

**Virginia Polytechnic Institute and State University
School of Architecture+Design**

Architecture Program Report for 2018 NAAB Visit for Continuing Accreditation

Bachelor of Architecture: 160 credits

Master of Architecture

M.Arch 2: preprofessional degree + 54 credits

M.Arch 3: nonpreprofessional degree + 84 credits

Year of the Previous Visit: 2012

Current Term of Accreditation: "the professional architecture programs: Bachelor of Architecture / Master of Architecture were formally granted six-year terms of accreditation. The accreditation terms are effective January 1, 2012. The programs are scheduled for their next accreditation visit in 2018."

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Section 1. Program Description

I.1.1 History and Mission

The program must describe its history, mission, and culture; and how that history, mission, and culture shape the program's pedagogy and development.

Virginia Tech

The institution now known as Virginia Tech or Virginia Polytechnic Institute and State University, originated as the Olin and Preston Institute, established in Blacksburg, Virginia as a Methodist academy in 1851. With the passage of the Morrill Land-Grant College Act of 1862, the Institute was re-chartered with collegiate powers. In 1872, the name was changed to Virginia Agricultural and Mechanical College. The Corp of Cadets was initiated in 1891, and in 1896 the name was changed to Virginia Agriculture and Mechanical College and Polytechnic Institute, which immediately became known informally as Virginia Polytechnic Institute or VPI.

Some of the early university buildings, especially surrounding the "drill field" at the center of the campus, where the cadets practiced marching in formation, were built from local dolomitic limestone, quarried on or near the campus. This "Hokie stone" has come to represent adherence to tradition at Virginia Tech, and most new campus buildings must include a specified percentage of exterior surface clad with Hokie stone.

Today the University consists of nine colleges: Agriculture & Life Sciences, Architecture & Urban Studies, the Pamplin College of Business, Engineering, Liberal Arts & Human Sciences, Natural Resources and Environment, Science, the Virginia-Maryland Regional College of Veterinary Medicine, and the Carilion School of Medicine and Research Institute. Total student enrollment for 2016-17 was 33,170--with 31,090 on the main campus in Blacksburg. The overall student-faculty ratio is 16:1. Virginia Tech offers more degree programs than any other university in the state with more than 100 bachelor degree programs and 150 graduate programs. The University generated \$504 million for research programs in fiscal year 2015, ranking it 44th in the nation, according to the National Science Foundation.

The University's Institutional Statement of Mission is as follows:

Virginia Polytechnic Institute and State University is a public land-grant university serving the Commonwealth of Virginia, the nation, and the world community. The discovery and dissemination of new knowledge are central to its mission. Through its focus on teaching and learning, research and discovery, and outreach and engagement, the University creates, conveys, and applies knowledge to expand personal growth and opportunity, advance social and community development, foster economic competitiveness, and improve the quality of life. (Mission Statement approved by the Virginia Tech Board of Visitors, 6/4/01; revised in 2006.)

Currently, the University's new President, Timothy Sands (2014); Interim Provost, Cyril Clarke (October 2017); and faculty have been developing a long-range initiative called *Beyond Boundaries*. The enterprise aims to prepare students for purpose-driven engagement with disciplinary depth and interdisciplinary capacities by 2047. The University proposes to expand its Land-Grant mission to address complex problems that transcend economic, geographic, social, and spatial boundaries, and advance technologies both to learn from communities around the world and to expand Virginia Tech's global engagement. Coincidentally, new curricular designs advance student driven educational trajectories, including varied "pathways to general education and destination areas." See: [Beyond Boundaries framework](#), as revised in November 2016, as opposed to Virginia Tech's [2012-2018 Strategic Plan: A Plan for a New Horizon: Envisioning Virginia Tech](#).

College of Architecture & Urban Studies

Architecture was initially taught at VPI in 1928 as architectural engineering. Clinton H. Cowgill, for whom the current primary facility of the College is named, led the department for 28 years. In 1956, the Board of Visitors authorized the offering of the professional degree of Bachelor of Architecture. That year, Leonard J. Currie became head of the department of architecture in the School of Engineering and Architecture.

In 1964, the Department of Architecture became part of a new College of Architecture under the direction of Dean Charles Burchard, FAIA. In 1973, the College of Architecture became the College of Architecture and Urban Studies and expanded to include the department of Urban Affairs and Planning.

Dean Burchard served the College up to 1979, a period that saw its development into a comprehensive professional school and its emergence as an exemplary and innovative center in architectural education. Dean Burchard oversaw the construction of Cowgill Hall, dedicated in 1970, which remains the home of the College administration and the School of Architecture+Design. In 1983, Burchard was awarded the AIA/ACSA Topaz Medallion for lifelong achievement in teaching, creative work, and service for the advancement of architectural education. Burchard continued to provide inspiration for the program until his death in 1990. In recognition of his contribution, a new studio and workshop building was dedicated as Burchard Hall in September of 1998.

Among the innovative new faculty that Dean Burchard brought to the school in his early tenure was Olivio Ferrari, who joined the College in 1965. Professor Ferrari, a native of Switzerland, was educated at the Hochschule für Gestaltung in Ulm, Germany, practiced and taught with Max Bill, and taught at the ETH in Zürich and later at Auburn University. Together, Burchard and Ferrari developed a comprehensive plan for revision of the architectural curriculum in 1965 and oversaw its implementation in the following years. Many of the fundamental educational tenets of this plan have continued to guide and inspire the program. In 1982, Professor Ferrari was awarded the title of Virginia Tech Alumni Distinguished Professor, and in 1990 he received the honor of Distinguished Professor from the ACSA.

After implementation of the Burchard/Ferrari plan, the architecture program was organized into three 2-year divisions. In the first division, the “Foundation” labs and seminar-workshops were taught as “search courses,” with stress on process rather than solution. Education was to proceed by experimentation and not by reliance on the authority of the faculty. Both the faculty and students were to engage in joint identification of problems and explore processes leading to design propositions. The second two-year division employed the same educational techniques as the first, but challenged students to attain new levels of sophistication and competence, with an emphasis on developing a professional attitude toward architecture. The content of the labs and workshops included the study of structure, mechanical systems, and building construction. After completing the first and second divisions (four years), students elected to either complete a terminal fifth year and receive a Bachelor of Architecture, or enter the third division, a two-year Master of Architecture program.

Off-campus education was added to the curriculum early on. The Architecture Europe Study Abroad Program was begun in 1966 by Professors Olivio and Lucy Ferrari and aimed at introducing students to historic and contemporary examples of European architecture and culture. The program continued to flourish under the leadership of Professor Gene Egger, whose continuous involvement dates back to 1968. Since 2004, Professor Heinrich Schnoedt has continued to nurture the travel program, as well as expand off-campus offerings. Aware of its responsibility to address design issues in the context of the city, the College established the Washington-Alexandria Architecture Center in 1980. Directed by Prof. Jaan Holt until 2016, and today by Prof. Susan Piedmont-Palladino, the Center provides architecture students with an opportunity to study architectural design in an urban context. The program also affords an opportunity for Virginia Tech students to study in close association with the professional architectural community in Washington and northern Virginia.

Under the leadership of Dr. Charles Steger, FAIA who served as Dean from 1983 to 1993 (and later, President of the University from 2000-2014), the architecture program developed its “Second Generation Mission,” which addressed the current needs of the profession and challenges to its future. With this initiative, the College increased its research mission, enhanced its technological presence, and reorganized its administration. Dean Steger authored a statement of the educational tenets of the school. Based on the educational ideas of Gropius and Itten at the Bauhaus and initiated within the College by Burchard and Ferrari, they included: student self-activation, freedom of the student to determine the focus

of his or her education, student self-pacing, self-criticism and self-correction, an attitude of constructive discontent, and a commitment to holistic and heuristic learning.

The success of the Europe travel program led to the creation of a University Center for European Studies and Architecture (CESA) in 1992. Dean Steger, together with Professors Olivio and Lucy Ferrari, were instrumental in the establishment of this Center. Located in the village of Riva San Vitale, on Lake Lugano in the Ticino region of Switzerland, the Center provides a base for the Europe Study Abroad Residency program, as well as accommodating other majors within the University. Upon Steger's retirement from the University in 2014, CESA was officially renamed, The Steger Center for International Scholarship.

In 1993, Dr. Patricia Edwards became Dean. At this time, the architecture program was re-organized as a department within the College, headed by Professor Ron Daniel. During Prof. Daniel's tenure as department head, the Industrial Design program was established within the architecture department, enrolling its initial freshmen class in 1995.

In 1997, Dr. Paul Knox became Dean of the College. In the 2002-03 academic year, Dean Knox led the College through a restructuring effort, during which the Department of Art and Art History, formerly in the College of Arts and Sciences, joined the College of Architecture and Urban Studies. At the same time, under the leadership of Architecture department head Frank Weiner, the Architecture and Industrial Design programs were joined by the Interior Design program, formerly in the College of Human Resources and Education, to become the School of Architecture+Design, initially led by Weiner. Professor Scott Poole was selected as director in 2004. In 2007, the Landscape Architecture program, previously a separate department within the College, became a part of the School of Architecture+Design.

During the fall semester of 2002, the Chicago Studio was established by Prof. Kathryn Albright to foster relationships between the School and the professional architectural community in Chicago. The Chicago Studio allows students to spend a semester in Chicago, working closely with local professionals in a studio setting and studying various aspects of professional practice. This ongoing initiative received an NCARB Prize in 2005.

