky, Chief of Staff
- Jonathan S. Dordick, Vice President of Research
- Virginia Gregg, Vice President of Finance and Chief Financial Officer
- John Kolb, V.P. for Information Services and Technology, and Chief Information Officer
- [Vacant], Vice President and Dean, Hartford Campus
- John Wexler, V.P. of Enrollment and Dean of Undergraduate/Graduate Admission
- Curtis Powell, Vice President of Human Resources
- Claude Rounds, Vice President of Administration
- Frank E. Ross III, Vice President of Student Life
- [Vacant}, Vice President of Strategic Communications and External Relations
- Graig Eastin, Vice President of Institutional Advancement

### Additional Direct Reports to the President
- Johannes Goebel, Dir.of the Experimental Media and Performing Arts Center (EMPAC)
- James Spencer, Director of Rensselaer Technology Park and Commercial Real Estate

**The Institute's Faculty Senate** - The Faculty Senate, as reconstituted in March 2012, is a 19-member elected body comprised of 14 members of the tenured/tenure-track faculty, 4 members of the non-tenure faculty, and the Provost (ex officio). (Further information is available at http://facultysenate.rpi.edu/about-rensselaer-faculty-senate.)

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The Faculty Senate's statement of purpose indicates that: *"The Faculty Senate shall represent the views of the faculty on issues affecting the common purposes of Rensselaer Polytechnic Institute. The faculty's role in the creation, understanding, and dissemination of knowledge is held in the highest esteem and will not be abridged. The Senate shall implement the faculty's participation in key aspects of academic governance by recruiting and nominating faculty; administering elections including elections to the Promotion and Tenure, Curriculum and Planning and Resource Committees, any standing and ad hoc committees, and other subsidiary bodies of the Senate as required; providing a forum for policy deliberation on matters of importance to the faculty; and advising the Provost as to faculty views in all matters relating to the principal missions of the Institute. Resolutions passed by the Senate shall help guide Rensselaer Polytechnic Institute in scholarly activities and instruction, and important issues affecting the faculty in general will be presented to the faculty with recommendations for consideration and action."*

## Faculty Senate

**Executive Committee** - Chair of the Faculty, President, Vice President, Secretary of the Faculty, Secretary of the Senate, and Recording Secretary. Senators include two from School of Engineering, two from School of Science, two from School of Humanities and Social Sciences, one from School of Architecture, and one from Lally School of Management

*Faculty Senate Committees*

**Curriculum Committee** - (seven faculty members elected to 3-year terms), to consider proposals for changes in courses of instruction, requirements for a major in each subject, for new curricula, and changes or discontinuations in existing curricula. Additionally, the Committee considers proposals for changes in the Core Curriculum and encourages innovations in instruction and pedagogical materials.

**Promotion & Tenure Committee** - (eight full professors serving 3-year terms plus one selected annually by the student body) to review cases for promotion and/or tenure and make recommendations to the Provost. (Faulty Handbook, http://www.rpi.edu/dept/provost/facultyhandbook1-06.pdf .

**Planning & Resources Committee -** (five members of the tenured/tenure-track faculty elected to 3-year terms) to participate in strategic academic planning, review proposals to approve new academic programs or to terminate existing programs and solicit new proposals from the faculty. The committee also provides the Provost with guidance and advocacy on the development of new Institute Centers for Research.

**Faculty Committee on Honors -** (five tenured/tenure-track members appointed for staggered terms) issues a public call for nominations and then proceeds to evaluate and select candidates for specific honors. The Committee also evaluates, ranks and recommends candidates to the President for the following year's Commencement Speaker and Honorary Doctoral Degree Candidates.

The Senate holds one general meeting in the fall and one in the spring. Special meetings of the faculty can be called by the President of the Institute, the Provost, the Executive Committee of the Senate, by a majority of the Senate, or by a petition from the general faculty with the signatures of 10% of the faculty.

**The School of Architecture** - The School of Architecture is one of two schools throughout the institute [Architecture and Engineering] with professional programs. Of the five schools, three [HASS, Science and Engineering] have departments, and two [Architecture and the Lally School of Management and Technology] do not.  The School of Engineering is the largest school comprising 59% of the undergraduate student population.

**School of Architecture** [see organization chart]  (http://www.arch.rpi.edu/naab/16-OrganizationalCharts.pdf)

> Dean[6,7]
> Leadership
> > • Associate Dean[1,2,8]
> > • Head of Graduate Studies [1,3]
> > • Business Manager[1,9]
> > • Center Director [LRC] [2,3]
> > • Center Director [CASE] [2,3,10]
> > • LRC Associate Director [2, 11]
> > • Graduate Program Directors - [M. Arch I, M.Arch II, Lighting, Architectural Acoustics, Built Ecologies][12]
> Faculty [3]
> Staff
> > • Executive Assistant to the Dean [3]
> > • Administrative Staff [13]
> > • Digital Fabrications Lab Manager [8]
> > • IT Director [8]

In the School of Architecture there are no departments and faculty report directly to the Dean.  Research faculty and specialists report to Center Directors. Although the Associate Dean, the Head of Graduate Studies and Graduate Program Directors serve an administrative role and are part of the Dean's leadership team they do not have faculty reports or perform annual reviews, as required of department heads in other schools throughout the institute.

> **SoA Leadership Team**
>
> • Prof. Evan Douglis, Dean
> • Associate Prof. Mark Mistur, Associate Dean
>
> • Assistant Prof. Christopher Perry, Head of Graduate Studies, M.Arch II Program Director
> • Prof. Mark Rea, Director of the Lighting Research Center
> • Prof. Russ Leslie, Associate Director of the Lighting Research Center
> • Assistant Prof. Lonn Combs, M.Arch Professional Program Director
> • Prof. Anna Dyson, Dir. of the Center for Architecture, Science and Ecology (CASE)*
> • Assistant Prof. Alexandra Rempel, Acting Dir., B.S. in Building Science Program

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[6] Leadership Team
[7] Tenured Faculty Appointment
[8] Reports to the Dean
[9] Reports to the Dean and Director of Budget in Finance
[10] Reports to the Dean (Academic Program) and V.P Research (CASE)
[11] Reports to the Dean and LRC Director
[12] Reports to the Dean and Director of Graduate Programs
[13] Reports to the Business Manager

- Associate Prof. Ning Xiang, Architectural Acoustics Program Director.
- Associate Prof. Gustavo Crembil, Online Projects Coordinator.
- Instructor Adam Dayem, Director of Publications.

  * *CASE is co-located in New York City and at the RPI campus.*

    *In 2015, CASE was designated an Institute Center. While the research component of the program reports to the VP of Research, the faculty and academic programs at CASE remain under the purview and responsibility of the School of Architecture.*

The NAAB-accredited degree programs of the school include the:

- Bachelor of Architecture (5yr)
- Master of Architecture (3yr)

**B.Arch Program Administration** - The Associate Dean administers the B.Arch program, under the directorship of the Dean. All curriculum-related issues are addressed by the school's *Curriculum Committee*. The committee is chaired by the Associate Dean and comprised of 5-6 tenured and tenure-track faculty who meet regularly to assess, curricula, conformance to program and course level learning outcomes, and to consider, initiate, approve and implement proposed changes. The committee maintains minutes, votes on recommendations that are forwarded to the Dean for approval, and where required, to the Faculty Senate Curriculum committee, Provost, President and New York State Education Department for approval. The committee periodically establishes task groups with membership outside the committee to consider more complex issues and sometimes consults the *Dean's Student Advisory Council* on changes to the curriculum.

**M.Arch Program Administration** - The Director of the M.Arch Program administers the M.Arch Program, under the directorship of the Dean. The Director of the M.Arch Program also reports directly to the Head of Graduate Studies who in turn reports administratively to both the Dean and the Vice Provost for Graduate Education. All proposals and changes are made through the SoA curriculum committee. Upon approval by the curriculum committee recommendations are moved to the Dean, and where required, to the Faculty Senate Curriculum Committee, Provost, President and New York State Education Department for approval.

Other degree programs include:

- **B.S. in Building Science** – 4 year

- **M.Arch II\*** – Geofutures - 1 year Post-Professional
  (prior professional Architecture degree or international equivalent required)
  - Concentration in Environmental Paremetrics
  - Concentration in Ecological Urbanism

- **Master in Science in Lighting** – 1 year

- **Master of Science in Architectural Sciences** – 1 year
  - Concentration in Architectural Acoustics
  - Concentration in Built Ecologies
  - Concentration in Lighting

- **Ph.D. in Architectural Sciences** – 72 credits – (including a dissertation)

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- o Concentration in Architectural Acoustics
- o Concentration in Built Ecologies
- o Concentration in Lighting

\* The SoA is currently in the process of changing the name to Master of Science in Architecture. The application has been approved at both the school and institute level and is expected to be submitted to NYS by Rensselaer's President momentarily, for final approval.

The Ph.D in Architectural Sciences provides the umbrella structure for the concentration areas described above and:

- Builds on the Rensselaer platform and distinction
- Promotes interdisciplinary approaches to research
- Creates resources, expertise and opportunities for professional program students in the form of faculty, research, scholars, labs, tools, minors, courses and programs (NYC – CASE) and undergraduate research opportunities.

The Master of Science in Architectural Sciences in those same concentration areas is much the same:

- Allowing students with professional degrees, and students from alternate related disciplines to engage in study in a specific area
- Preparing graduates with specific expertise, for consultancies, or in anticipation of/as part of a Ph.D.

**Graduate Research Programs Administration** - Under the directorship of the Dean, the Ph.D. in Architectural Sciences and Master of Science programs is administered by each of the program's respective directors. These Directors also report directly to the Head of Graduate Studies, who in turn, reports administratively to both the Dean and the Vice Provost for Graduate Education. Proposals and curricula changes are vetted and approved first by the SoA Curriculum Committee. The committee maintains minutes, votes on recommendations that are forwarded to the Dean for approval, and where required, to the Faculty Senate Curriculum committee, Provost, President and New York State Education Department for approval.

**School of Architecture Standing Committees**

**SoA Curriculum Committee** – Led by a tenured faculty member (the Associate Dean), this committee consists of the Head of Graduate Programs, the Head of the M.Arch program and four additional faculty members at the ranks of assistant and associate professor. The Dean is an ex-officio member. His executive assistant is the staff liaison to the committee and the Student Services Administrator also participates. The Associate Dean and one other member serve on the Faculty Senate Curriculum Committee. On matters concerning the Architectural Acoustics, Lighting, or Built Ecologies Programs the directors or their representatives attend and participate on an as needed basis. To better understand the student perspective, the curriculum committee periodically solicits the perspective of students from the Dean's Student Advisory Council.

The committee meets every two weeks to consider and recommend changes to programs and courses, address institute initiatives dealing with curricular issues

and to oversee and assess curricula in relation to program outcomes and mission. Recommendations are forwarded to the Dean and when required to the Faculty Senate Curriculum committee and New York State Education Department.

In 2013 -14 the Curriculum committee initiated a comprehensive review of the B.Arch and M.Arch I programs. The process was inclusive, engaging many additional faculty members at all ranks on task groups established by content area. Two daylong retreats to consider together how the school can best realize its mission in a 21st century ever-changing professional and global context focused on revisions to the B.Arch and M.Arch I. (http://www.arch.rpi.edu/naab/08-Curriculum-Pre-Retreat-Documents.pdf)

**Faculty Search Committee** – led by a tenured faculty member, this committee includes 5-6 tenured and tenure-track faculty who, once the institute provides funding for faculty hiring, take responsibility for developing the advertisement, reviewing applications, interviewing candidates and making hiring recommendations to the Dean.

**Pedagogical Innovations Committee –** led by a tenured faculty member, this standing committee includes 4-5 contingent and tenured/tenure-track faculty, as well as a student representative.  The Committee's role is to study pedagogical innovations, including MOOCs and technological advancements, and make recommendations to the Dean.