Prof. A.J. "Jack" Davis was selected as Dean of the College of Architecture and Urban Studies in the spring of 2007. Under Dean Davis's leadership, the Department of Art & Art History was reorganized as the School of Visual Arts, and the Dept. of Building Construction established the Myers-Lawson School of Construction, in collaboration with the Construction Engineering and Management program in the Dept. of Civil and Environmental Engineering in the College of Engineering. In October 2017, Prof. Richard Blythe became the seventh dean in the College's history.

Prof. Scott Poole served as Director of the School of Architecture+Design until June 2011, when he left Virginia Tech to become Dean of the College of Architecture and Design at the University of Tennessee. Since Poole's departure, there have been three Directors of the School. Poole was succeeded by Prof. William Galloway, a member of the faculty since 1988, who held the position until 2014 when a national search resulted in the hiring of Prof. Henri de Hahn. De Hahn stepped down from his position in 2016 and graduate program chair, Prof. Hunter Pittman, took on the role of interim Director. Today, Prof. Pittman holds the title of Director.

School of Architecture+Design

The School of Architecture+Design currently offers accredited professional undergraduate programs in Architecture, Industrial Design, Interior Design, and Landscape Architecture, accredited professional graduate programs in Architecture and Landscape Architecture, non-professional and post-professional masters' degrees in Architecture and Landscape Architecture, and a Ph.D. in Architecture and Design Research. In 2016-17, the School was home to more than 1150 students, with 570 in the B.Arch program and 142 in the M.Arch program, and more than 80 faculty members.

The primary emphasis of our School's educational efforts continues to be on the cultivation of each individual student's active and contemplative capacities as fundamental to the development of the self-

reliance and independence necessary to assume leadership roles in their chosen profession. As a large school, we strive to provide a broad infrastructure to support student learning, ranging from numerous off-campus programs to a set of well-equipped workshops. These offerings expand the professional curricula and enable students to take individual responsibility as active participants and decision-makers in their own education. The inclusion of the Architecture, Industrial Design, Interior Design, and Landscape Architecture programs within the School of Architecture+Design formalizes our belief in the value of allied disciplines in which students can directly experience a range of analogous modes of thinking and working. Further, architecture students can take advantage of the wide range of educational offerings within the College and the broader University.

As architecture students learn to activate their own unique abilities and capacities, they must also be confronted with the standards of the profession and challenged by the traditions of excellence inherent in the discipline of architecture. As they mature in their studies, students are guided to pursue the highest aspirations they can identify and to accept professional responsibility for their work. Virginia Tech architecture students routinely win or place in national and international design competitions, and our former students consistently out-perform the national averages on the Architect Registration Exam (ARE). The School of Architecture+Design's commitment to excellence in professional design education is demonstrated by the high national rankings of its programs. Our architecture program was recognized as one of America's World-Class Schools of Architecture with highest distinction—tied with Harvard, Yale, and Columbia Universities—in the 2009 DesignIntelligence rankings. This multidimensional ranking was based on five criteria: current rankings by professional practices; historical 10-year rankings by professional practices; rankings by academic department deans and chairs; overall campus environment and student evaluations; and program accreditation. Moreover, our B.Arch. program has been ranked in the top five among all NAAB-accredited undergraduate programs by DesignIntelligence in eleven of the last twelve years, including being 4th in the nation in the most recent 2017-18 evaluation. In a survey of deans and chairs of schools of architecture and design, the undergraduate Architecture program was recognized as the 3rd most admired program nationally “for its accomplished faculty, community outreach, and high-quality design.” In 2017-18, the graduate Architecture program was ranked 11th in the nation among NAAB-accredited graduate programs. Moreover, the undergraduate Landscape Architecture program ranked 15th and the undergraduate Interior Design program ranked 5th, nationally.

The School remains committed to maintaining and advancing excellence in undergraduate architectural education, while simultaneously cultivating outstanding graduate professional and research programs. Research-oriented and post-professional master's programs have also been strengthened, significantly contributing to the University's research mission. In the fall of 2007, a new Ph.D. program in Architecture and Design Research admitted its first cohort of students, expanding opportunities for advanced study and fostering the development of research and scholarship in architecture and design. In the last ten years, several students have earned Ph.D.s from our program and many continue to develop their research and teach in universities in the U.S. and abroad. At the Master's level, proposals for three new M.S. in architecture concentrations: Design Technology, Impact Design, and Design and Health are under University curricular review.

Excellence in research, scholarship, and creative achievement are expected in a comprehensive research university like Virginia Tech. In part through our Center for Design Research, the School is expanding opportunities for both undergraduate and graduate students to participate in important design research endeavors, including design-build projects, such as the construction of an amphitheater and field house for the town of Covington, Virginia, and building science research, such as the evaluation of storm water runoff mitigation by vegetative roofs. Foremost among these efforts has been Virginia Tech's FutureHAUS research, which expanded upon the corporate partnerships, transdisciplinary research groups, and construction-based innovations developed during the LumenHAUS project, winner of the 2010 Solar Decathlon Europe competition. Between 2014-2017, four full-scale programmatic unit prototypes for a home of the future based on a plug-and-play “cartridge” system have been built and exhibited nationally. A complete FutureHAUS is under development for the 2018 Solar Decathlon Middle East. Other important outreach efforts of the School of Architecture+Design include the International Archive of Women in Architecture (IAWA), studio projects serving local communities, and service abroad

projects around the world. Such efforts to share the knowledge and abilities of the School's students and faculty members with local, regional, national, and international communities are part of our responsibility to engage in outreach, extension, and service, fulfilling the University's land-grant mission and demonstrating Virginia Tech's motto, *Ut Prosim*, "that I may serve."

The Mission Statement of the College of Architecture & Urban Studies is:

The mission of the College of Architecture and Urban Studies is to understand, through acts of creation, design, construction, and analysis, the forces that give meaning and value to the built environments that shape our lives.

The current Mission Statement of the School of Architecture+Design is:

The mission of the School of Architecture+Design is to create a setting for the pursuit of theoretical, practical, and productive knowledge, embracing the duality of the education of an individual and the practice of a profession. The School takes a decidedly Modern position towards design and simultaneously seeks to understand the structure of historical development and culture. The School has a long-standing commitment to international and urban studies through its off-campus programs, including a number of Study Abroad options, the Chicago Studio, and the Washington-Alexandria Architecture Center. The objective of the School of Architecture+Design is to produce graduates who will be leaders in their chosen professions and in the communities in which they live. The School seeks to provide a forum that cultivates vigorous dialogue and debate, enriching the interrelations between education and practice.

I.1.2 Learning Culture

The program must demonstrate that it provides a positive and respectful learning environment that encourages optimism, respect, sharing, engagement, and innovation between and among the members of its faculty, student body, administration, and staff in all learning environments, both traditional and nontraditional.

University policies related to student codes of conduct, student life, etc., may be found in the Virginia Tech [Hokie Handbook](#), as well the School of A+D has a [student life](#) page on our website. This local site aggregates descriptions and links to: dean of students, division of student affairs, residence life, graduate life center (glc), and fraternity and sorority life. Our website also includes a page collecting [student policies](#). This page includes links to: Undergraduate Course Catalogue and Academic Policies, Undergraduate Honor System, Graduate Architecture Program Policies, Graduate Catalogue: Policies, Procedures, Academic Programs, and Graduate Honor system.

Moreover, the School supports the [Virginia Tech Principles of Community](#), which affirm the values of mutual respect, diversity, and dignity. In support of these principles, Virginia Tech has in place an "Anti-Discrimination and Harassment Prevention Policy," [Policy 1025](#) and all faculty and staff in the College of Architecture and Urban Studies are required to participate in training workshops related to Conflict Resolution, Harassment and Discrimination, Title IX, and the Violence Against Women Act, biennially. Such equal rights oversight is conducted by the [Office of Equity and Access](#) which also houses the offices of ADA and Accessibility Services and Affirmative Action.

At the College level, the associate dean for academic affairs provides academic leadership and student services, as well as development activities for students of the college. The current associate dean, and former chair of the School's Foundation Program, Kathryn Albright was inducted into the academy of Faculty Leadership in 2016--recognized for her guidance with the School of Architecture+Design's First-Year Experience program, as well as key initiatives related to student advancement in the College and across the University. She continues to act as an advocate for students, with a particular focus on diversity, including serving as chair to the CAUS Diversity Committee which is composed of student ambassadors and faculty from across the College.

Within our collegial culture of mutual respect and understanding, sits the School's Studio Culture Policy. A .pdf file of the studio culture policy is documented in Section 4: Supplemental Materials: [Studio Culture](#)

[Policy](#). As well, the [Studio Culture Policy](#) is accessible, and has been since 2011, on its own dedicated page on our School's website. The School first developed its Studio Culture Policy in 2005, based on discussions with faculty and student groups. The faculty then reviewed the draft policy with students in all design studios for comment. When all suggestions were incorporated, and all students and faculty had approved the document, it was formally adopted by the School. The policy is distributed to all incoming students and included in the School's e-newsletter, the *A+D Weekly*, at the start of each school year. Because the Studio Culture Policy is an evolving document, faculty and students are encouraged to discuss the policy in real-time and to comment and make constructive suggestions on its development online. Since the last accrediting visit, the policy has been evaluated twice. In 2014, the policy was reviewed and sustained unchanged. Again, in the spring of 2017, a student-based Studio Culture Policy discussion group organized to evaluate if changes to the policy were needed. In the fall 2017 and spring 2018, the students revised two extant bullet points and added one new item to address the respect and care for our facilities and equipment that support the shared learning environment.