**Library Committee** – led by a tenured faculty member, this committee is comprised of approximately 6 contingent and tenured/tenure-track faculty as well as one undergraduate student and one graduate student.  The Committee's role is to review faculty and student requests for books, journals, and other materials, and to provide the Dean with recommendations for updates to the library, extended uses of the library, and other library-related matters.

**School of Architecture Task Force Committees** - Other committees and task groups are formed as needed. Recent committees have included a *NAAB Preparation Committee*, *Curricular Task Groups* (by content area), and a *Tenure and Promotion Standards Committee*.


**Opportunities for Involvement in Governance by Faculty, Staff, and Students**

**Governance by Faculty, Staff and Students** - A high percentage of tenure-track and tenured faculty teaching in the professional programs serve as part of the school's leadership team and/or serve on the School of Architecture *Curriculum Committee*. As a result, a majority of the full-time faculty are actively involved in the governance of the program. Fixed full-time faculty (comprised of Lecturers and Professors in Practice) and part-time faculty referred to as 'Adjunct' faculty, who do not assume administrative positions or committee membership, are often consulted throughout the course of each semester on matters relating to their respective content area.

The Dean and Associate Dean meet throughout the course of the academic year, with the Administrative, IT, Library, and Shop staff in order to exchange information, promote performance efficiency, and overall strengthen the support infrastructure in relation to the academic and graduate research units. The staff is encouraged to contribute their unique perspectives and insight with the school leadership.

In terms of opportunities for the students to participate in the governance of the school, students are represented on the *Dean's Student Advisory Council*, approximately 15 student-selected representatives from each undergraduate and graduate class, as well as the leaders of the AIAS and NOMAS student chapter organization are periodically solicited to contribute to the school's *Curriculum Committee* and students oversee two influential student chapter organizations in the school that interface with the administrative leadership of the school. The Council also meets with the Dean one to two times per semester to discuss career planning, program curricula, time management, faculty advising and student mentorship, study abroad program opportunities, technology infrastructure, student recruitment, publications, and a range of other matters of great importance to the student body. Meeting minutes are taken, distributed to all the attendees and student proposals are carefully considered in the context of implementing change.

The Curriculum Committee, in addition to engaging the Dean's Student Advisory Council on occasion, also involves the entire school on larger proposal, such as the recent curriculum reform of the B. Arch and M. Arch programs.

**II.1.1    Student Performance Criteria:**

**The B.Arch and M.Arch SPC Matrices are available here: http://www.arch.rpi.edu/naab/29-B-ARCH-SPC-Matrix.pdf  and  http://www.arch.rpi.edu/naab/30-M-Arch-SPC-Matrix.pdf**

**Integrated Architectural Solutions** – This pedagogical strategy has been a defining characteristic of the School for many years, particularly in the upper level required Design Development Studio where students are taught to integrate many of the concerns of complex building design from bulk and mass, to program, life safety, accessibility, environmental stewardship, building envelope, materials, site and building systems using multiple tools including BIM and large scale physical modeling to develop their creative ability to responsibly manage multiple criteria and constraints to a project's advantage. "Tech-Talks" associated with a variety of topical considerations launch weekly charrettes and exercises that build on the complexity while triggering questions and necessitating design iterations. The studio is joined by fifth-year master of engineering students and the Bedford professor (a structural engineer) to integrate the A/E enterprise in the studio setting and is a co-requisite with Professional Practice. Coordinated assignments explore code compliance, and issues of project cost.

At the graduate level the creation of the Built Ecologies Program and the Center for Architecture Science and Ecology demonstrates a commitment to these principles, particularly as they relate to research and developing skills associated with making integrated decisions considering multiple variables. At the undergraduate level the Design Development studio has been expanded to a two semester sequence of Integrated Design Schematic (IDS) and Integrated Design Development (IDD) with the anticipation that integrative evaluations and decision making in the design process will live in both studios with an emphasis on site conditions and predesign in IDS, and building systems integration in IDD.  At the M. Arch level students experience a semester at CASE in a professional research environment working on, among other things, one of the next-generation sustainable building systems that are being developed there.

**Emphasis on Interdisciplinary Research** – Research is increasingly key to our discipline. As a school we demonstrate a commitment to various forms of research ranging from qualitative to quantitative, fundamental and applied in our graduate research programs and centers, through experimental studios, work that addresses design workflow, new fabrication techniques and tools, as well as design research methodologies. In the final year Methods course students are presented with and demonstrate an understanding of various theoretical and applied research methodologies in parallel with setting up their own research related to a final project.

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**Outcome Based Learning** – Course Learning outcomes are listed in every course syllabus and are tied to some form of assessment. For those required courses that are linked to NAAB SPC's, either in whole or part, there are Learning Outcomes that directly relate to the SPC and that are assessed, either in the context of a project, assignment or through examination.

**The Methodology for Assessing Student Work** (i.e., "high" v. "low" pass) - The methodology for assessing work at Rensselaer is based on letter grades with modifiers (A, A-, B+, etc.).  Many faculty use numerical systems for individual assignments; however, when calculated to derive the final semester grade they are transposed to letter grades.  In undergraduate courses, 'D' is the minimum passing grade.  For graduate students (M.Arch program) the minimum passing grade it is a 'C-'. This applies to any of their courses, whether they are at the 4000, 5000, or 6000 level.  In Design studios, the School has a 'two-D policy' ('two-C policy' for graduate students).  Upon receiving a second 'D' ('C' for graduate students) a student may not continue in the design sequence (program) without remedial action required by the faculty (of the whole). Remedial action is almost always the requirement to repeat a studio and earn a 'B' or better to remain in the program. Low pass in design studio is therefore considered to be a low 'C' for undergraduate students and a low 'B' or 'C' for graduate students.  In other courses low pass is a 'D' for undergraduate students and a 'C' for Graduate students. In all cases "high pass" is an 'A'.

### II.2.1 Institutional Accreditation
The Institute is accredited by the Middle States Commission on Higher Education.  See
http://www.arch.rpi.edu/naab/31-Middle-States-Letter.pdf

### II.2.2    Professional Degrees and Curriculum

### NAAB Accredited Degrees

- Bachelor of Architecture, B. Arch [171 credits]
    Prerequisite Education: High School Diploma including:
    - 4 years of English
    - 4 years of mathematics through pre-calculus
    - 4 years of science (including biology, chemistry and physics)
    - 3 years of social studies and/or history

- Master of Architecture, M. Arch [100 credits - in addition to baccalaureate degree]
    Prerequisite: A 4-year 120 credit Baccalaureate degree

The School of Architecture offers a five-year Bachelor of Architecture degree. The Bachelor of Architecture is a professional degree accredited by the National Architecture Accrediting Board. Approximately 60 students are admitted directly into the program each year. As a professional school designed for those ready to begin serious architectural study in the first year, the School of Architecture's admissions decisions are based on three criteria:

- Overall academic excellence
- Creativity demonstrated through work in the arts and other areas
- Maturity and personal motivation

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**Bachelor of Architecture (5 yr)**

|  | **B. Arch (rqd)** | **B. Arch (actual)** |
|---|---|---|
| **General Studies** | 45 | 52 |
| **Optional Studies** | 10 | 12 |
| **Professional Studies** | As defined by the program | 107 |
| **Total Credits** | 150 | 171 |

**Bachelor of Architecture** (171 credit hours)

General Studies (52)

Humanities Arts and Social Sciences (20 cr)
8 cr - Humanities courses
8 cr - Social Science courses
4 cr - Humanities or Social Science course @ 4000 level

Sciences (20 cr)
4 cr - (1) required Math course
4 cr - (1) elective Math course
8 cr – (2) required Science courses
4 cr – (1) elective from School of Science

Electives (12 cr)

Required Professional Courses   (107 cr)*

History/Theory/Criticism (18 cr)
10 required courses
Technology (22 cr)
8 required courses
Professional Practice (6 cr)*
3 required courses
Digital Constructs (8 cr)
4 required courses
Design (45 cr)
6 core studios + 3 required option studios
Final Project (8 cr) *
1 required methods seminar and 1 required studio

Professional Electives (12 cr)

    *   Being Phased-In

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**Courses and Credit Hours – Professional Content Breakdown** (107 credits)

The B. Arch professional degree program consists of (99) required course credits and (8) credits of Final Project. The professional studies curriculum includes a History/Theory sequence, a Technology sequence and a Design sequence within which are integrated computing and drawing components.

<u>History / Theory Sequence (18 credits)</u>

ARCH 2150 The Ethos of Architecture  (2cr)
ARCH 2150 Architectural Media (2cr)
ARCH 4090 Architectural Case Studies (2cr)
ARCH 4120 Modernity in Culture, Civilization, and Architecture 1  (2cr)
ARCH 4100 An Architectural Genealogy 1  (2cr)
ARCH 4130 Modernity in Culture, Civilization, and Architecture 2  (2cr)
ARCH 4110 An Architectural Genealogy 2  (2cr)
ARCH 4150 Contemporary Design Approaches (2cr)
ARCH 4050 Cities and Their Territories (2cr)

<u>Technology Sequence (22 credits)</u>

ARCH 2510 Materials and Design (2cr)
ARCH 2370 Energy, Comfort and Ecology (2cr)
ARCH 2330 Structures 1 (3cr)
ARCH 2350 Constructions Systems (2cr)
ARCH 2360 Environmental and Ecological Systems (4cr)
ARCH 4330 Structures 2 (3cr)
ARCH 4560 Materials and Enclosures (2cr)
ARCH 4740 Building Systems and Environment (4cr)

<u>Professional Practice (6 Credits)</u>
ARCH 4540 Professional Practice 1 (2cr) *
ARCH 4550 Professional Practice 2 (2cr)
ARCH 4590 Economics and Architecture (2cr)

<u>Digital Constructs Sequence (8 credits)</u>
ARCH 2520 Digital Constructs 1 (2cr)
ARCH 2530 Digital Constructs 2 (2cr)
ARCH 2540 Digital Constructs 3 (2cr)
ARCH 2550 Digital Constructs 4 (2cr)

<u>Design Sequence (45 credits)</u>

ARCH 2800 Architectural Design Studio 1 (5cr)
ARCH 2810 Architectural Design Studio 2 (5cr)
ARCH 2820 Architectural Design Studio 3 (5cr)
ARCH 2830 Architectural Design Studio 4 (5cr)
ARCH 4963 Integrated Design Schematic (5cr)
ARCH 4830 Design Development Studio (5cr)
ARCH 4770 Architectural Design Studio 5  (5cr)
ARCH 4780 Architectural Design Studio 6 (5cr)
ARCH 4490 Architectural Design Studio 7 (5cr)

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Final Project (8 credits)

ARCH 4910 Final Project Design Research Seminar (3cr)
ARCH 4920 Final Project Design Studio (5cr)

Professional Electives (12 credits)

3-6 Professional Elective courses (2-4 crs ea.) (12cr)

**Courses and Credits – General Education** (credits) - The curriculum leading to the architecture degree includes 52 credit hours of required, restricted and unrestricted elective general education courses.  Students are required to complete:

**Science Core** (20 credits)

MATH1500 Calculus for Architecture, Management, and HASS  (4cr)
MATHXXXX Math Elective (4cr)
BIOL1010 Introduction to Biology (3cr)
BIOL1015 Introduction to Biology Laboratory (1cr)
PHYS1050 General Physics (4cr)
Science Elective (4cr)

**Humanities Arts and Social Sciences Core** (20 credits)

Social Science Electives (8cr)
Humanities Electives (8cr)
Humanities or Social Science Elective (4000 level) (4cr)

**General Elective Credits** (12 credits)

Students have 12 free electives credits which may be used to pursue a minor or dual major, or as a means of further broadening exposure to a range of disciplines.

In addition, institute core curriculum / HASS requirements include a:

**Depth requirement**: student must take at least one course sequence in the same HASS discipline including a lower and an upper level course. (for example, a 1000 level and a 4000 level Psychology course), and a

**Communication Requirement**: Students must take at least two Communication Intensive Courses. One course must be in the student's major; the other must be in the School of HASS.  ARCH4980 B.Arch Final Project or ARCH 4920 Final Project Design Studio count for the School of Architecture communication intensive course.

Any and all course prerequisites exist within the 171 credits, courses and categories outlined above. Prerequisites are specifically identified with course sequences and listings below.

**Notes:**
- There are 20 stand alone general studies credits in Humanities Arts and Social Sciences
- There are 20 stand alone general studies credits in Science
- An additional eight credits of general studies content have been formally attributed to required architecture course content by the School of Science (4 cr), the School of Humanities Arts and Social Sciences (4 cr), and the Faculty Senate Curriculum Committee, respectively. (see catalog)
- There are 12 additional general elective credits.

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- The Italian studies program has language course requirements (2 levels) taken before participation. The Chinese studies program has language course requirements (2 levels) taken before participation and while studying abroad. These are taught online or by non-architectural faculty, and do not include professional content. They online courses are required but not for credit, administered through the School of Architecture and counted as professional electives.
- The India Studies, China Studies and Italian Studies Program have significant general studies content including courses in Painting, Chinese Calligraphy, Mandarin Language, Italian Language, Art and Culture of Italy, India Discovery, The Culture and Civilization of India.

**Master of Architecture**

|  | **M. Arch (rqd)** | **M. Arch (actual)** |
|---|---|---|
| **General Studies** | Defined by the baccalaureate required for admission | 120 |
| **Optional Studies** | 10 | 10 |
| **Professional Studies** | As defined by the program | 90 |
| **Undergraduate Credits** | As defined by the program | 59 |
| **Graduate Credits** | 30 | 41 |
| **Total Credits** | 168 | 220 |

General Studies (120) - From prior Baccalaureate Degree

Optional Studies (10)

Required Professional Courses (90 cr)

       Undergraduate Credits: (59 cr)[14]

              History/Theory/Criticism (8 cr)
                    2 required courses
              Technology (19 cr)
                    6 required courses
              Professional Practice (6 cr)*
                    3 required courses
              Digital Constructs (4 cr)
                    2 required courses
              Design (10 cr)
                    2 core studios
              Professional Electives (8 cr) (4000 Level or above)

       Graduate Credits: (41 cr)[15]

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[14] 5000 level graduate professional courses taken with undergraduates in 4000 level courses.
[15] 6000 Level courses for graduate students only except by special permission – rarely granted.

History/Theory/Criticism (4 cr)
        1 required courses
Technology (8 cr)
        3 required courses
Design (15cr)
        3 design studios
Final Project (8 cr) *
        1 required seminar and 1 required studio
Professional Electives (6 cr) (6000 Level)

*   Being Phased-In

**Courses and Credit Hours – Professional Content Breakdown** (100 credits)

The M.Arch professional degree program consists of 92 required course credits and 8 credits of Final Project. The professional studies curriculum includes a History/Theory sequence, a Technology sequence and a Design sequence within which are integrated computing and drawing components.

History / Theory Sequence (12 credits)

        ARCH 5100: History, Theory, Criticism 1 (4cr)
        ARCH 5110: History, Theory, Criticism 2 (4cr)
        ARCH 6680: History, Theory, Criticism 3 (4cr)

Technology Sequence (27 credits)

        ARCH 5140: Structures 1 (3cr)
        ARCH 5300: Material & Const. Systems (3cr)
        ARCH 5310: Environ. & Eco. Systems (4cr)
        ARCH-5150: Structures 2* (3cr)
        ARCH-6320: Built Ecologies 1 (3cr)
        ARCH-6380: Environmental Parametrics (2cr)
        ARCH-6810: Research Des. Seminar (3cr)
        ARCH 5360: Bldg. Systems & Environ. (4cr)
        ARCH 5340: Materials and Enclosures (2cr)

Professional Practice (6 Credits)

        ARCH 5380: Professional Practice 1 (2cr)
        ARCH 5390: Professional Practice 2 (2cr)
        ARCH 5330: Economics & Architecture (2cr)

Digital Constructs Sequence (4 credits)

        ARCH 5160: Digital Constructs 1 (2cr)
        ARCH 5170: Digital Constructs 2 (2cr)

Design Sequence (25 credits)

        ARCH 5200: Grad. Architecture Design 1 (5cr)
        ARCH 5210: Grad. Architecture Design 2 (5cr)
        ARCH-6610: Grad. Architecture Design 3 (5cr)
        ARCH 6620: Grad. Architecture Design 4 (5cr)
        ARCH 6630: Grad. Architecture Design 5 (5cr)

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Final Project (8 credits)

       ARCH 6750: Final Proj. Research Seminar (3cr)
       ARCH 6980: Graduate Final Project (5cr)

Professional Electives (8 credits)*

       Professional Elective Courses (2 – 4 credits each) 8 cr

General Electives (10 credits)*

       Elective Courses (2 – 4 credits each) 10 cr

   * 6 credits combined total of professional and general electives must be 6000 level courses

**Minors and Concentrations B.Arch students may elect to take**

Within the School of Architecture students may take minors in:

       Lighting*
       Architectural Acoustics*
       Built Ecologies* – though not designated minor, complementing core environmental courses with
       a semester at CASE is effectively a concentration

       * Has a clear path for conversion to a co-terminal Masters Degree

**Lighting Minor -** The minor in lighting gives students the awareness and the confidence to extend their creative work through controlled use of light. The program covers human responses to light, both visual and non-visual, and the means by which light is produced and controlled. Interactions of light with form, texture, and color are examined in the contexts of daylight, electric lighting, and their integration.

Required courses include:

       LGHT 4230 - Lighting Design Credit Hours: 4
       LGHT 4770 - Lighting Technologies and Applications Credit Hours: 4
       LGHT 4840 - Human Factors in Lighting Credit Hours: 3
       LGHT 4940 - Advanced Individual Projects in Lighting Credit Hours: 1 to 6

**Architectural Acoustics Minor -** The minor in architectural acoustics is open to all Rensselaer students interested in advanced study focusing on the optimization of acoustical quality of performance spaces and other aurally sensitive environments. After completing the minor, the student will be well prepared for an entry level position dealing with acoustics issues in architectural practice, in acoustical consulting, or as a preparation for graduate studies in acoustics, for example in the Graduate Program in Architectural Acoustics at Rensselaer Polytechnic Institute. The program consists of 16 credits. Proficiency in Calculus I is necessary to comprehend the basics of architectural acoustics.

Required courses include:

ARCH 4840 - Architectural Acoustics 1 Credit Hours: 4
ARCH 4850 - Architectural Acoustics 2 Credit Hours: 4
ARCH 4860 - Applied Psychoacoustics Credit Hours: 3
ARCH 6840 - Engineering Acoustics Credit Hours: 2

ARCH 6890 - Aural Architecture Credit Hours: 3

**Built Ecologies "Concentration" -** Though not formalized as a concentration, students participating in a semester long program at CASE in New York City participate in a program which themes and structures a 6 credit studio together with courses in ARCH 4170.80 Environmental Parametrics (2 cr) (B.Arch) or ARCH 6380.80 Environmental Parametrics (2 cr) (M.Arch 1), ARCH 4580.80 Materials Systems and Productions (3 cr), other topics relating to sustainability in architecture and the environment. This opportunity is available to both B.Arch and M.arch 1students. (24 positions annually)

There are no designated concentrations in the B.Arch program

**Civil Engineering Minor** - Given the close link between architecture and civil engineering, a minor in civil Engineering has been created for architecture students, built on the foundation of the architecture technology sequence.

Required courses include:

CIVL 2670 - Introduction to Structural Engineering Credit Hours: 4
CIVL 4070 - Steel Design Credit Hours: 3
CIVL 4080 - Concrete Design Credit Hours: 3

Plus two additional courses from the following:

CIVL 2630 - Introduction to Geotechnical Engineering Credit Hours: 3
CIVL 4010 - Foundation Engineering Credit Hours: 3
CIVL 4150 - Experimental Soil Mechanics Credit Hours: 3
CIVL 4270 - Construction Management Credit Hours: 3
CIVL 4440 - Advanced Structural Analysis Credit Hours: 3

* Architecture students are waived from ARCH 4330 Structures 2

Many additional minors consisting of an approved 16-credit sequence in a particular discipline area and which are available to architecture students include:

- Architectural Acoustics Minor
- Astrobiology Minor
- Astrobiology Minor (Multidisciplinary)
- Astrobiology Minor for Biology Majors
- Astrobiology Minor for Chemistry Majors
- Astrobiology Minor for Geology Majors
- Astronomy Minor
- Astrophysics Minor
- Biochemistry/Biophysics Minor for Biology Majors
- Biochemistry/Biophysics Minor for Biomedical Engineering Majors

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- Biochemistry/Biophysics Minor for Chemical Engineering Majors
- Biochemistry/Biophysics Minor for Chemistry Majors
- Biology Minor
- Biomedical Engineering and Management Minor
- Brain and Behavior Minor
- Chemistry Minor
- Chemistry Minor for Non-Chemistry Majors
- Chinese Language Minor
- Civil Engineering Minor
- Cognition Minor
- Cognitive Science Minor
- Communication Minor
- Community and Health Psychology Minor
- Computer and Systems Engineering Minor
- Computer Science Minor
- Economics Minor
- Electrical Engineering Minor
- Electronic Arts Minor
- Entrepreneurship Minor
- Environmental Engineering Minor
- Environmental Science Minor
- Finance Minor
- Games Studies Minor
- Gender, Science, and Technology Minor
- General Psychology Minor
- Geology Minor
- Human Factors Minor
- Human-Computer Interaction (HCI) Minor
- Hydrogeology Minor
- Industrial/Organizational Psychology Minor
- Information Technology and Web Science Minor
- Interschool Minor in Energy
- Interschool Minor in Energy (SHSS)
- Lighting Minor
- Literature Minor
- Logic, Computation, and Mind Minor
- Management Minor
- Marketing Minor
- Materials Science and Engineering Minor
- Mathematics Minor
- Music Minor
- Nuclear Engineering Minor
- Philosophy Minor
- Philosophy of Human Values and Society Minor
- Philosophy of Logic, Computation, and Mind Minor
- Philosophy of Science and Technology Minor
- Physics Minor
- Professional Writing Minor
- Psychology Minor
- Science, Technology, and Society Minor
- Social Psychology Minor
- Sport Psychology Minor
- Studio Arts Minor

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**M. Arch Concentrations**
Concentrations in the M.Arch that are realized in the final year:
- ▪ Ecological Urbanism
- ▪ Environmental Parametrics

Concentrations in these areas are built on the foundation of a semester at CASE and realized in their third year Final Project Directed Research Studios.

Minors are not offered as a part of graduate studies

**Minimum Number of Semester Credit Hours**

**Bachelor of Architecture (B.Arch) -** The standard curriculum template requires students to take between 16 and 18 credits per semester.  Students taking less than 12 credits in a given semester are classified as part-time students. Full time students may register for up to 20 credits in a given semester before special permissions for any overload is required. This is rarely granted. A sample template is provided below.

> First Year          34 cr
>      Fall    17 cr
>      Spring  17 cr
>
> Second Year     33 cr
>      Fall    16 cr
>      Spring  17 cr
>
> Third Year      35 cr
>      Fall    18 cr
>      Spring  17 cr
>
> Fourth Year     34 cr
>      Fall    17 cr
>      Spring  17 cr
>
> Fifth Year      35 cr
>      Fall    18 cr
>      Spring  17 cr

A sample template of the B.Arch curriculum structure is provided below. Special circumstances such as dual majors, international program participation, etc., may involve some variation in the sequence with which the curriculum is fulfilled however, the required courses and meeting all the requirements of the curriculum are required for graduation.