Another critical principle within Virginia Tech's Principles of Community is represented by its motto, *Ut Prosim* (That I May Serve). Students in the School of Architecture+Design serve with distinction and great variety. Some examples of their efforts in serving the School's community include:

- [Studio Collective](#) Established in 2014, "Studio Collective" is the official design journal of the School of Architecture+Design at Virginia Tech, and celebrates the work of students with the aim to broaden awareness and conversations about design. Studio Collective focuses on student projects, but also features in-depth interviews, articles, event coverage, and relevant news in our community. While advised by a faculty member, the full endeavor is undertaken by an enthusiastic and organized team of design students from a range of majors and walks of life that shares an aim "to garner love and admiration for the hard work of Virginia Tech's design disciplines." A new issue is released every semester.
- [Student Organizations](#) Students from the School have memberships and engagement through local chapters of AIAS, NOMAS, APX, Sigma Lambda Alpha, Design for America, and Habitat for Humanity.
- [Digital Mentorship Collaborative](#) The Digital Mentorship Collaborative (DMCO) is a collective of students within the School of Architecture+Design at Virginia Tech working together to mentor and teach each other digital tools. Each spring semester, students from the DMCO lead week-long digital workshops with the first-year students in the School, and host a visiting practitioner to lead an advanced digital workshop.

Additional examples of community building include opportunities directly influencing the development of the built and natural environment. The Virginia Tech chapter of Habitat for Humanity participates in a significant, yearly fund-raising effort, "Shack-a-thon" and are active in house builds with the NRV chapter. The design/build LAB has directly engaged economically challenged regions in Virginia and Hokies for Haiti, a cohort of students from architecture and building construction, has engaged in designing and building a school for a remote Haitian village.

Finally, the Architecture Programs engage in several recurring and collective events that encourage learning that straddles the inside and outside of coursework boundaries. Since the spring 2012, the School has hosted more than 100 [visiting lecturers](#). In addition, architecture [faculty lectures](#) are routine at the Thursday afternoon school-wide lecture series. This provides an opportunity for all students in all programs to become familiar with a wider range of faculty research interests than only those of the faculty with whom they have direct contact. These lectures also create an important scholarly dialogue between faculty across the School. More structured seminar events include [conferences, symposia, and workshops](#). Some notable examples include:

April, 2017	Frascati Symposium III	Washington-Alexandria Center
February, 2016	Second Annual Robotics Workshop	Research+Demonstration Facility
February, 2016	CAUS Faculty Research Symposium	Cowgill, Burruss, Bishop-Favrao Halls
November, 2015	The Lines of Douglas Darden	Cowgill Hall
March, 2014	Frascati Symposium II	Washington-Alexandria Center

[Exhibitions](#), from on-campus to out-of-state, are a critical element toward our encouragement of collective sharing and learning. While gallery and traveling exhibitions are executed, they are infrequent given their intensive time and financial demands. However, the lobby of the architecture building, Cowgill Hall, remains in almost continuous use during the academic year as an exhibit space for the presentation of the work of individual architecture, industrial design, interior design, and landscape architecture labs across the School; study abroad groups; undergraduate and graduate thesis students; alumni; and faculty-generated exhibitions.

I.1.3 Social Equity

The program must have a policy on diversity and inclusion that is communicated to current and prospective faculty, students, and staff and is reflected in the distribution of the program's human, physical, and financial resources.

On January 30, 2017, an article in METROPOLIS magazine recognized the School of Architecture+Design in Virginia Tech's College of Architecture and Urban Studies, one of the most diverse and inclusive design and architecture schools in the nation. The article, entitled: "[Diversity Champions: 8 Schools That Aren't Just Paying Lip Service to Diversity](#)," states that "many colleges are working to be more inclusive, but these architecture and design schools are going above and beyond... From scholarships to inclusive faculty training programs, these schools are game changers, setting a new precedent for more inclusive higher education." Our school, with a student enrollment equal to 69% White to 31% Minority and International, was recognized uniquely as "Best in Inclusive Pedagogy." Needless to say, we were very excited by the recognition of our approach to diversity which starts as initiatives at the University level and coalesce as engaged pedagogy for the students in our School.

The University, in addition to being listed as one of Forbes' Top 25 Public Colleges, is ranked by the Princeton Review as 7th in the Nation for "Lots of Race/Class Interaction". The campus-wide effort to make diversity a priority has also led to its recognition as a "Diversity Champion" by *Insight into Diversity*—the oldest and largest publication in higher education devoted to diversity. The foundation for these accolades is Virginia Tech's Office for Inclusion and Diversity, and their initiative called [InclusiveVT](#). Two CAUS Associate Deans serve on the Advance VT/Inclusive VT team, which meets regularly throughout the year. Its programs support efforts to build an inclusive and diverse campus through an organizational environment supporting: Access and Success, an Inclusive Framework, and a positive Campus Climate and Intergroup Relations. The University's [Diversity Strategic Plan \(2013-2018\)](#) established these initiatives targeting continuous improvement and planning in this area. Hand-in-hand is Virginia Tech's initiatives to promote new forms of pedagogy, literally teaching teachers how to enable inclusive classrooms. Virginia Tech's efforts in this area with regard to students extends back to 1993 with the establishment of the [Multicultural Academic Opportunities Program](#). The central goal of MAOP was and remains the promotion of diversification within the student body of Virginia Tech. MAOP has provided a strong footing for an InclusiveVT.

The University's strategic plan for diversity explicitly calls upon the colleges to develop diversity plans of their own, consonant with those of the University. The College of Architecture and Urban Studies established a Diversity Committee to organize and support annual initiatives that engage the University community, as well as the College. During 2016-2017, there were several [Diversity Committee events](#), including: a series of themed dialogues identified as "Intersections: Interdisciplinary Conversations about Social Justice and the Built Environment;" an "Exhibition of Cultures: Traditional Garments and Accessories from Countries and Regions;" documentation of "Community Narratives"--a collection of individual portraits combined with personal response to the question, "Based on your lived experiences, what does diversity mean in your life?"; as well as a discussion about the MLK Memorial in Washington, DC during VT's MLK week and VT's Principles of Community week. The events took place in the Art + Architecture Library and each drew between 50 – 100 people. Along with the cultural textile exhibition, there was a fashion show in which three-dozen students from the School modeled clothing from 17 countries. Additionally, the College's diversity initiatives include the establishment of CAUS Diversity Recognition Award, which acknowledges accomplishments of faculty, staff, and students. Nominees are

solicited and voted upon by the College's Honorifics Committee, and presented annually at the College's awards ceremony.

Architecture faculty have also established and continue to lead diversity efforts that not only engage the School, but also the College, the University, the nation, and the world. Most long-standing is the [International Archive of Women in Architecture](#) (IAWA), housed in Virginia Tech's special collections library and founded by former Architecture faculty Dr. Milka Bliznakov (1927-2010). The IAWA began with Dr. Bliznakov collecting materials of pioneering early twentieth-century women architects. Currently, the [IAWA Center](#) is led by Architecture's G.T. Ward Professor of Architecture, Donna Dunay. In 2017, the IAWA hosted its annual symposium in Blacksburg, bringing women architects and designers from around the world to our campus. The keynote speaker was Professor Lesley Lokko, Head of the Graduate School of Architecture in Johannesburg, South Africa. Overall, hundreds of CAUS students and visitors attended the keynote lecture, as well as talks and workshops led by women architects from around the globe and our School. In 2015, in conjunction with IAWA Symposium, the IAWA hosted the 18th l'Union Internationale des Femmes Architectes [UIFA](#) Congress between July 26- 31, with events in Washington D.C. and Virginia Tech, in celebration of 30 Years of the IAWA. This event brought over 90 delegates from 14 countries of the world from North, Central, and South America, as well as Europe, Asia and Africa.

Other IAWA Center initiatives and events include:

- The Milka Bliznakov Research Prize, established in 2001 to honor the IAWA founder and advisor emerita. Yearly, the IAWA Center invites architects, scholars, professionals, students, and researchers to apply and selectively funds research on women in architecture and related design fields.
- "Fire in the Library" was a series of presentations and discussions organized by the IAWA Group. Four events were hosted in 2016-17, including a [conversation](#) with the IAWA Group's student researchers.
- Ongoing work includes, additions to the archive, as well as scholarship written by its board members and architects from around the world.

Within the School, we have two student organizations overtly directed toward social equity:

- The National Organization of Minority Architects, Student chapter (NOMAS) was founded within the CAUS in October 1992 and became registered in 1993 as the MAC (Minority Architecture Coalition). They are a student-oriented organization focused on helping minorities in architecture network with each other. Spring 2017, the group re-organized to better serve the community.
- SCOPE (Student Coalition Organizing Progressive Engagment) was founded by School of Architecture+Design undergraduate and graduate students to actively engage in broadening the scope of their design education. It is an avenue to supplement their education with topics and issues that they feel should be addressed. Their aims are: 1) To encourage diverse representation in the student body, faculty, and administration; 2) To promote social consciousness as a critical responsibility for all designers; and 3) To ask difficult questions of our peers and faculty. Events in 2016-17 included an open lecture by Weston Walker of Studio Gang was held in Hancock 100 and noon presentations in the College's Art + Architecture Library. Topics included "Designing in a New Political Era," "Craft and Form," "Appalachian Identity," "Architecture and Capitalism," "American Urban History," "Design in Crisis," and "Design Across Disciplines."