**First Year**

Fall [17 cr]

- ARCH 2150 - The Ethos of Architecture *Credit Hours: 2*
- ARCH 2160 - Architectural Media *Credit Hours: 2*
- ARCH 2510 - Materials and Design *Credit Hours: 2*

- ARCH 2520 - Digital Constructs 1 *Credit Hours: 2*
- ARCH 2800 - Architectural Design Studio 1 *Credit Hours: 5*
- MATH 1500 - Calculus for Architecture, Management, and HASS *Credit Hours: 4*

Spring [17 cr]

- ARCH 2370 - Energy, Comfort and Ecology *Credit Hours: 2*
- ARCH 2530 - Digital Constructs 2 *Credit Hours: 2*
- ARCH 2810 - Architectural Design Studio 2 *Credit Hours: 5*
- ARCH 4090 - Architectural Case Studies *Credit Hours: 2*
- ARCH 4120 - Modernity in Culture, Civilization, and Architecture 1 *Credit Hours: 2*
- PHYS 1050 - General Physics *Credit Hours: 4*

**Second Year**

Fall [16 cr]

- ARCH 2330 - Structures 1 *Credit Hours: 3*
- (See footnote 3 below)
- ARCH 2350 - Construction Systems *Credit Hours: 2*
- ARCH 2540 - Digital Constructs 3 *Credit Hours: 2*
- ARCH 2820 - Architectural Design Studio 3 *Credit Hours: 5*
- ARCH 4100 - An Architectural Genealogy 1 *Credit Hours: 2*
- (See footnote 2 below)
- ARCH 4130 - Modernity in Culture, Civilization, and Architecture 2 *Credit Hours: 2*

Spring [17 cr]

- HASS Elective *Credit Hours: 4*
  (See footnote 1 below)
- ARCH 2360 - Environmental and Ecological Systems *Credit Hours: 4*
- (See footnote 3 below)
- ARCH 2550 - Digital Constructs 4 *Credit Hours: 2*
- ARCH 2830 - Architectural Design Studio 4 *Credit Hours: 5*
- ARCH 4110 - An Architectural Genealogy 2 *Credit Hours: 2*
- (See footnote 2 below)

**Third Year**

Fall [18 cr]

- HASS Elective *Credit Hours: 4*
- MATH Elective *Credit Hours: 4*
- ARCH 4330 - Structures 2 *Credit Hours: 3*
- (See footnote 3 below)
- ARCH 4560 - Materials and Enclosures *Credit Hours: 2*
- ARCH 4820 - Comprehensive Design Studio *Credit Hours: 5*

Spring [17 cr]

- ARCH 4150 - Contemporary Design Approaches *Credit Hours: 2*
- ARCH 4540 - Professional Practice 1 *Credit Hours: 2*

- (See footnote 4 below)
- ARCH 4740 - Building Systems and Environment *Credit Hours: 4*
- (See footnote 3 below)
- ARCH 4830 - Design Development Studio *Credit Hours: 5*
- BIOL 1010 - Introduction to Biology *Credit Hours: 3*
- BIOL 1015 - Introduction to Biology Laboratory *Credit Hours: 1*

**Fourth Year**

Fall [17 cr]

- Professional Elective *Credit Hours: 2*
- Professional Elective *Credit Hours: 2*
- HASS Elective *Credit Hours: 4*
- ARCH 4050 - Cities and Their Territories *Credit Hours: 2*
- ARCH 4550 - Professional Practice 2 *Credit Hours: 2*
- ARCH 4770 - Architectural Design Studio 5 *Credit Hours: 5*

Spring [17 cr]

- Professional Elective Credit Hours: 2
- Professional Elective Credit Hours: 2
- Elective *Credit Hours: 4*
- HASS Elective *Credit Hours: 4*
- ARCH 4780 - Architectural Design Studio 6 *Credit Hours: 5*

**Fifth Year**

Fall [18 cr]

- HASS Elective *Credit Hours: 4*
- Elective *Credit Hours: 4*
- Professional Elective *Credit Hours: 2*
- ARCH 4790 - Architectural Design Studio 7 *Credit Hours: 5*
- ARCH 4910 - Final Project Design Research Seminar *Credit Hours: 3*

Spring [17 cr]

- Science Elective *Credit Hours: 4*
- Free Elective *Credit Hours: 4*
- Professional Elective *Credit Hours: 2*
- ARCH 4590 - Economics and Architecture *Credit Hours: 2*
  ARCH 4920 - Final Project Design Studio *Credit Hours: 5*
  The degree requires 171 credit hours.

Note that studios are sequential with the exception of the Design Development Studio, which may be taken any time after Integrated Design Schematic Studio and before Final Project Design Studio. Students are required to complete 8 credits in Math, 12 in Science, and 20 in Humanities, Arts, and Social Sciences from an extensive list of course offerings (see Institute core requirements for greater detail). In addition, students have 12 credits of professional electives, and 12 credits of free electives which may be

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used to further focus on a concentrated area of study, pursue a minor or dual major, or as a means of further broadening exposure to a range of disciplines.

Footnotes:

1. *HASS Institute communications intensive requirement (see Class Hour Schedule for approved courses); Final Project Design Studio will fulfill the Architecture major communications intensive requirement.*
2. *Four credits of the HASS core requirements are embedded within the Architectural Genealogy sequence: ARCH 4100 and ARCH 4110.*
3. *Four credits of the Institute core Science requirements are embedded within the technology sequence: ARCH 2330, ARCH 2360, ARCH 4330, and ARCH 4740.*
4. *Taken in the same semester as ARCH 4830.*

**Master of Architecture (M.Arch) -** The standard curriculum template requires students to take between 16 and 17 credits per semester.  Students taking less than 12 credits in a given semester are classified as part-time students. Full time students may register for up to 20 credits in a given semester before special permissions for any overload is required. This is rarely granted. A sample template is provided below.

| First Year | | 34 cr |
| --- | --- | --- |
| | Fall | 17 cr |
| | Spring | 17 cr |

| Second Year | | 33 cr |
| --- | --- | --- |
| | Fall | 16 cr |
| | Spring | 17 cr |

| Third Year | | 33 cr |
| --- | --- | --- |
| | Fall | 16 cr |
| | Spring | 17 cr |

## First Year

### Fall [17 cr]

- ARCH 5100 - History, Theory, Criticism 1 *Credit Hours: 4*
- ARCH 5140 - Structures 1 *Credit Hours: 3*
- ARCH 5160 - Digital Constructs 1 *Credit Hours: 2*
- ARCH 5200 - Graduate Architecture Design 1 *Credit Hours: 5*
- ARCH 5300 - Materials and Construction Systems *Credit Hours: 3*

### Spring [17 cr]

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- ARCH 5110 - History, Theory, Criticism 2 *Credit Hours: 4*
- ARCH 5170 - Digital Constructs 2 *Credit Hours: 2*
- ARCH 5210 - Graduate Architecture 2 *Credit Hours: 5*
- ARCH 5310 - Environment and Ecological Systems *Credit Hours: 4*
- ARCH 5330 - Economics and Architecture *Credit Hours: 2*

## Second Year

### Fall [16 cr]

- ARCH 5150 - Structures 2 *Credit Hours: 3*
- ARCH 6320 - Built Ecologies 1 *Credit Hours: 3*
- ARCH 6610 - Graduate Architecture Design 3 *Credit Hours: 5*
- ARCH 6380 - Graduate Environmental Parametrics *Credit Hours: 2*
- ARCH 6810 - Research Design Seminar *Credit Hours: 3*

### Spring [17 cr]

- Professional Elective *Credit Hours: 4*
- ARCH 5360 - Building Systems and the Environment *Credit Hours: 4*
- ARCH 6620 - Graduate Architecture Design 4: *Credit Hours: 5*
- ARCH 6680 - History, Theory, Criticism 3 *Credit Hours: 4*

## Third Year

### Fall [16 cr]

- General Electives *Credit Hours: 4*
- ARCH 5380 - Professional Practice 1 *Credit Hours: 2*
- ARCH 5340 - Materials and Enclosures *Credit Hours: 2*
- ARCH 6630 - Graduate Architecture Design 5: *Credit Hours: 5*
- ARCH 6750 - Final Project Design Research Seminar *Credit Hours: 3*

### Spring [17 cr]

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- Professional Elective *Credit Hours: 4*

- General Electives *Credit Hours: 6*

- ARCH 6948 - Graduate Final Project *Credit Hours: 5*

- ARCH 5390 - Professional Practice 2 *Credit Hours: 2*

**Off-Campus Programs, Course Requirements, and Length of Stay**
(See Section II.1.2 for Description of Facilities and Resources)

**1. Study Abroad Programs** - International study is a defining aspect of Rensselaer's architectural education.  The School of Architecture offers international semester long programs of study in Italy, India, and China. These programs are fully integrated with the requirements of the undergraduate degree and have been established in three world cities that will challenge and help to define the future of architecture. Each of these programs is open, by competitive application, to students in their fifth to eighth semester. Limited numbers of students (B.Arch.) are selected each year on the basis of academic accomplishment. In addition to a Rensselaer faculty member who travels with and directs the program, adjunct faculty in the host city or institution also provide instruction. There is a program fee for participation in each of the international programs, which are described briefly below.

A description of the facilities can be found in section I.1.2 Physical Resources.

**Italy Program**— Fall semester annually (semester long) - The Italian studies program includes a design studio based part of the time in Turin and part of the time in Rome, an examination of the architectural development of Turin and Rome, courses in Italian language and culture, and travel throughout Italy. The program seeks to deepen appreciation of historic cities and the layers of culture that have played a seminal role in the development of Western culture and architecture. The Turin workshop component involves collaboration with students and faculty from the Polytechnic of Turin. The courses that the students take include studio [5 or 6 cr] and the following courses:

ARCH 4964.50 Professional Elective 2 cr
ARCH 4966.50 Urban & Arch History of Rome 4 cr
ARCH  4972.50 Art and Culture in Italy 3 cr

Plus one of the following:

ARCH 4973.50 Historic Preservation 3 cr
ARCH 4975.50 Modern & Contemporary Rome 1870-Present 3 cr

**India Program**— Alternate spring semesters (semester long) - The program is based in the School of Architecture CEPT at Ahmedabad, India, a highly respected school for the study of architecture and urbanism. The program for B.Arch students offers joint studios in design with CEPT faculty and students, and travel through northern and southern India.  It offers students the opportunity to travel, study, and apply the lessons learned from Indian architecture and history and theory within the context of a major research center. The courses that the students take include studio [5 or 6 cr] and the following courses:

ARCH 4965.70 India Discovery 4 cr
ARCH 4970.70 Architecture & the Urban Condition in India 2 cr
ARCH 4974.70 The Culture and Civilization of India 2 cr
ARCH 4976.70 Topics in Architecture 2 cr

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**China Program**— Alternate spring semesters (semester long) - The semester in Shanghai is based at the School of Architecture at Tongji University, one of the great institutions of China. The program for B.Arch students offers joint design studios with Chinese faculty and students, courses in Chinese history and culture and short and long-term architectural study tours through central China. The courses that the students take include studio [5 or 6 cr] and the following courses:

ARCH 4966.60 Chinese Architecture and Urbanism 4 cr
ARCH 4974.60 Chinese Lang & Culture 4 cr
ARCH 4975.60 Calligraphy painting 2 cr

In addition, the School of Architecture offers many not for credit short-term summer and between-semester study programs to places of special architectural interest. In recent years, these have included visits to Shanghai, Hong Kong, Shenzhen, London, Paris, Berlin, Stuttgart, Tokyo, Osaka, Lausanne, Buenos Aires, and San Paolo, Madrid, Seville, and Barcelona.

2. **New York Program at CASE**— M.Arch: Fall semesters; B..Arch: Spring Semesters (semester long) A semester long program located in New York City is based at Rensselaer's Center for Architecture Science and Ecology [CASE] hosted by the global architecture firm Skidmore, Owings & Merrill's (SOM). The program allows both B.Arch (spring semesters) and M.Arch students (fall semesters) to study in a collaborative interdisciplinary research environment focused on the development of advanced next-generation building systems and sustainable technologies. The courses that the students take include studio [5 or 6 cr] and the following courses:

Master of Architecture (fall only):
ARCH-5150: Structures 2* (3CR)
ARCH-6320: Built Ecologies 1 * (3CR)
ARCH-6380: Environmental Parametrics (2CR)
ARCH-6810: Research Des. Seminar (3CR)
* taken via real-time two-way A/V distance delivery between NYC and Troy campus

Bachelor of Architecture (spring only)

ARCH 4170.80 Environmental Parametrics 3 cr
ARCH 4580.80 Materials Systems and Productions 3 cr
ARCH 4936.80 Research Investigations 4 cr

Plus one of the following:

ARCH 4963.80 Built Ecologies 2 3 cr
ARCH 4964.80 Advanced Integrated Systems Development 4 cr

**Other Degree Programs**

Bachelor of Science Building

4-year 129 credit pre-professional degree

Master of Architecture II (Post-Professional Degree)

1-year, 30 credit post-professional

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(for students with a prior professional architecture degree or international equivalent)

- o The catalog and promotion material read as follows: *"The M.Arch.II is not a professional degree and will not lead to the establishment of a license to practice architecture in the United States or an NCARB certificate."*

- o This degree is in the process of being changes to an M.S. in Architecture (see below)

Master of Lighting

1-year, 30-credit degree for qualified applicants with a wide variety of backgrounds (applicants may or may not have practical experience in the field of lighting)

Master of Science in Architectural Science

1-year, 30 credit degree for qualified applicants with a variety of backgrounds depending on the concentration. For the Architectural Acoustics concentration, the degree is designated for applicants with backgrounds in engineering, architecture, physics, music, computer science, recording engineering, and other areas. For the Built Ecologies concentration, applicants from a wide variety of backgrounds are eligible.

Concentrations in:
- Architectural Acoustics
- Built Ecologies
- Lighting

Ph.D. in Architectural Science

72 credit degree with a dissertation for qualified applicants with a variety of backgrounds depending on the concentration. For the Architectural Acoustics concentration, the degree is designated for applicants with backgrounds in engineering, architecture, physics, music, computer science, recording engineering, and other areas. For Built Ecologies, the degree option is targeted toward candidates with a professional degree in architecture or engineering and qualified candidates with degrees in related design fields of science and the humanities, including but not limited to Industrial and Urban Design. For Lighting, applicants from a wide variety of backgrounds are eligible.

Concentrations in:
- Architectural Acoustics
- Built Ecologies
- Lighting

**Online Learning Formats** - To make opportunity for second year M.Arch students to participate in the Built Ecologies program at CASE in New York City the ARCH 5150 Structures 2 course is synchronously taught at the Troy and CASE location. Using Rensselaer's DCC337 facility and tech support to establish a two-way audio/video link, downstate students are able to participate in real time. Multiple cameras focus on the professor, students, the overhead and/or work he wishes to show. CASE based students can ask question through a student helper present in the room. They travel upstate for the hands-on component comprised of structural model-making and in-class testing to failure on the Instron Testing Machine located in the Fabrication Laboratory. They do final project presentation through video stream from NYC.

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*DCC337 – Real-time, Two-Way Connect*



*DCC337 – Professor Station*

The graduate-level Built Ecologies 1 course (no SPC's associated) also benefits from the participation of both upstate and downstate students through a real-time two-way delivery of the courses. These courses are taken by the B.Arch and M.Arch students as professional electives.

**Progress toward changing the title of the M.Arch II**

The School passed a vote of the curriculum committee to change the curriculum and title of the M.Arch II program to an M.S. in Architecture. The recommendation was approved by the Dean, passed by the Faculty Senate Curriculum Committee and following a review by the Office of Graduate Education, has moved to the President's Office for signature and will be forwarded momentarily to New York State Education Department.

**Part Two (II) Section 3 – Evaluation of Preparatory Education**

**Bachelor of Architecture Admission Requirements and Decisions** - At the undergraduate level the School of Architecture offers a five-year Bachelor of Architecture degree. Approximately 68-72 students are admitted directly into the program each year. As a professional program designed for those ready to begin architectural study in the first year, admissions decisions are based on the following criteria: high school background including a high standard of accomplishment in science and math, overall academic excellence, creativity (demonstrated through a portfolio of work in the arts and other associated areas), and clear evidence of an inspired individual committed to receiving a rigorous exploratory and comprehensive education.

The School strongly encourages visiting the campus and the Greene Building, home of the School of Architecture, along with a faculty interview. Architecture candidates are required to submit a creative portfolio with their application. The School of Architecture prefers that applicants use the online portfolio system *https://rpi.slideroom.com/* to upload digital files. A digital submission makes it easier for all applicants to format their material and accelerates the evaluation process for prospective students applying as freshmen or transfers into the B. Arch. Professional Program. Students with unusually strong academic profiles may be reviewed without the portfolio (GPA of 3.5) but such cases are exceptionally rare and in all cases a portfolio is strongly preferred. For portfolio requirements visit *http://admissions.rpi.edu/undergraduate/visit/tours.html.*

The Institute's Admissions Office handles the admission of all undergraduate and graduate students. A comprehensive listing of requirements is available at http://www.rpi.edu/dept/admissions/index.html. In

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addition, two Architecture faculty members rate the portfolios (http://www.arch.rpi.edu/apply/undergraduate/) of all undergraduate applicants.  An averaged portfolio "grade" is provided to the Admissions Office to be factored into the admission decision.


**Master of Architecture Program Admission Requirements and Decisions** - At the graduate level the School of Architecture offers a three-year Master of Architecture degree. Approximately 10 students are admitted directly into the program each year.  As a professional program designed for those who have completed a non-professional Bachelor's degree, the admissions process is based on a combination of educational background (Bachelor's degree), a personal statement and three letters of recommendation by former professors and or professionals familiar with the candidates' history and potential for success at the graduate level. Additionally, the design portfolio plays a central role in the determining the acceptance of a candidate's application. Portfolios and all application material are reviewed through an online system used by the School of Graduate Education at Rensselaer.  Finally, the Institute policy requires the completion of the G.R.E. with top percentile scores. Candidates must have a minimum cumulative GPA of 3.0 from their undergraduate Institution. International students from non-English speaking countries must complete the TOEFL with top percentile scores and in some cases participate in an 'English as a Second Language' interview with non-architecture faculty councilors.



**The Process by which Preparatory or Pre-professional Education is Evaluated** - Incoming freshmen may obtain advanced placement or academic credit in one of the following ways: 1) Advanced Placement Exams, which are given by the College Entrance Examination Board; 2) Transfer Credit, which is granted for work done at an accredited college prior to admission to Rensselaer and was not applied to the students high school degree completion requirements; or 3) completion of an acceptable advanced-level course in high school that was not applied to the students high school degree completion requirements. Incoming freshman may use up to 32 credits of AP/transfer credits.  Typically, advanced placement credit is given for general education requirements, not for Architecture studio or other architecture courses responsible for NAAB student performance criteria.  In some cases, a student may receive academic credit for college-level proficiency as established by a validation examination.  Students wishing to do so must contact the Registrar's Office and the Advising & Learning Assistance Center for procedures and necessary forms.

**Transfer Students** - The School of Architecture welcomes students who have completed general studies and/or architecture coursework at other schools to apply as transfer students to Rensselaer.  Just as it is for applicants to the first year, the credentials of each student must meet the standards of the Institute and School and are reviewed individually prior to admission.  Upon acceptance, transfer students are placed at an appropriate level in the professional program based on a review of their transcript, course descriptions, and portfolio of work.  Each course submitted for transfer credit is evaluated by the appropriate faculty in the department responsible for that particular content area on the basis of the Institution attended, contact and credit hours, the course description, content areas covered, and grade received.  That faculty member makes a decision whether full or partial credit will be given and whether a specific required course in the degree program could be waived, or if credits transferred in will count for elective or professional elective credits.  Admissions submits the information to the registrar's office to update the student's record. For Architecture courses, the structures professor familiar with the course content and related student performance criteria reviews structures courses, the faculty member in charge of the environmental courses reviews those courses, the senior faculty member responsible for the History/Theory/Criticism courses reviews Architectural History courses and the Associate Dean, who teaches technology integration and the integrated studio and is familiar with the SPC's associated with the courses, evaluates any technology and design courses.

Transfer students entering Architecture from unrelated degree programs typically begin in the summer when they can take the first two studios in an intensive format. In this way, they (if they are rising

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sophomores) catch up in the design studio sequence and are able to enter the second year studio in the fall.  Transfer credits for these students are typically not in architecture.

**Transfer Credits** - In all cases students applying for 'advance standing' in the Master of Architecture program must be admitted into the program through the admission requirements listed above.  'Advance Standing' is considered only for students with a degree from a pre-professional architecture program (typically known as a 4+2 program) from a NAAB accredited school in the United States. Rarely, a candidate may be considered who has completed a rigorous Bachelor of Technology in Architecture degree or a B.S. in Architecture. In all cases, the school evaluates the courses being considered for content equivalency and to insure that general education requirements and prerequisite SPC's were met. The process of evaluation is divided into two categories, design courses and technical + HTC courses.

The evaluation of the applicant's transcript and additional course descriptions provided by the student to the SoA provide the basis for evaluation of these courses. In each case, the faculty member/coordinator responsible for the course reviews the incoming student's transcript and course description, along with examples of work produced in the course where necessary.

Design Courses:

Design courses are reviewed by the Master of Architecture's program Director and the Director of Graduate Programs with respect to the following student performance criteria on the basis of: the degree granting Institution, contact and credit hours, the course description, content areas covered, grade received and an evaluation of the applicant's portfolio.  The review serves as the basis for assigning equivalency. In addition, many of the SPC's covered in these courses are also reinforced in subsequent design studios in the M.Arch. program.

Arch 5200 Graduate Architecture Design 1

A.3: Investigative Skills
A.4: Architectural Design Skills
A.5: Ordering Systems
A.6: Use of Precedents
A.8: Cultural Diversity & Social Equity
B.1: Pre-Design
B.2: Site Design

Arch 5210 Graduate Architecture Design 2
(formerly Arch 2630)

A.4: Architectural Design Skills
A.5: Ordering Systems
A.6: Use of Precedents
B.2: Site Design

Technical / Professional courses:

Technology and Professional courses are reviewed by the area coordinators of the Structures, Building Systems and Pro-practice courses with respect to fulfillment of the associated SPC's on the basis of the degree granting Institution, contact and credit hours, the course description, content areas covered, and grade received.

Arch 5140: Structures 1

B.5: Structural Systems

Arch 5300: Material and Construction Systems

B.7: Building Envelope Systems and Assemblies
B.8: Building Materials & Assemblies

Arch 5310: Environ. and Ecological Systems

B.6: Environmental Systems

Arch 5330: Economics and Architecture

no associated SPC's

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Arch 5160: Digital Constructs 1                    no associated SPC's

Arch 5170: Digital Constructs 2                    no associated SPC's


History Courses:

History/Theory/ Criticism courses are reviewed by the area coordinator of the History/Theory courses with respect to fulfillment of the associated SPC's on the basis of the degree granting Institution, contact and credit hours, the course description, content areas covered, and grade received.

Arch 5100: History, Theory, Criticism 1           A.7: History and Global Culture
                                                  A.8: Cultural Diversity & Social Equity

Arch 5110: History, Theory, Criticism 2           A.7: History and Global Culture
                                                  A.8: Cultural Diversity & Social Equity


Course equivalency approval is recorded and filed with the incoming student's Plan of Study. A record of the transcript, course descriptions are maintained in the students' Plan of Study file. Additionally a record of the review and verification of the course descriptions and equivalency evaluation signed by the area coordinators are recorded in this file.