The diversity of the School's student body has been significantly enhanced since the last accreditation visit (see Part III: Statistical Reports), or go directly to [ARS data](#). Although progress has been made in the past five years regarding the number of women faculty members, faculty and staff diversity continues to lag behind both the diversity of the student body and the diversity of faculty university-wide. Virginia Tech's [AdvanceVT](#) policies and programs provide guidance in addressing this issue. Additionally, the University's new PIBB budget model includes qualitative analytics tied to faculty and staff diversity. While the College and the School are focused on enhancing the diversity of our faculty and staff, we have discovered that in the former case, there are discipline-specific challenges presented by our rural, Appalachian locale, as well as the historic lack of diversity in the profession. All searches for faculty

positions are conducted in accordance with the procedures defined by the Virginia Tech Office of Inclusion and Diversity. Virginia Tech follows the [EEO/AA](#) and its related [Policy 1025](#) (regarding Harassment, Discrimination, and Sexual Assault), and requires that the applicant pool for each position be certified as sufficiently diverse in order for the candidate review process to proceed. The School has engaged in rigorous efforts to recruit well-qualified women and minority candidates for available positions over the last five years, including chairing and populating search committees with under-represented faculty. Our efforts will be expanded for future searches as we work to enhance faculty and staff diversity on par with our student body. For more information on Virginia Tech equity initiatives, see [InclusiveVT](#).

I.1.4 Defining Perspectives

The program must describe how it is responsive to the following perspectives or forces that affect the education and development of professional architects. The response to each perspective must further identify how these perspectives will continue to be addressed as part of the program's long-range planning activities.

A. Collaboration and Leadership:

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

Culture of Collaboration

The culture of collaboration in the programs is conceived of as manifest at multiple scales, from the greater region to the University, and from the College to the School and design labs. These nested scales of community create opportunities for students to engage in the challenges of collaboration and team learning, not only at varying scales, but at varying degrees of complexity.

The School sees the design lab as a nucleus in these nested scales and encourages students to carefully consider their role and responsibility as collaborators in an inherently collaborative profession. Central in this model, the design labs are open throughout the various facilities of the School of Architecture+Design. The open environment is key in establishing a sense of responsibility and reciprocity toward others through relationships between students of a cohort, students at different stages in the curriculum (e.g., first-year students mixed with fifth-year students), between students of different disciplines (Architecture, Industrial Design, Interior Design, and Landscape Architecture), and between students and faculty. The idea that community is integral to successful collaborations and leadership is thus asserted.

Rather than treat collaborative work as a task, the culture of collaboration in the school embeds dialogue as central and familiar in the daily life of the designer. The abilities to create and maintain dialogue, to review one another's work, and to contribute to a conversation about another's project are treated as fundamental skills, valued to the degree that drawing, modeling, and other, more individual-focused forms of making are valued. Early collaborations lead to collaborations throughout the students' time in the School. Early familiarity with design as a form of knowledge, and knowledge making, thus creates a shared lexicon across the unique disciplines and supports discourse capable of engaging increasingly complex work.

Informal and Formal Collaboration and Leadership

At the scale of the School and design lab, collaborations originate both formally and informally. Students use the shared and dedicated studio space for meetings to discuss and help one another with coursework. For example, first-year undergraduate students will often create study groups in the design labs to help each other with the MATH 1535-36 sequence. ARCH 3115-16 History of Architecture has formal study groups that meet weekly to compile course notes, discuss the lectures and reading materials, and collaborate on course sketchbooks.

A notable student-initiated collaboration that began as informal, and has become more formalized over the years, is the Digital Mentorship Collaborative (DMCO). The DMCO is typically composed of students from the upper years (second to fifth-year students) who meet weekly throughout the year, of their own accord, to share methods and workflows as relate to digital media. During the second semester, each

student has an opportunity to fulfill a leadership role within the School, leading workshops first to colleagues, and then later to small groups of first-year students. In turn, the School supports their efforts by sponsoring a professional to visit the school and lead a workshop to further advance the digital discourse.

Another collaborative enterprise sponsored by the school is Studio Collective. Started in the Fall of 2013, the biannual publication is created by students from throughout the school who work with faculty mentors. School of Architecture+Design students collaborate with students from across the university on the Studio Collective team. The reach of the publication extends from the four disciplines in the school toward alumni and their projects, researchers, historians, artists, and others, and is a testament to the breadth of interests and diversity of individuals and groups who contribute to the publication. As with the DMCO, student contributions and roles change year to year, creating multiple opportunities for both leadership and mentorship roles as students advance through the program.

Collaboration with Allied Disciplines and the Public

An important aspect of collaboration and leadership for the architect is through the architectural project itself. Within the School, there are several avenues for students to meet this challenge, including: the Community Design Assistance Center, Solar Decathlon projects, designs under the agency of the Center for Design Research, and various, other design-build activities. These projects present students with opportunities to confront the challenge of balancing architectural aspirations with material, technical, environmental, and financial constraints. Furthermore, students learn to collaborate with others who have the range of expertise necessary to the architectural project and present the work to both public and private stakeholders.

Collaboration and leadership are inherently valuable to the strength of the School of Architecture+Design. As future architects and design professionals, our students must be fluent in the skills of collaboration and be able to lead and successfully interact with colleagues in and outside their disciplines. The School creates the conditions for students to learn and practice these skills, and encourages and actively supports students in inventing new models and opportunities for collaboration and leadership.

B. Design:

2014 CONDITION : The program must describe its approach to developing graduates with an understanding of design as a multidimensional process involving problem resolution and the discovery of new opportunities that will create value.

The School of Architecture+Design strives to create an environment where each student's unique abilities and capacities can be activated, while challenging them with the standards of excellence and achievement that are inherent in the discipline and the profession of architecture. Students are encouraged to accept a degree of responsibility for their own education, and the level of responsibility increases as the student progresses within the program culminating in a self-directed thesis in both the undergraduate and graduate programs. A wide range of opportunities supports this independence of thought and action, which are structured through the curriculum, workshops and facilities, and the culture of collaboration.

Curriculum

Throughout the duration of study, the curriculum develops to incorporate increasingly complex information into the design work. Beginning with foundation studies, even the simplest projects reveal a multitude of questions and variables to consider. The School asserts that time spent developing a practice of engaging creative work as a form of learning, and learning to identify and explore questions relevant to a work, enables a thoughtful form of integration of variables resonant in a work. This becomes especially notable as the variables become more intertwined, complex, and nuanced. In this way, the self-directed study of the thesis project mirrors introductory design foundation work.

The curriculum is outlined in such a way that a student does not merely move from basic design questions toward increased technical complexity, but instead learns sound fundamentals to establish the

basis of integration for a range of variables and influences in an architecture project. This understanding is fostered throughout the curriculum by treating the discrete areas of knowledge, such as building science and history, as interrelated. For example, drawing skills are not taught separately from design work, and in the case of technical coursework, these courses are mostly taught by the same faculty teaching in the design labs. Thus, the curricular structure fosters an integration of knowledge that is present in all student's design work and enables students to directly test concepts learned in seminars and lectures in their design work. The work becomes increasingly detailed and multi-faceted, so it is important to offer time for students to reflect: on their own values as they are discovered, on the diverse constituencies whom they will serve, and on the environments they will participate in creating.

During the fourth year, time in the curriculum is purposefully reserved for off-campus studies where these complexities of design work are confronted in a way that is not abstract. Study in urban settings (such as the Chicago Studio, where students study under the direct advice of practitioners or the Washington-Alexandria Architecture Center, where students may study with other architecture students and faculty in an international consortium of schools) creates the opportunity to address these aspects of design. Study abroad opportunities, such as the Europe Travel Program and the Europe Residency Program at the Steger Center for International Scholarship in Riva San Vitale, Switzerland, are likewise coordinated within the curriculum structure to enhance an awareness in the student's education toward global, cultural differences. An extern program option, recently renamed the Architecture Professional Internship Program, provides a valuable link between the academic environment and architectural offices throughout the world, where one's developing design process must confront and contribute toward that of a pre-existing professional situation.

Workshops and facilities

Facilities and resources play an essential role in the School's pedagogy and support of students' pursuit of knowledge through architecture. The Art & Architecture Library, a branch of the University Library system housed in Cowgill Hall, is integral to the life of the students and community. The library boasts a large collection of research and study materials, including an extensive set of architect's working drawings of significant buildings. Additionally, the library sponsors and hosts events to engage the School's, and the University's, diverse constituency through public exhibitions, forums, lectures, and debates. For example, the Art & Architecture Library has been home to numerous events organized by the International Archive of Women in Architecture (IAWA) and the Student Coalition Organizing Progressive Engagement (SCOPE).

The School of Architecture+Design's workshops and facilities are incorporated into the education of our students from the very beginning. The School considers sound design work to be grounded in the physical qualities, limits, and potential of things. The knowledge gained by working directly with materials is considered foundational to the understanding of design as generative of new forms of knowledge. The pedagogical role of the workshops and lab facilities is essential in the School because the testing of ideas through the making of things and through the experience of a direct relationship between design decisions and the attributes of materials, processes, and tools are of vital importance. Therefore, the School of Architecture+Design provides labs and workshops for woodworking, metalworking, plastics, ceramics, printmaking, textiles, and photography, in addition to digital labs for 3-D printing, digital output, and rapid prototyping. These resources are integrated into all aspects of student work, and are responsible for the vitality of a school-wide culture of making and testing through a broad spectrum of media.

As we support our students in acquiring 21st century skills in digital media, the School of Architecture+Design maintains the position that such media are not simply a progression from analog tools, but an expansion of our students' toolkits, and we encourage them to learn the opportunities and limits inherent in each tool for addressing increasingly complex problems as they progress through the curriculum.

Integration is undoubtedly a core principle in sound creative work, and yet, the intricacies and complexities of design processes are not well suited to a formulaic method or analysis. The curriculum

and the support for students through facilities leaves room for discovery. Our approach to developing graduates who understand design as multi-faceted and complex relies upon students to become actively aware of their unique interests and to actively develop them as a move toward the profession with the commitment toward an improved future.

C. Professional Opportunity:

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

A fundamental goal of the School's curriculum is to provide students with the intellectual and operational skills necessary to assume leadership roles in the architectural profession. It is our obligation to ensure that our graduates are prepared to function as professionals with exemplary ethical and aesthetic judgment in a context of global practice, cultural diversity, and an expanding knowledge base.

Virginia Tech is located in the mountains of southwestern Virginia, some distance from major metropolitan areas. Nonetheless, our students have a broad range of opportunities to engage professional opportunities, and professionals have a number of opportunities to establish short and long-term relationships with the School and our students. The world is brought to Blacksburg in the form of lectures, seminars, critiques, workshops, and teaching by visiting practicing professionals.

Profession and Coursework

Students must have multiple opportunities to connect with the broader world through off-campus programs in the U.S. and abroad. In addition to offerings at the main campus in Blacksburg, our architectural programs extend to the Washington-Alexandria Architecture Center in Alexandria, Virginia and the Chicago Studio in Chicago, Illinois, allowing students to work part time with practicing professionals. The Architecture Professional Internship Program places students in full-time internships for a semester for academic credit, integrating everyday architectural practice in an architect's office into their educational experience. Importantly, off-campus programs introduce students to new environments and situations, and these programs also develop professional opportunities in the global community.

ARCH 4044/ 5044G Professional Practice is a required course where students learn about the traditional roles, responsibilities, and career paths in the architecture office, and helps them to develop professional goals in line with their skills and interests. Additionally, the School and the University provide a wide range of opportunities to participate in interdisciplinary research projects such as the Institute for Creativity, Arts, and Technology (ICAT). These types of opportunities present students with non-traditional paths including exhibition design, lighting design, and other allied design practices.

Internships and Licensure

Our annual Career Day, each year in February, is an important structure to connect to the profession and exposes a breadth of professional opportunities available to students. Our students are able to network with professionals and practicing alumni in order to establish relationships which lead to internships and post-graduation employment. We encourage students to visit the Career Day event during their first years in the program in order to start learning of the range of professional opportunities and to engage in conversations about portfolio development and the types of work that different firms create. Students in the upper years of the programs return with a focus on the specific firms and types of work that they are interested in pursuing.

The School of Architecture+Design's weekly email newsletter includes professional opportunities such as internship and job openings. Furthermore, professionals from the School's wide network of alumni regularly contact the program chairs and individual faculty members when they have openings for internships or seek recommendations for students with particular skill sets.

Internships are one component of a path to licensure, and we support our students in this endeavor through exposure to the Architectural Experience Program (AXP). The School's Architect Licensing Advisor promotes the program on our [website](#), providing email contacts and giving in-person

informational sessions. Students at all levels and in all locations of the School (entering first year undergraduates; professional program undergraduates; graduate students, and students studying at the Washington-Alexandria Architecture Center) are actively supported in the foundations of professional opportunity.

D. Stewardship of the Environment:

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

Our students often arrive at the School of Architecture+Design with preexisting interest in matters relating to the environment and community. We actively acknowledge and cultivate their ambitions to be ethical architects by challenging assumptions and encouraging their investigations and resolution of inherently complex problems. The question of stewardship of the environment is included as one of many parameters our students learn to resolve as architects who will have to integrate difficult complexities, and reconcile competing concerns and interests, in their daily professional practice.

The impact of architecture on the environment is addressed through discourse in the design labs and coursework associated with building materials, processes, and environmental systems. For example, courses like ARCH 4055-56 and ARCH 5755 related to Environmental Building Systems prepare students to take the LEED exam, and many take advantage of this opportunity. Students with particular interest often extend these curricular opportunities by completing minors in areas such as environmental engineering and landscape architecture.

Faculty expertise throughout the School supports student efforts to deepen their knowledge of environmental concerns through research opportunities, design-build opportunities, and independent studies. These projects range in scale, budget and duration, yet each enables students to pursue particular interests in environmental stewardship and they learn to assert and focus their own interests and concerns in order to develop their individual expertise and career goals.

Faculty research, for example, in acoustics and green roof design, regularly offer students research collaboration opportunities. Likewise, the Prince William County Eco-Park Study, the Solar Decathlon Middle East, and the Malawi engagement sponsored by the Center for Design Research are also hands-on opportunities for students to participate in questions of environmental stewardship, and community and social responsibility, locally and internationally.

E. Community and Social Responsibility.

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

Virginia Tech has a very strong culture of service in fulfillment of the University's motto *Ut Prosim*, "That I may serve." Students and faculty pursue projects to have a positive impact on communities through design. Service activities are coordinated with the curriculum structure to provide students with opportunities to ground themselves in their immediate surroundings as well as establish awareness of global cultural differences. Students are encouraged to contribute, through service, to their community, to the Commonwealth of Virginia, and the world at large.

Virginia Tech's culture of service attracts students who are passionate about their roles in community engagement and social responsibility. The School of Architecture+Design curriculum and philosophy instill in our students a unique skill set that we believe makes them especially capable at understanding complex problems and coordinating and integrating the wide variety of concerns and opportunities that arise from the intersection of the built environment, people, and their communities.

Beyond community related architecture projects in the design lab context, students in the School participate in a range of service and community engagement projects. The Community Design Assistance

Center (CDAC) was established in 1988 to “provide underserved communities in southwest Virginia with low cost planning and design assistance, and continues to attract both graduate and undergraduate students to participate in collaborative projects and proposals.”

Another long-standing program and opportunity for students is the International Archive of Women in Architecture (IAWA), a joint program of the College and University Libraries. The IAWA, started in 1985, continues to activate discourse in the School through annual symposia and public events in the School of Architecture+Design Library, and through research-based coursework which works to publicize and build the archive’s collection while acknowledging the impact and legacy of women in architecture.

The Student Coalition Organizing Progressive Engagement (SCOPE), was founded in 2016 with a focus on bringing practicing architects to Blacksburg to present work demonstrating principles of civic engagement through architecture. SCOPE also arranges and sponsors an informal public conversation series on social, environmental, and community topics for faculty and students in the Art & Architecture Library. This past year, in addition to the public conversations, SCOPE invited Weston Walker of Studio Gang to lecture to the School on the firm’s work and position toward community engagement and social responsibility.

The Virginia Tech chapter of Habitat for Humanity participates in a significant fund-raising effort, Shack-a-thon, and the design/buildLAB has directly engaged the economically-challenged, post-industrial communities of Covington and Clifton Forge, Virginia, through community service design/build projects, such as the award-winning Masonic Amphitheater. Students also participate socially oriented work in collaboration with the broader university community as with Hokies for Haiti, a group of architecture and building construction students who have designed and built a school for a remote Haitian village.

The *Five Perspectives* overlap in important ways and contribute to the long-range planning mission and objectives of the School. The School is committed to its pedagogy, programs, faculty, and student initiatives which are integral to this vision and a robust discourse concerning its sustained development and relevancy.

I.1.5 Long Range Planning

The program must demonstrate that it has a planning process for continuous improvement that identifies multiyear objectives within the context of the institutional and program mission and culture.

The School has evolved a long-range planning process that is anchored in open dialogue including faculty, staff, administrators, and students. This open dialogue both questions and affirms the collective mission, culture, and pedagogy of the School, while enabling the School to navigate the significant challenges that arise as the University, College, and School undergo changes related to personnel, organizational, and financial matters.

Since the last accreditation visit in 2012, the Program, the School, the College, and the University have experienced seemingly continual change in leadership across all levels. There is only one Architecture Program chair that has been in their role more than two years, while the School of Architecture+Design has had three directors. In the fall of 2016, the long-standing Dean of the College of Architecture & Urban Studies [CAUS], A. J. Davis announced his resignation effective July 2017. The University Provost conducted an international search that has resulted in Australian academic and architect Dr. Richard Blythe being appointed Dean of CAUS, effective October 2017. The University searched for and hired a new president in 2014, followed by a new provost in August 2015 and then an interim provost in October 2017. Coincident with these personnel shifts, both the [2012-2018 University Strategic Plan](#) and the [CAUS Strategic Plan 2012-2018](#) were in effect superseded in 2015 by the new president’s [Beyond Boundaries Visioning Process](#) which has resulted in a massive university re-alignment planning process identified as [Destination Areas](#), and a new core-curriculum structure being launched, called [Pathways to General Education](#).

Members of the School of Architecture+Design faculty have been active participants in the [Beyond Boundaries Process](#) and on the steering committees of [Destination Areas](#). Their participation with articulating what constitutes “Intelligent Infrastructure for Human Centered Communities” and Strategic Growth Areas, such as “Creative Technologies and Experiences” and “Innovation and Entrepreneurship” have helped guide the Pathways Curriculum process and their service on sub-committees is leading to the development of new guidelines.