**Part Two (II) Section 4 – Public Information**

**The required list of URL's noted in the APR is in Section 4, on page 114.**


**Bachelor of Architecture (B. Arch) Curriculum** - (catalog description)

http://catalog.rpi.edu/preview_program.php?catoid=13&poid=2787&returnto=310

This five-year undergraduate professional program is a first professional degree accredited by the National Architectural Accreditation Board. The program is for a limited number of qualified students committed to the study of architecture. These students are admitted directly to the professional degree program and begin studies in architecture in the first year.

The National Architectural Accreditation Board (NAAB) accredits the Rensselaer School of Architecture's Bachelor of Architecture program and its Master of Architecture program. Pursuant to the requirement of the NAAB, the following statement is included in the catalog:

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

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

_Rensselaer Polytechnic Institute, School of Architecture offers the following NAAB accredited degree programs:_

_B.Arch. (171 undergraduate credits)_
_M.Arch I (pre-professional Degree + 112 credits)_

_Next accreditation visit for all programs: 2016_

_The above can also be found on the School of Architecture web site:_
_http://www.arch.rpi.edu/school/accreditation-statement/_

**Bachelor of Architecture -** (catalog description)

**http://catalog.rpi.edu/preview_entity.php?catoid=13&ent_oid=694&returnto=308**
The five-year Bachelor of Architecture (B.Arch.) curriculum centers on the design studio and culminates in a year-long research and design project. Theoretical, technological, and computational and historical issues are progressively integrated into studio projects beginning in the first year. Projects range in scale and form, but relate to issues in contemporary culture with a focus on globalization and urban contexts.

This degree program is described in detail below.

Students in the School of Architecture undergraduate program are required to complete courses in the sciences, humanities, arts and social sciences as part of the Institute core requirements. The core courses are structured to provide exposure and breadth of education.  A series of professional electives and free elective courses provide students the opportunity to pursue specific interests in greater depth, to minor, or to pursue other special interests.

In addition to Institute-wide academic regulations outlined earlier in this catalog, the following pertain to the bachelor's program in architecture:

_**Advancement in Design**_—Students not passing a required design course (including Final Project 1 and 2) may not advance to the next course in the design sequence. The architecture faculty will review students earning grades of D or lower in required design courses. A student earning a D or lower in any subsequent required design course must either repeat the course or take another course specified by the faculty before advancing to the next course in the design sequence. Students who fail to earn a grade of C or better in the repeated or specified course, or who earn a third grade of D or lower in design, may not continue in the design sequence. A student earning an F in any course must repeat the course in addition to completing any remedial actions specified by the faculty after a second grade of D or lower in a required design studio.

_**Grades of "IP"**_—In Final Project 1 or 2 IP grades will convert to a grade of "F" three years after the issue of the "IP" grade.  Students applying for readmittance to complete Final Project 1 or 2 after three years will be required to restart the three-course, 12-credit final project sequence (including Methods Seminar (1 credit). (This regulation applies to students who took Final Project 1 and/or 2 prior to 2009).

_**Retention of Student Design Work**_—All student drawings and models produced as part of the instructional program are the property of the Institute. The School of Architecture reserves the right to obtain any or all work produced by the students in the school for a temporary or permanent time period.

Rensselaer's B.Arch. program incorporates and interconnects the following important elements:

http://catalog.rpi.edu/preview_program.php?catoid=13&poid=2787&returnto=308

Design—Design and the design studio form the core of all architecture degree programs. The design studio brings together the many aspects of architecture and presents a wide range of design issues, beginning with the development of the tools, skills, and judgments that underline the production of architecture.

The skills area emphasizes that the hand is as important as the computer in the development and representation of ideas. The ability to freely manipulate space, surface, structure, and texture is central to the formation of architecture. The tools component develops confidence in the technologies that form architecture and are essential support to creativity. Finally, the judgments aspect is developed through projects premised on the continual evolution of architecture as a manifestation of the social, economic, political, and technological forces within a culture. All design studios draw broadly on the exceptional range of urban and architectural contexts near the campus; from the historic towns in upstate New York to great cities of the region such as New York, Boston, Montreal, and Philadelphia.

In the design studio there are no singular, provable, or perfect answers to any of the problems presented. Students explore and develop their design proposals based on their growing knowledge of architecture and their emerging abilities. Early semester-long studios introduce students to a full-range of issues, skills, and judgments encountered in design and initiate and reinforce design as critical inquiry. The remaining studios focus on significant concerns in architecture. They are "vertical" in that they include students in different class years, and present choices of projects and faculty. Among these are the Comprehensive Design Studio and the Design Development Studio, in which projects are subjected to detailed structural, mechanical, construction materials, and professional practice considerations.

History and Theory—A required multi-course sequence presents the diversity of architectural works and ideas relative to the contexts within which architecture emerges and exposes students to key historical and theoretical issues in the discipline. Following this sequence, students may take additional advanced architectural history/theory electives as a part of their professional or free electives.

Technology and Building Science—Technological issues are introduced from the beginning as essential to the conception and creation, delivery, and performance of architecture. New technologies can also be understood as generative of both form and inhabitable space. A series of six required technology courses considers both qualitative and quantitative views of building technologies. These include statics and strength of materials; basic structures and framing; design of wood, steel, and concrete structures; criteria for selecting building materials and systems; environmental and ecological systems; building systems, including heating, ventilation, air conditioning, plumbing, and electrical systems; sensory environments, including the luminous, acoustical, and tactile dimensions of space; codes and contract documents. Following this sequence, students may take additional advanced technology and building science electives as a part of their professional or free elective selections. Integration of technological considerations is central to many of the studios with a focused emphasis on integrating building technologies especially in the required upper level Design Development Studio.

Computational Design—Computational proficiency is central to the future of architecture. From the first year, students are able to expand their knowledge and skill through course work, which integrates computing concepts and applications—in some cases within the design studios—and through independent experimentation in the many computer labs at the School and Institute. In addition to the general computation labs, the School offers high-end multimedia environments within the many design studios. These labs are also complimented with a commitment to equipping the fabrication center with the latest and most sophisticated tools for fabrication and physical prototyping of design work. Currently available is a range of equipment varying from a 3axis CNC mill, two laser cutters, a 3D printer, and vacuum forming as well as access to water and plasma cutters. Students have access to the latest in three-dimensional design software, critical visualization tools, and more specific evaluation based

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software.

These elements are provided through both required courses as well as many professional electives and topics in such areas as architectural and urban history and theory, technology, computing, building economics, computational design, community design, practice and management, architectural lighting, and acoustics in architecture. Professional degree students must complete at least 12 credits from these offerings by either building on a specific interest or by sampling the breadth and diversity inherent in the field. In addition to regularly offered electives (described in the back of this catalog), the faculty offers a number of topics or experimental courses as professional electives. Sample courses include, but are not limited to:

Advanced Ceramic Composite Lab
Advanced Architectural Modeling
Analogical Models: Contemporary Art Theory and Practice
Architectural Acoustics 1 and 2
Between Dissociation and Merging
Biological Habitat
Built Ecologies 1
Built Ecologies 2
Duchamp Sem: Anarchism Umped
Extreme Drawing
Eyes to the Ground - Spatial Studies in Counter Culture
Human Factors in Lighting
Indigenous Landscape Systems
Informal Urbanism
Latin American Architecture
Lighting Design
Lighting Technologies and Applications

Living Versus Artificial Living
Materials Systems and Productions
Modular Thinking
New Evolutions
Next Nature Next Architecture
Performative Morphologies
Procedural Materialism: Emerging
Satorial Tectonics
Seminar in Sensory Culture
Social Ecology in Architecture
Surface as Structure as Form
Sustainable Building Design Metrics
Techniques of Digital Fabrication
The Arch of the Screen: Relationships between Film and Architecture
Tool Theory
Twisted Siblings - Examinations of Contemporary Relationships Between Painting and Architecture
The Man Next Door: Alfred Hitchcock and the Architecture of Fear
Towards a Social Ecology in Architecture
Urban Data Analysis and Visualization


The five-year B.Arch. program concludes with a year-long individually developed and comprehensive final project in the context of optional research studio and thematic contexts provided by faculty. The first semester of the final project integrates a Research Methods seminar.  An integrated design research phase continues throughout the first and the second semesters.

The final project is an opportunity to develop a point of view about architecture and its place in the world; to question conventions, habitual responses, and routine approaches to architectural design; and to investigate issues that the student sees as significant to architecture.


Bachelor of Architecture (web description http://www.arch.rpi.edu/academic/undergraduate-barch/ )


The undergraduate professional program is five years in length and leads to the Bachelor of Architecture, a first professional degree accredited by the National Architectural Accrediting Board (NAAB). The students are highly qualified and undertake their architectural studies from the very beginning of their first year. Situated within the broader context of Rensselaer, the School of Architecture also draws widely

upon other professional programs to build a collaborative interdisciplinary approach to design. Upon admission there are no further junctures in the program that require additional admission decisions.

Equipment, Supplies, and Travel: Most studio courses do not require textbooks, but rely heavily on software, printing, and modeling and students should anticipate costs associated with the purchase of materials. First-year students will have an opportunity to purchase a basic kit with the tools, etc. needed for their design studio. A technology fee is assessed to cover some, but not all, of the software and services provided to the students. Travel and field trips to nearby cities are also a regular and strategic part of the design curriculum. Students should also be prepared to cover costs associated with regional travel.

**III. 1.1. Annual Statistical Reports:**

**See http://www.arch.rpi.edu/naab/41-Statistical-Reports-Certification-Letter.pdf**

**III.2      Interim Progress Reports**

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**Section 4 – Supplemental Material**
Links to documents for review by the Visiting Team:

| # | Title of Link | Type of Link | Page in APR |
|---|---|---|---|
| 1 | Institute Sexual Harassment Policy | web link | 14 |
| 2 | Institute Diversity Policy | web link | 14, 36 |
| 3 | _Rensselaer Plan 2024_ | web link | 14, 15 |
| 4 | Student Diversity Charts (4) | upload | 15 |
| 5 | Institute's "Minority Resource Guide" | web link | 16 |
| 6 | M.Arch Defining Perspectives Chart (6) | upload | 17 |
| 7 | B.Arch Defining Perspectives Chart (7) | upload | 17 |
| 8 | Curriculum Pre-Retreat Documents (8) | upload | 28, 87 |
| 9 | Curricular Assessment Chart (9) | upload | 30 |
| 10 | Faculty Resumes (10) | upload | 40 |
| 11 | Faculty Matrices (11) | upload | 40 |
| 12 | Institute Benefits Policy | web link | 40 |
| 13 | Tuition Benefits Policy | web link | 46 |
| 14 | Parental Leave Policy (for faculty) | web link | 47 |
| 15 | List of Faculty Scholarly Activities (15) | upload | 47 |
| 16 | CLASS Initiative | web link | 54 |
| 17 | Student Health - Counseling Center | web link | 54 |
| 18 | Advising & Learning Assistance Center | web link | 54 |
| 19 | Student Handbook of Rights and Responsibilities | web link | 55 |
| 20 | Office of Graduate Education - Support Services | web link | 55 |
| 21 | Blank | n/a | n/a |
| 22 | Floor Plans for Greene Building (22) | upload | 56 |
| 23 | Rensselaer Libraries | web link | 77 |
| 24 | Architecture Library | web link | 77 |
| 25 | Institute Organizational Chart | web link | 81 |
| 26 | President's Leadership Team | web link | 82 |
| 27 | Institute's Faculty Senate | web link | 82 |
| 28 | Faculty Handbook | web link | 83 |
| 28a | School of Architecture Organizational Charts (16) | upload | 84 |
| 29 | B.Arch SPC Matrix (29) | upload | 88 |
| 30 | M.Arch SPC Matrix (30) | upload | 88 |
| 31 | Middle States Commission on Higher Education Letter (31) | upload | 89 |
| 32 | Slideroom - Applicant Site to Upload Portfolio | web link | 106 |
| 33 | Admission Portfolio Requirements | web link | 106 |
| 34 | Admission Requirements List | web link | 106 |
| 35 | Admission Portfolio Requirements | web link | 107 |

| 36 | Catalog Description - B.Arch | web link | 110 |
|---|---|---|---|
| 37 | Accreditation Statement | web link | 110 |
| 38 | Catalog Description - B.Arch | web link | 110 |
| 39 | B.Arch Program Description | web link | 111 |
| 40 | B.Arch Web Description | web link | 112 |
| 41 | Statistical Reports - Certification letter (41) | upload | 113 |
| 42 | Division of Human Resources Site Map | web link | 115 |
| 43 | Course Description Forms (43) | upload | 115 |
| 44 | Studio Culture Policy (44) | upload | 115 |
| 45 | Academic Integrity-Dean of Students Policy | web link | 116 |
| 46 | Academic Dishonesty-Provost | web link | 116 |
| 47 | Academic Dishonesty-Dean of Students | web link | 116 |
| 48 | Academic Integrity-Student Handbook | web link | 116 |
| 49 | Academic Integrity-Office of Graduate Education | web link | 117 |
| 50 | Academic Integrity-Case Summary & Report Form | web link | 117 |
| 51 | Academic Integrity-Graduate Student Supplement | web link | 117 |
| 52 | Academic Integrity-Student Handbook, Add'l Info. | Web link | 117 |
| 53 | Academic Dishonesty Policy-Provost | web link | 118 |
| 54 | Academic Integrity-Judicial-Student Handbook | web link | 118 |
| 55 | Institute EEO/AA Policies and Procedures | web links | 119 |
| 56 | Institute Policies on Faculty Leaves | web link | 119 |
| 57 | Institute Policies on Hiring, Promotion & Tenure | web link | 119 |
| 58 | Offsite Program Questionnaires – CASE, Rome, India, China  (58) | upload | 121, 122 |