As part of the Beyond Boundaries planning, the University is moving toward the adoption of a “more agile funding” process, the [Partnership for an Incentive Based Budget](#) (PIBB). Refer to Section I.2.3 *Financial Resources* for more detail on potential impacts. During the last year, the School developed [PIBB metrics](#) to articulate and respond to the strategic planning process that identified:

- measures of international, national, and regional distinction,
- metrics of both student and faculty success, and
- aspirational and competitive peers for benchmarking.

Currently, the University is working with the colleges and their departments to develop the means to evaluate these metrics and effectively include them in the University’s PIBB budget model. Some of the data intended to drive the model is to be harvested from new digital forms of faculty activity reporting (FAR). The [Elements Faculty Activity Reporting \(eFAR\)](#) system was first rolled out in the last reporting cycle (January 2017) and was found to have major functionality flaws. Gathering, verifying, and evaluating the data necessary to drive the PIBB model is creating an evolving environment for strategic planning activities and a strong demand for another layer of analytical data assessment.

Beginning in the summer of 2017, the University is expanding the focus of its Beyond Boundaries and Destination Area planning project to initiatives focused on the National Capital Region (NCR). Tentatively referred to as VT-MIX [Metropolitan, Innovation, eXtension], the intent is to lengthen the University’s reach into the Washington, DC Region. Thus, the School’s Washington Alexandria Architecture Center (WAAC) is anticipated to play a role in this initiative.

The School continues to consult the 2003 School of Architecture+Design Proposal—the foundational document establishing the principles and goals for the School of Architecture+Design. These foundational principles have served the School well and the School’s programs still find value in its tenets. In light of and in anticipation of: the recent and impending leadership changes; the potent, evolving university context; another cycle of university strategic planning; and new strategic planning by the incoming dean of the CAUS relative to its four schools, the new director of the School, Hunter Pittman, has mandated the following short-term actions to achieve longer-term goals:

- **School level:** Comprehensive assessment and development of the School of Architecture+Design Proposal to support the shared values and address the mission of its four programs relative to the shifting academic landscape, and to establish a new five-year strategic plan with a concrete set of goals for the School. *Document in place Fall 2018.*
- **School level:** Reconstitute the School Advisory Board (which has been dormant since 2014), include representatives for each program, and work in concert with the new CAUS Advisory Board to solidify the School’s and College’s trajectory, and bolster the influence of our College. *Our new Dean of CAUS has asked the schools to engage in process of evaluating the advisory board structures across CAUS as part of the new strategic plan, after this process the School plans to have the new advisory board in place for Fall 2018.*
- **School level:** The Director and Assistant Director, working with the Program Chairs and in consultation with faculty, will establish concise documents and policies addressing the new demands on our School’s assessment activities. These adjustments will have particular emphasis on quantifying the new university metrics embedded in the PIBB, while maintaining the values described in the Five Perspectives. *Spring/Summer 2018 to be implemented Fall 2018.*
- **School level:** In concert with the new Dean, the CAUS Advancement Director, and the CAUS and School Advisory Boards establish explicit development goals for the School. *Document of goals – late spring 2018 & ongoing.*
- **Architecture Programs [BArch & MArch] levels:** Under the guidance of the Assistant Director for Special Projects, undertake a comprehensive review of both the undergraduate and graduate

architecture program curricula. Establish new curricular structures that appropriately interweave the long-standing goals of the programs and our consideration of the NAAB Five Perspectives relative to the demands and expectations of the Pathways to General Education/VT-shaped model, Destination Areas, and PIBB model that are framing Virginia Tech's curricular trajectories. *Process starts late Spring 2018 – curriculum package of course proposals in university governance process by Fall 2019.*

- **Graduate Architecture Program level:** Advance the decision taken last year to develop a new Master of Design degree to work in conjunction with the current Master of Science in Architecture degree program and to integrate the other design disciplines within the School into a unified graduate program that is responsive to the University's Destination Areas and which can better take advantage of developing research opportunities and respond to student demand as indicated by recent profiles. The redefinition of the post-professional Master of Architecture one-year program is to be integrated into this effort. *Process underway – comprehensive proposal to university governance by Fall 2018.*

I.1.6 Assessment

The program must demonstrate that it regularly assesses the following:

- How well the program is progressing toward its mission and stated objectives.
- Progress against its defined multiyear objectives.
- Progress in addressing deficiencies and causes of concern identified at the time of the last visit.
- Strengths, challenges, and opportunities faced by the program while continuously improving learning opportunities.

The program must also demonstrate that results of self-assessments are regularly used to advise and encourage changes and adjustments to promote student success.

The program must demonstrate a well-reasoned process for curricular assessment and adjustments and must identify the roles and responsibilities of the personnel and committees involved in setting curricular agendas and initiatives, including the curriculum committee, program coordinators, and department chairs or directors.

I.1.6.A Program Self-Assessment

The School's self-study/assessment methods are both informal and formal. The informal element is a normal part of and historically the primary strength and identity of our program operation. There is an "open door" policy in the administrative offices and daily interaction occurs between students, faculty, and administrators, where we question regularly: what we are doing, why we are doing it, evaluate the outcomes of our efforts, and exchange ideas for improvements in our curricula and our approach to teaching. Informal daily discussions for program development and curriculum improvement are formally developed and documented as required by College policies and University governance. This method of informally developing ideas, followed by formal documentation is efficient and effective. Throughout the process, faculty and administrators seek advice of students, alumni, and professionals, as well as faculty colleagues at other Schools. The College of Architecture and Urban Studies Policy #15 specifies procedures for review of academic programs within the College. For programs that undergo periodic accreditation reviews, a formal assessment is conducted by the Dean's office following the conclusion of the normal accreditation review process. The outcome of the accreditation review in the form of the Visiting Team Report is reviewed in the broader context of the College and University strategic plans, availability of resources, and projected future directions of the professions.

While asserting this context of informal, qualitative engagement, quantitative assessments do influence all facets of the operations of the programs in the School of Architecture+Design and are increasingly required by the current academic milieu. Assessments take different formats, arise in response to different mandates, inputs, information, and data from a range of sources. With regard to our broader mission, the program's self-assessment process relies on the following documented activities:

University Mandated Program Assessment for SACS Accreditation: Virginia Tech maintains [university accreditation](#) under the Southern Association of Colleges and Schools [SACS] and maintains a cycle of major assessment of all degree programs with annual reporting to update each degree through the [Office of Assessment & Evaluation](#). The degrees for both the Bachelor of Architecture Program ([2016-17](#)

[B.Arch assessment](#)) and Master of Architecture Program ([2016-17 M.Arch assessment](#)) are assessed under this requirement. In developing the SACS Student Performance Criteria, the programs consulted the NAAB Conditions and Criteria to promote an alignment of themes. The graduate architecture program chair, who sits on the University Assessment advisory committee, also ensures that architecture program assessments align with the University assessment process. With the implementation of new sets of NAAB Conditions and Criteria, the student learning outcomes and assessment process are reviewed and modified to ensure alignment with current NAAB conditions.

University Mandated Metrics for [Partnership for an Incentive Based Budget \[PIBB\]](#): During 2016-17, the School was required to undertake a planning process that identified measures of international, national, and regional distinction, metrics of both student and faculty success, and both aspirational and competitive peers for benchmarking—see [A+D's PIBB Metrics](#). Currently, the University is working with the colleges and departments to develop the means and instructions for measuring these metrics and to effectively include them in the PIBB budget model.

University Assessment of Alumni Perceptions: Each spring, the Virginia Tech Office of Academic Assessment & Evaluation conducts the “Senior Survey,” a comprehensive survey of all graduating undergraduate students. Results are compiled and distributed to each college and then to the various departments and schools. This data is an important measure of the satisfaction that students feel with regard to their education. Our students generally rate their educational experience very highly, as demonstrated in [A+D's 2017 “Senior Survey” results](#). However, since the last accreditation visit, results of a previous cycle of this survey revealed that students were sometimes receiving conflicting advice concerning academic issues. This led to adjustments by the faculty and administration to the School's advising scheme to better serve students' needs – see **Advising** below.

Program Assessment of Alumni Perceptions: The Graduate and Undergraduate architecture programs conducted a survey of alumni perceptions in the summer of 2017, in cooperation with the Virginia Tech Alumni Association. The survey was sent to 5000+ known alumni of all architecture degree programs. At the time of this report we have collated preliminary data of the 2017 [Architecture Alumni survey](#), and an analytic report is being compiled in the spring 2018. This survey was a scaled-up version of an [Undergraduate Architecture Alumni survey](#), conducted in 2015 by the Professional Program Chair, in which B.Arch graduates were surveyed two years after graduation with the aim of acquiring information on their career trajectories, as well as impressions on their educational experience after some time in the profession.

Annual Reporting by School & College: The Director of the School of Architecture+Design develops an Annual Report each July, the [A+D Annual Report](#) is submitted to the Dean of the College of Architecture & Urban Studies, which in turn is incorporated into a series of reports to the University Provost highlighting School, faculty, and student accomplishments, new actions planned to achieve strategic goals, examples of data-driven decisions and improvements, and progress / performance outcomes made toward School goals and objectives. The two most current CAUS annual reports can be reviewed: [2016 CAUS Annual Report](#) and [2017 CAUS Annual Report](#).

Annual Faculty Assessments: Data is collected annually from the faculty using the “Faculty Activity Report” required across the University. Faculty are assessed in the form of annual letters of evaluation prepared by program chairs in consultation with the School director. Each annual review takes into account the materials submitted by the faculty, as well as course evaluations submitted by students, and other relevant materials. Submitted materials and annual review letters play an important role in reappointment, promotion and tenure reviews, and salary increases. Some of the data intended to drive the new PIBB model is to be harvested from new digital forms of faculty activity reporting. The [Elements Faculty Activity Reporting](#) system was first rolled out for the 2016 reporting cycle and was found to have major functionality flaws. The data necessary to drive the PIBB model and its verification is driving the creation of a more quantitative environment on campus for assessment activities.

Faculty Input to Layered Assessment Process: The School has a strong structure of faculty engagement in faculty assessment and development, including Faculty Search Committees and the Peer Review Committee. Faculty Search Committees are formed for each search for new faculty, with a broad representation across the School and tend to be a venue for broader curricular discussions during the search process. Our search committees are also informed by student input during the search process. The School Promotion and Tenure (P&T) Peer Review Committee, an elected body, conducts focused assessments of promotion, tenure, and reappointment cases that variably includes consideration of annual faculty review letters and student evaluations, and are a point of influence by the faculty-at-large in the entire process. In the new university context, described in Long Range Planning, the School's P&T Committee plays a large role in the evolving standards that the university is developing for faculty development and promotion.

Administrator Assessment: The College deans, School directors, and Program chairs are evaluated after the second year and in the fifth year of typically five-year appointments. The faculty and staff play an active role providing confidential feedback through surveys administered by a Director's Review Committee (appointed by the dean) or the Dean Review Committee.

I.1.6.B. Curricular Assessment and Development

With particular regard to the School's curricular mission, the program's self-assessment process relies on the following:

Advising: The School has thorough and engaged student advising processes, informed by substantial assessment efforts that inform individual student communication directly, and broadly influence advising, programming, recruitment, curriculum, and resources. The School uses standard indicators (grades, retention, and time-to-degree) and individualized assessments to address each student's particular needs. The College has increased its activity in support of advising in each of the schools establishing a Coordinator of Academic Advising to lead academic advising in the College among the four schools. The University has also in the past year brought a new suite of advising tools and metrics online called the "[Student Success Collaborative](#)" that will be used to bring broader analytic data to the work of advisors. Both the College, through the office of the Associate Dean for Academic Affairs and the Coordinator of Academic Advising, and the School, through its dedicated advisors collect, maintain, and assist in evaluating enrollment trends, admissions data, and student course performance. All of this data is used in cyclical annual meetings between the University, College, and School to set enrollment targets, evaluate progress toward those targets, and to coordinate overall diversity efforts with that work. In the summer 2017, the School was awarded a university resource grant to support a new, dedicated advising position and in late fall 2017, the team member joined our staff, thus doubling our advising capacity for students in the BArch program.

Student Assessment of Learning/Education Experiences: The University maintains requirements for end-of-semester evaluation of student perceptions of course content and faculty performance. The [Student Perceptions of Teaching \[SPOT\]](#) system is centrally delivered to students via email at the end of the semester. Unfortunately, since the implementation of email managed and centrally administered evaluations, there has been a significant drop in student participation. The University is working to clarify the root cause and ameliorate the issue. The SPOT results are reported to the College Associate Dean for Academic Affairs, the School Director, and individual faculty. The results of these "SPOT" evaluations are distributed to each faculty member and also become part of the faculty member's annual review by their program chair. A summary of a faculty member's teaching evaluations is a required part of the dossier submitted for promotion and tenure reviews.

Faculty Input - Curriculum Committee: Faculty have the greatest level of involvement in influencing Curriculum Assessment and Curriculum Development. The Curriculum Committee (CC), with its elected representation, has broad faculty constituency, and is responsible for developing and assessing curricular proposals. Meetings are always open to the whole faculty—all of whom are welcome to advise the process. The CC regularly reviews syllabi, program, and course change proposals, has developed policies related to study abroad, and adjusts the guiding check-sheet for the BArch program—thus, the curriculum is regularly and fully vetted with faculty input.

The chart below details the “Parties Involved in Curriculum Assessment and Development.”

The School of Architecture+Design is committed to continuous improvement, and commits staff, time, and energy to these efforts. Curricular assessment and development are primary and integral to the overall fabric of the integrated self-assessment components described above.

Chart of Parties Involved in Curriculum Assessment & Development		
<u>Position</u>	<u>Name</u>	<u>Role</u>
School of Architecture+Design [A+D]		
Director	V. Hunter Pittman	Overall Management/ Consultation of Curriculum Proposals
Assistant Director for Special Projects	Hilary Bryon	NAAB/ guiding comprehensive curriculum structure assessment
Graduate Program Chair	David Dugas	Facilitator/Program Level Planning
Professional Program Chair	Heinrich Schnoedt	Facilitator/Program Level Planning
Core Professional Program Chair	Mario Cortes	Facilitator/Program Level Planning
Foundation Program Chair	James Bassett	Facilitator/Program Level Planning
Director of WAAC	Susan Piedmont-Palladino	Facilitator/Center Level Planning
A+D Curriculum Committee	Elected and at-large Faculty	Discussion & Review
A+D Curriculum Committee Chair	Brian Katen	Review and approval
A+D Faculty	At-large faculty	Consultation/Discussion
College of Architecture & Urban Studies [CAUS]		
Associate Dean of Academic Affairs	Kathryn Albright	Oversight of Curricular and Academic Affairs/ Convenes CAUS Curriculum Committee
Director of Advising	Robert Jacks	Advising Overview for CAUS
CAUS Curriculum Committee Chair	Diane Zahm, chair	Curriculum Proposal Approvals
University		
Undergraduate Curriculum Committee	Mary Kasarda, chair	Undergraduate Curriculum Proposal Approvals
Pathways Implementation Committee		NEW Pathways General Education Sub-Committee for Undergraduate Curriculum
Graduate Curriculum Committee	Rajesh Bagchi, chair	Graduate Curriculum Proposal Approvals
University Council		Final Approval
Graduate School	Karen DePauw, Dean	Approval and Implementation for Graduate Curriculum

Section 2. Progress since the Previous Visit (limit 5 pages)

The following section addresses the previous Visiting Team's findings (VTR: 9-14 March, 2012), relative to the 2009 Conditions and the new 2014 Conditions.

B. ARCH : Conditions Not Met

B.1 PRE-DESIGN

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

Visiting Team Report [2012]: "ARCH 3015-16, only a few projects exhibited comprehensive programs; NO code or zoning reviews were observed."

Program Activities in Response [2012-2017]:

Since the last accrediting visit both new courses and new course content have been put in place to not merely demonstrate this condition, but support and address a more comprehensive approach to Realm B (Building Practices, Technical Skills, and Knowledge) across the curriculum. The second-year labs (ARCH 2015-16) have introduced considerations of typology, urban context, responses to topography, and climatic concerns in a more systematic way. A new second-year, required course, ARCH 2044: Building Materials, has been added, while the existing required course, ARCH 2034: The Art of Building, has been extensively revised—providing a preliminary theoretical basis for this realm. As a consequence, the students in the third-year labs (ARCH 3015-16) are better prepared to understand and respond to site and context, and to produce a more detailed building program. Added content in the spring semester now requires students to conduct zoning code reviews, as applicable for particular studio assignments, as well as a building code analysis for their lab projects. Moreover, a new fourth-year lab designation, required for all students, is devoted to Integrative Design. ARCH 4015 or 4016 with the Integrative Design Lab designation is taught at the Blacksburg campus, in the Chicago Studio, and at the Washington-Alexandria Center (WAAC).

Currently, the Integrative Design Lab is the primary course in which this criterion is fulfilled. Pre-design is an essential component of the Integrative Design Labs, with a focus on the development of competencies of process (strategies for completing a detailed site analysis, translating user needs and project brief into an architectural program, navigating code and zoning regulations), as well as outcome (building designs that contribute to, and are informed by, context and environment; spaces of quality that support human occupation and human spirit; architecture that meets the challenge of life safety and accessibility). Students learn that pre-design is the search for generative underlying parameters, and that the integration of these multivalent influences is essential to designs that are architecturally meaningful and technically competent. A variety of strategies are employed to bring these questions to bear in the Lab: site visits, interviews with users, brief topical lectures, focused charrette exercises, discrete assignments (comprehensive analyses of context, detailed architectural programming, code/zoning worksheets, energy simulations), and regular one-on-one desk critiques and formal pinups with visiting faculty and practitioners where students are challenged to articulate the ways that these questions are shaping their work.

Program Response to Changes in Conditions (2009 versus 2014):

The 2014 condition added to the 2009 condition, explicitly: "review of the relevant building codes and standards, including relevant sustainability requirements." The new Integrative Design Lab course described above includes engagement with this additional content.

B.6 COMPREHENSIVE DESIGN

Ability to produce a comprehensive architectural project that demonstrates each student's capacity to make design decisions across scales while integrating the following SPC: A2, A4, A5, A8, A9, B2, B3, B4, B5, B7, B9.

Visiting Team Report [2012]: "ARCH 3015-16, only a limited number of projects were able to integrate the necessary SPCs thoroughly in one project, as was the case in the 2006 visit. The team had great difficulty finding all the required SPCs in most projects across the board, and felt the work was not consistently in conformance with the requirements of this SPC."