**Rensselaer's Division of Human Resources Site Map**, http://hr.rpi.edu/siteMap.do.

**Course Description Forms** http://www.arch.rpi.edu/naab/43-CourseDescriptionForms.pdf

**Studio Culture Policy**    http://www.arch.rpi.edu/naab/44-StudioCulturePolicy.pdf

**Self-Assessment Policies and Objectives** - Self-assessment at Rensselaer is highly organized at multiple levels and tied to outcomes with the objectives of realizing our mission, preventing mission creep, maintaining pace and relevance with respect to changing contexts (cultural, social, intellectual, professional, knowledge, etc.) and continual improvement.

**Online Digital Measures Procedure** - Self-assessment occurs at every level from individual faculty members, to courses, and programs. Each semester, as outlined in I.1.5 long-range planning, individual faculty members are required to self-assess their teaching and course(s) through an online system [Digital Measures]. For faculty whose course outcomes are linked to program outcomes (in Architecture's case, many are related to the NAAB SPCs) this is particularly important. During the syllabus preparation time faculty receive an individualized communication reminding them of those program level outcomes that are linked to their course. Upon entering Digital Measures [DM] they will see the program level outcomes that are associated with their course and are expected to reflect them in their syllabi through

course learning outcomes that are associated with assignments and evaluation (grading) criteria. Upon completion of the course, and after receiving a summary of student evaluations, faculty members are required to complete a course assessment form addressing each learning outcome inside the Digital Measures system and to propose what actions they will take the next time the course is offered. Achievement of program level outcomes is assessed periodically through the curriculum committee, and program faculty together with the Dean with respect to the programs' mission and multi-year planning objectives.  The review and assessment of the focus and pedagogy is also periodically undertaken though curriculum reform initiatives.

**Yearly Faculty Performance Evaluations** - The Dean annually executes a performance evaluation of each full-time faculty member in the areas of teaching, research/scholarship, and service.  Following the development and submission of a self-assessment, faculty members meet individually with the Dean to discuss their progress in each of the areas. They later receive a written summary of his evaluation.

**Student –Course and Instructor Evaluations** - In addition to the Digital Measures program that allows faculty members to review and reflect on the successes or areas that need improvement in their courses, the Institute also employs student course and instructor evaluations. Prior to giving the students the opportunity to log on and fill out the course evaluation, the faculty are given the opportunity to include categories in the evaluation that are specific to each of the courses that they teach.  Evaluations forms are given electronically to students near the end of each semester. The results of the course evaluations are shared with the individual faculty member after the semester has concluded. The statistical summary of the course evaluations, which rates the teaching and the course separately, is generally seen as valuable.

**Institutional and Program-Level Assessment** - Institutional and program-level assessment is ongoing through annual performance planning of all portfolios including the five schools. Program level assessment is triggered by the Institute Assessment Committee. It requires all schools and departments develop and submit program level outcomes for each degree-granting program. Subsequently, program level re-assessment is triggered by an accreditation cycle such as ABET, or NAAB, or may be voluntarily undertaken as was the case for the B. Arch and M. Arch programs in 2013 as outlined above in I.1.5 Long Range Planning. On a ten-year cycle the Institute is reviewed by Middle States Commission on Higher Education with a focus on course learning, program and Institutional level outcomes and assessment.

**Academic Integrity (e.g., cheating and plagiarism)**
http://doso.rpi.edu/update.do?artcenterkey=676

"Intellectual integrity is critical to the foundation of all academic work.  Academic dishonesty therefore, is considered a serious matter and will be addressed as such," says the Institute's official policy (see (http://www.rpi.edu/dept/provost/Dishones.pdf).  The Institute takes academic integrity very seriously, and addresses the matter in both faculty and student policies and procedures.  The Institute policy, which has been in effect since 1993, defines academic integrity and provides procedures for faculty to respond to cases of perceived student academic dishonesty.

In addition, the Dean of Students Office addresses Academic Integrity on its website (see http://doso.rpi.edu/update.do?artcenterkey=676).  The website explains that students found responsible for committing academic dishonesty may be subject to grade penalties and/or disciplinary action as described in the 2014-2016 Rensselaer Handbook of Student Rights & Responsibilities (http://www.rpi.edu/dept/doso/resources/judicial/docs/2014-2016RPIHandbookofStudentRightsandResponsibilitiesAUGUST2014.pdf ).  The Student Handbook describes various types of academic dishonesty, including Academic Fraud, Collaboration, Copying, Cribbing, Fabrication, Plagiarism, Sabotage, and Substitution, as well as the procedures in which faculty and students engage once an accusation of dishonesty has been made.  The website includes a form to

be filed with the Dean of Students when making a report of alleged dishonesty.  A chart showing the process for addressing dishonesty violations is also provided.

The Office of Graduate Education also addresses Academic Integrity in its publication, *The Rensselaer Graduate Student Supplement to the Rensselaer Student Handbook of Rights & Responsibilities,"* (see http://rpi.edu/dept/grad/docs/The%20Graduate%20Student%20Supplement%20.pdf ).  The *Supplement* discusses student responsibility, scholarly misconduct, and procedures for dealing with students accused of academic dishonesty.  The Supplement includes notices (page 8) that "…any student enrolled at Rensselaer who is suspended or expelled for violation of the grounds for disciplinary action as stated in the Rensselaer Handbook of Student Rights and Responsibilities will have such action noted on the student's official Rensselaer transcript and include the effective date of the action.  In either case, suspension or expulsion, the notation shall remain permanently on the student's transcript."

The *Supplement* also discusses expectations for faculty and course supervisors to take actions to prevent violations of academic integrity.  The *Supplement* says (page 8), " The instructor or research advisor is expected to outline his or her particular standards in courses and scholarly pursuits in which either the instructor or student considers proper definition of scholarly misconduct to be open to interpretation.  An example for which such definition seems particularly necessary would be collaboration on out-of-class assignments."

In the School of Architecture and throughout the Institute, faculty are required to add the following statement onto their course syllabi, which are distributed to students:

> "Student-teacher relationships are built on trust. For example, students must trust that teachers have made appropriate decisions about the structure and content of the courses they teach, and teachers must trust that the assignments that students turn in are their own. Acts that violate this trust undermine the educational process. The Rensselaer Handbook of Student Rights and Responsibilities defines various forms of Academic Dishonesty and you should make yourself familiar with these. In this class, all assignments that are turned in for a grade must represent the student's own work. In cases where help was received, or teamwork was allowed, a notation on the assignment should indicate your collaboration."

**Academic Integrity Links**

Dean of Students Office, policy and "Case Summary and Report Form."

> http://www.rpi.edu/dept/doso/resources/policies/Fillable2015-2016Version2AcademicIntegrityBrochure.pdf

Office of Graduate Education website, *The Rensselaer Graduate Student Supplement*

> http://rpi.edu/dept/grad/docs/The%20Graduate%20Student%20Supplement%20.pdf

Dean of Students Office, Information on Academic Integrity from the *2014-2016 Rensselaer Handbook of Student Rights and Responsibilities.*

> http://doso.rpi.edu/update.do?artcenterkey=676

Provost's Office, Institute Academic Dishonesty Policy

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http://www.rpi.edu/dept/provost/dishones.pdf

2014-2016 Rensselaer Handbook of Student Rights & Responsibilities

http://www.rpi.edu/dept/doso/resources/judicial/docs/2014-2016RPIHandbookofStudentRightsandResponsibilitiesAUGUST2014.pdf

**Information Resources Policies including Collection Development** - Methodologies for meeting the needs of Rensselaer's programs, faculty, researchers and students include:

<u>**Books**</u>

1.  Purchasing individual print and electronic books based on subject librarian selections, patron requests and aggregated book subscription packages.  Electronic book titles displayed in RensSearch, the Rensselaer Libraries website and online catalog, include thousands of publisher titles that are not owned by the Rensselaer Libraries but which, after a patron browsing them for 5 or 10 minutes results in a transaction triggering either a short-term loan or purchase of the electronic book.  From the patron's perspective, the process appears to be just another electronic book in the catalog.  The Rensselaer Libraries are increasingly reallocating portions of the book budget from librarian-selected to Patron-Driven Acquisition (PDA) eBooks.

2.  Providing loan access via the Rensselaer Libraries' website and online catalog (RensSearch) linkage to ConnectNY, a resource-sharing consortium of 18 private New York State institutions of higher learning.  The members of this consortium have agreed to use library system middleware that provides an online, merged catalog of the 18 ConnectNY institutions' library book catalogs containing over 9 million book titles.   This consortium also provides a courier service that continually routes books between member libraries in order to provide access to the books in 2 to 4 business days.  Pratt Institute, which just joined ConnectNY this year, has a School of Architecture.

3.  Providing traditional interlibrary loan access via the worldwide OCLC library cooperative.

4.  If only one chapter of a book is of interest, that chapter may be obtainable by the Libraries' participation in the RapidILL consortium's "Rapid Book Chapter" program where a scanned copy of the chapter is sent from the library that has the book in their collection to the requesting library.

5.  Submittal of a "Purchase Request" form via RensSearch, the Library's website and online catalog.  Book requests are routed to selection librarians for purchase consideration, if appropriate, or a response is sent to the patron suggesting they request the title via one of the Rensselaer Libraries' interlibrary loan options.

**Journal Articles**

1.  Subscribing to electronic journals individually and/or via an aggregated package.

2.  Providing traditional interlibrary loan access via the worldwide OCLC library cooperative.

3.  Membership and participation in RapidILL a revolutionary article delivery system developed at Colorado State University.  Rensselaer is a participant in RapidILL's Academic Pod E that includes many prestigious institutions of higher learning including a good number of institutions with notable engineering programs such as Carnegie Mellon, Georgia Tech, Johns Hopkins, and the University of Wisconsin.

4.  If article is still unavailable, due to exceeding the annual "fair use" copyright restriction for a particular journal, the Interlibrary Loan Librarian will usually purchase the article directly from the publisher, or via the Copyright Clearance Center's "Get It Now" document delivery service and email, in PDF file form, to the patron.

5.  Submittal of a "Purchase Request" form via RensSearch, the Library's website and online catalog. If warranted in the Libraries' judgment, the title is added to the Materials Request list for subscription consideration given funding coverage and prioritization over other requests.

A Collection Development Team meets weekly to review electronic resource usage statistics and make renewal, cancellation and new subscription decisions.

Drawing upon its strong tradition of providing innovative ways to find and obtain information, the Rensselaer Libraries is transitioning from a "Just-In-Case" to a "Just-In-Time" library model. The electronic resources environment and nascent patron-driven electronic book loan and acquisitions offerings provide the tools to analyze usage and provide users with exactly what they want, when they want it. It's also increasingly more cost and labor workflow effective to purchase, or obtain via interlibrary/consortia loan or fee-based short-term loan mechanisms, electronic delivery of articles from journals with lower Rensselaer usage statistics. The transition to the "Just-In-Time" model represents a shift in library resource expenditures from speculation and anticipation by librarians to real and immediate needs by patrons – preferably in electronic format.

This transition builds on recent pilot patron-driven acquisition (PDA) projects undertaken by the Rensselaer Libraries and also in conjunction with the ConnectNY consortium. The evolution from a print-based physical collection of books and a subscription electronic journal model to an on-demand "Just-In-Time" model focused, whenever possible, on electronic/online delivery, will accelerate as publishers become increasingly more flexible in their own business models.

**The institution's policies and procedures relative to EEO/AA for faculty, staff, and students**.

> http://hr.rpi.edu/update.do?artcenterkey=6
> http://www.rpi.edu/dept/hr/action.pdf

**The institution's policy regarding: human resource development opportunities such as sabbatical, research leave, and scholarly achievements.**

> http://hr.rpi.edu/update.do?artcenterkey=288

**Policies, Procedures, and Criteria for Faculty Appointment, Promotion, and Tenure.**

At Rensselaer, the Faculty Handbook (see http://www.rpi.edu/dept/provost/facultyhandbook1-06.pdf) describes the opportunities and responsibilities of the various types of faculty who are hired. Hiring of faculty typically starts at the department level (it is at the School level in Architecture, since Architecture does not have departments). Each recommendation includes a proposal defining the parameters of the position, and the Provost has final authority for all faculty appointments.

Most faculty at Rensselaer are tenure-track or tenured faculty, although there are some non-tenure track faculty ("contingent faculty") who are Lecturers, Professors of Practice, or Adjuncts. These non-tenure positions are typically contracted positions for a period ranging from a single semester up to three years.

Tenure-track faculty typically join the Institute as Assistant Professors with a three-year renewable contract and six years to work toward promotion to Associate Professor with tenure.  Newly hired Assistant Professors receive a start-up package, which is a sum of money to be used during their first two years at the Institute to acquire research materials, attend conferences and complete other scholarly activities that will assist them in working toward promotion and tenure.  The amount provided to each faculty is confidential.

Assistant Professors are required, according to the Faulty Handbook, to be mentored, and all faculty are to receive annual evaluations.  In the School of Architecture, the Dean assigns 2-3 senior faculty mentors to each Assistant Professor.  Mentors typically meet with their junior faculty mentees at least once per semester to discuss teaching, research/scholarship, and service, the three categories considered in Rensselaer's promotion and tenure process. Mentors provide an overview of progress to the Dean and the Dean provides an annual review.

There is a three-year review of all Assistant Professors to determine whether they have made sufficient progress toward tenure and should be renewed for a second three-year term, and to provide guidance for the second term. During this process, members of the School's Promotion and Tenure Committee (all SoA tenured faculty at the level of Associate Professor or higher) review the teaching, scholarship and service record of the junior faculty member and offer recommendations to the junior faculty member as he/she prepares to be considered for promotion and tenure.  Typically the Assistant Professor's promotion and tenure case will be considered during his/her sixth year of employment.  In Architecture, cases (including an external review) are first presented to the School Promotion and Tenure Committee to determine whether the case is sufficiently strong and adequately prepared for the Dean to proceed in seeking confidential external reviews. Upon receipt of 6-10 external reviews of the candidate's work as prepared by the candidate, the School P&T committee meets to review and vote on whether to recommend tenure with promotion to Associate Professor.  With a positive recommendation (vote) the Dean typically moves the case forward to the Institute-wide Promotion and Tenure Committee (an elected faculty committee of the Faculty Senate that consists of only Full Professors), the Provost's Deans' Council, and the Provost.  Both committees review the case independently before formally voting in a joint session. The recommendation is presented to the Provost who decides whether to make a recommendation for tenure and/or promotion to the President who in turn, determines whether to recommend tenure and/or promotion to the Board of Trustees for final approval. The process may be stopped (tenure denied) at any level in the process. The Faculty Handbook outlines an appeal process available to faculty in the case of a negative determination.

A faculty member appointed to the level of Associate Professor, according to the Faculty Handbook, *"should possess a record of excellence in scholarship as demonstrated by an emerging national and/or international reputation, a level of high quality in educational activities including teaching and advising, and a significant level of service to the department, the Institute and the profession."*

There is no timeframe for faculty to move from the Associate Professor to the full Professor rank. According to the Faculty Handbook, *"an individual holding this rank should be an academic leader, possessing a nationally or internationally recognized record of excellence in scholarship, a sustained level of high quality in educational activities that go beyond teaching and advising, and a sustained level of service to the department, the Institute, and profession."*  The rank of professor is normally attained by promotion from Associate Professor although some faculty highly sought by the Institute may be hired as Associate or Full Professors.

**Contingent Faculty** (Lecturers, Senior Lecturers and Professors of Practice)

Contingent Faculty are full or part time faculty non-tenure track faculty hired on an as-needed basis. Needs vary from year to year, and sometimes from one semester to the next.  In response to the widely varying needs for contingent faculty in the School of Architecture, the Dean selects the faculty candidates to teach various courses or sections of courses.  The Dean then circulates the candidate's resume with a

request for the tenured and tenure-track faculty to vote by email on the selected candidate.  Lecturers and Professors of Practice are typically hired for a contract period of 1-3 years. Renewal contracts for contingent faculty are also approved by an email vote.

Adjunct faculty are hired semester-by-semester.  In the School of Architecture, some of our practicing adjuncts (e.g. Professional Practice Professors) have returned each semester for many years. Other adjuncts serve for shorter periods based on need of the School and the expertise of the adjunct.

According to Institute regulations (as noted in the Faculty Handbook) no vote is needed for the hiring of adjunct faculty.  The Dean appoints the adjunct faculty directly, without consultation of the tenured or tenure-track faculty

**Response to the Offsite Program Questionnaire -** The CENTER for ARCHITECTURE SCIENCE and ECOLOGY [CASE] is a Rensselaer Polytechnic Institute Center co-located at the offices of SOM, New York. The Center houses the Ph.D. and Masters of Science in Architectural Sciences Built Ecologies concentration and associated research enterprise. It is focused on the design and development of next generation sustainable building systems. It maintains a student population of approximately 15 PhD and MS students whose studies are partly carried out downstate and partly upstate at the Troy campus. Each fall the Center is host to the first year M.Arch class where studio and seminar courses focus on environmental sustainability and performance based integrated design methodologies and systems in the context of SOM's professional practice and a vibrant interdisciplinary research culture. Each spring select B.Arch students spend a semester of study at CASE in New York.

The CASE Offsite Program Questionnaire is available at    http://www.arch.rpi.edu/naab/58-OffsiteProgramQuestionnaires.pdf

**ROME CENTER - University of Arkansas, Rome, Italy -** The Rome Center, administered by the University of Arkansas School of Architecture is host to their own students as well as programs and students from other NAAB accredited degree schools (Philadelphia, Auburn, Tennessee) as well as a variety of other programs including historic preservation and fashion. The Center has two full professors tenured by the University of Arkansas and several permanent and adjunct faculty hired by the Director. Schools participate in a variety of ways ranging from full reliance on the Rome Center and its faculty to deliver the program and content, to the role of host Institution. Rensselaer sends its own faculty member (rotating) who directs and is responsible for the program design, content and delivery. Teaching is supplemented by Jeffrey Blanchard, (Director of Cornell's Rome Center and Study Program) who teaches Urban and Architectural History of Rome, Professor Emilio del Gesso (U. Ark, tenured) who teaches Art and Culture in Italy, and adjuncts associated with the Center who teach the elective Preservation and Contemporary Architecture of Rome courses.
The program is prefaced by required completion of two levels of Italian language, and an intensive 10-day language and culture introductory course. Roughly 12-13 weeks are spent in residence in Rome with two to three weeks of regional travel accompanied by faculty experts.

The Rome program Offsite Program Questionnaire is available at http://www.arch.rpi.edu/naab/58-OffsiteProgramQuestionnaires.pdf

**India Studies Program - Center for Environmental Planning and Technology, Ahmedabad, India**
The India program at Rensselaer's School of Architecture is associated with CEPT University in Ahmedabad, India. Ahmedabad is a vibrant metropolis of 5 million inhabitants located in the northwestern part of India. It has a dry desert-like climate. Students in this program are immersed immediately in Indian culture while studying at CEPT University, which is one of the premier schools of architecture in India. It was founded in 1962 by Balkrishna Doshi, an internationally renowned architect, who at age 89 still maintains a thriving practice in Ahmedabad producing buildings and urban design of exceptional quality.

Rensselaer's School of Architecture has had a relationship with CEPT for more than twenty years. This relationship involves CEPT's acceptance of a small number of RPI students and one RPI faculty member in the spring semesters of odd-numbered years. In turn, RPI hosts a small group of CEPT students for a semester.

While the RPI group is in India, they take several extended field trips throughout India. Each trip encompasses about 7 – 10 days and altogether the travels account for about one month. These travels are effectively study travels as students have to keep a sketch diary as well as make written accounts of their experiences. India is a country of enormous diversity in terms of language, culture, and architecture. It has a rich and deep architectural history that has syncretized indigenous architectural practices with those of the Mughal conquerors and those that were part of the British Raj. With its independence, India was anxious to modernize and as a result has the most works by Le Corbusier of any country except France, Four of those buildings are in Ahmedabad as is Louis Kahn's India Institute of Management. Ahmedabad is composed of an old town on the eastern banks of the Sabarmati River; it is made up of intimate neighborhoods, or pols. In contrast, the newer city, is on the west bank and has essentially grown up in the last 60 – 70 years. Ahmedabad was, and still is to a lesser degree, known for its textile mills. One of the textile owners, Kasturbhai Lalbhai endowed CEPT University. Our students benefit from having critiques and reviews with India architects and CEPT faculty. Their projects are situated in Ahmedabad and focus on the making connections between exiting urban fabric, new urban fabric, and the unique condition of Ahmedabad along the Sabarmati riverfront.

The India program Offsite Program Questionnaire is available at **http://www.arch.rpi.edu/naab/58-OffsiteProgramQuestionnaires.pdf**


**China Studies Program – Tongji University: School of Architecture -** In support of the program's commitment to expanding the intellectual, cultural, ethnic and regional diversity throughout the school, preparing our students for future leadership roles, promoting the value of global citizenship and providing a multi-cultural experience for our students with resounding impact, the Rensselaer's study abroad program established a strategic relationship with one of the leading architecture schools in China over 19 years ago. In recognition of Tongji University's international reputation as one of the finest architecture programs in China, we developed a bi-yearly study abroad agreement bringing students and faculty from each of the respective programs together for an immersive semester-long studio-based curriculum experience.

Situated on the prestigious Tongji University campus in Shanghai, China, Rensselaer students have the unique opportunity to collaborate with fellow Tongji students, learn from distinguished faculty from their university, partake in shared studio and seminar courses, have access to a range of all-school public events, and travel to significant destinations throughout China to see in person contemporary and ancient architectural masterwork buildings.

Additionally, given that China has had the fastest growing and most robust building sector in the world, RPI students witness an unprecedented amount of new buildings and urban development throughout their time abroad, which represents an invaluable first-hand experience as future architects. Many of our students have developed meaningful friendships and business contacts that will serve them well as they move forward into an internationally competitive market after graduation.

The China program Offsite Program Questionnaire is available at http://www.arch.rpi.edu/naab/58-OffsiteProgramQuestionnaires.pdf.