Program Activities in Response [2012-2017]:

Since the last accrediting visit both new courses and new course content have been put in place to not merely demonstrate this condition, but support and address a more comprehensive approach toward integrated architectural solutions across the curriculum. For details, refer to Program Activities with respect to Pre-Design, above.

After testing a curricular focus on an integrative design project within the fourth year in 2014 (with approximately 40% of the students participating), a new fourth-year lab designation was put in place in 2015, requiring all students to participate in a single-semester lab course devoted to the synthesizing process of integrative designing. Today, ARCH 4015/16_Architecture IV (Integrative Design Lab) is the Primary Course in which Realm C and its Criteria C.1, C.2, and C.3 are fulfilled. Fourth-year, single semester design labs with the Integrative Design designation are taught at the Blacksburg campus, in the Chicago Studio, and at the Washington-Alexandria Center (WAAC). The Integrative Design Lab focuses on the development of conceptually rigorous, thoughtfully designed, and technically competent works of architecture. Through a carefully sequenced set of topics organized across the semester, these questions are brought to bear in the lab. The efforts culminate in a set of documents, comprised of 3-4 design boards and a book. The boards (part of a school-wide Integrative Design competition held at the end of every semester and featuring a jury that includes skilled practitioners) allow the students to tell the story of their work, and includes a mix of architectural and technical graphics, diagrams, and writing. In the book, students are challenged to curate their work into sections corresponding to the different C.3: Integrative Design criterion topics, with a focus on combining multiple drawings, graphics, models, and words in order to demonstrate their integrative decision-making.

Program Response to Changes in Conditions (2009 versus 2014):

"Realm C: Integrated Architectural Solutions," and specifically "C.3 Integrative Design" has superseded the 2009 Condition: "B.6 Comprehensive Design." This new, 2014 Condition requires "*Ability to make design decisions within a complex architectural project while demonstrating broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems and building envelop systems and assemblies.*" The new Integrative Design Lab course, described above, includes integration of and engagement with this content.

M. ARCH : Conditions Not Met

A.9 Historical Traditions and Global Culture

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

Visiting Team Report [2012]: "Evidence of student understanding in historical traditions and global culture was *not found* in Qualifying Design Seminar (ARCH 4705-4706)."

Program Activities in Response [2012-2017]: Following the 2012 accreditation visit, Dr. Mark Schneider, who had taught the first semester of the undergraduate History of Architecture course (ARCH 3115) for a number of years, was charged with reworking the second semester of the Qualifying Design Seminar (ARCH 4706) to provide a more systematic and complete understanding of architectural history, including examples of significant works of architecture from all historical periods and cultures around the globe. Beginning with the spring semester of 2013, this revised course complemented the focus on the history of architectural theory covered in ARCH 4705.

In the Spring of 2016, Dr. Schnieder retired and as a result of faculty discussion, the M.Arch degree program was re-thought toward adopting a more robust History of Architecture offering to address the 2014 Condition: A.7 History and Global Culture. To transition, incoming M.Arch 3 students are now required to take **ARCH 5134: Topics in Architectural History and Theory [M.Arch 3 History]** which corresponds, in content and approach, to one of the semesters of the undergraduate ARCH 3115-3116 history sequence. Since fall 2016, both graduate and undergraduate students in professional degree architecture programs have been taught jointly, in shared lecture courses, thus ensuring that history and global culture content is consistent across the professional degree programs. This was seen as the most viable solution as the graduate program transitions to a dedicated graduate level global History and Theory of Architecture course sequence that is being prepared as an offering for Fall of 2018. Similar to ARCH 3115-16, the new graduate history offering will provide histories of architecture within a global context that will provide students with a solid contextual grounding of the material they encounter in the later history/theory seminars already in place in the graduate curriculum. A History and Theory Group, including Associate Professor and Assistant Director of Special Programs Hilary Bryon, Ph.D., and fall 2016 hires Sharone Tomer, Ph.D. (ARCH 4034: Building Cities) and Joseph Bedford, Ph.D. (ARCH 3015-16, ARCH 5134), are working to develop a comprehensive History and Theory curriculum for the undergraduate and graduate programs as well as articulate the new history of architecture offering geared to the graduate students. The need for the separation of the undergraduate and graduate courses is indicated by the increasing numbers of international students in the M.Arch 3 program who will be better served by a more focused learning environment. Presently, the majority (60%) of incoming students in the M.Arch 3 program are international students and so concurrently, Professor Hans Rott, is making strong efforts to increase the global content of the Qualifying Design Seminar (ARCH 4705-06)—with a particular focus on emerging urban practices in Asia.

Program Response to Changes in Conditions (2009 versus 2014):

In 2014, condition A.7 was edited and abbreviated to: "...histories of architecture and cultural norms of a variety ofsettings in terms of ...factors." The content of ARCH 3115 and/or ARCH 3116, upon which the graduate program currently fulfills this condition, has this content codified in its extant, official university syllabus. Moreover, a recent course revision for ARCH 3115-16 (currently in 15-day review governance and next with the University Curriculum Committee) extends the approach through a title change to "Histories of Architecture" as well as the explicit commitment to fulfill Virginia Tech's Pathways Mission for Integrative Learning Outcomes in "Intercultural and Global Awareness," which includes assessment metrics for: 1. Identifying advantages and challenges of diversity and inclusion in communities and organizations and 3. Addressing significant global challenges and opportunities in the natural and human world.

B.1 Pre-Design

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

Visiting Team Report [2012]: "In ARCH 5755, only a few projects exhibited comprehensive programs; NO code or zoning reviews were observed."

Program Activities in Response [2012-2017]: The Graduate Program faculty developed some targeted changes to improve student performance in the pre-design area. The Architecture & Systems Lab (ARCH

5515-16) is introducing programming in a more systematic way to better prepare students to produce a more detailed building program in the Advanced Design Lab (ARCH 5755-56). Students in the Advanced Design Lab now conduct zoning / code reviews and a building code analysis for their integrated lab projects utilizing a building code analysis worksheet.

Program Response to Changes in Conditions (2009 versus 2014):

The 2014 condition added explicitly: “review of the relevant building codes and standards, including relevant sustainability requirements.” The Architecture & Systems Lab summer course (ARCH 5515-16) described above includes explicit engagement, often through targeted exercises, with this additional content.

B.2 Accessibility

Ability to design sites, facilities, and systems to provide independent and integrated use by individuals with physical (including mobility), sensory, and cognitive disabilities.

Visiting Team Report [2012]: “There was not sufficient evidence of student ability to design with accessible facilities. Evidence of ramps for accessibility was found in some projects. In most projects, ramps or other indicators of providing accessibility for handicapped were difficult to find.”

Program Activities in Response [2012-2017]: Since the last accrediting visit, students in the required Advanced Design Lab (ARCH 5755-56) were expected to produce a presentation specifically addressing all aspects of accessibility for their studio projects, including accessible route(s) through the site and building, accessible facilities such as restrooms, and compliance with other accessibility guidelines and requirements. This presentation included drawings and/or overlays of other architectural drawings produced specifically for the purpose of documenting accessibility.

Program Response to Changes in Conditions (2009 versus 2014):

Since the deployment of the 2014 Conditions, in which *B.2 Accessibility* is now part of *B.3 Codes and Regulations*, the Advanced Design Lab students are expected to integrate a broader array of regulatory concerns, including zoning, accessibility, egress, and life-safety systems. These are engaged as an integral and significant part of the total system of the architectural projects. The faculty emphasize that regulatory instruments need to be understood as a generative constraint, which necessitates their early introduction to the design process of a building. Students document their understanding of these parameters through a range of means – including written code/zoning narratives and worksheet, various types of analytic and technical drawings, and by demonstrating an ability to competently speak to these questions during reviews.

Note: an *understanding* of accessibility, and of codes and regulations, is introduced through lectures in the ARCH 5565-66: Building Materials and Construction course taken prior to the Advanced Design Lab.

Causes of Concern

1.1.1 Learning Culture and Social Equity—Studio Culture Policy

Visiting Team Report [2012]: “The team noted that the Studio Culture Policy had only recently been revisited for revision and refinement. Prior to that, there had been little to no development of this policy for several years. Students at the Blacksburg campus had indicated that they had been recently involved to review and discuss this policy within the past two weeks. There was no indication on the part of the students that they would be involved in a collaborative update of the policy with faculty.

Students at the WAAC campus were aware that the policy existed, but had little knowledge of what it entailed. Neither students nor faculty at WAAC felt that the policy was necessarily required at the campus, due to the increased maturity level of its students, as well as weekly faculty/student meetings, held every Monday as an open discussion forum.

The team does note that the absence of the policy seems to have had no adverse effect on the studio culture. Refer to Section I.1.2 for additional information.”

Visiting Team Report [Section I.1.2]: “The learning environment and studio culture criterion is satisfied...”

Program Activities in Response [2012-2017]: The policy is on our website, distributed to all incoming students, and included in the School’s e-newsletter, the A+D Weekly, at the start of each school year. Because the Studio Culture Policy is considered an evolving document, faculty, staff, and students are encouraged to make ongoing, constructive suggestions on its development online.

In the fall of 2011, a Studio Culture Discussion Group, comprised of representative students from each program, met regularly with the School director until 2013. The group identified two parameters to bring into the policy upon revision: phrasing and staff supported facilities. Since then, the policy has been evaluated twice more. In 2014, the policy was reviewed by another student group, who maintained the policy as is. In 2017, another undergraduate and graduate, student-based Studio Culture Policy discussion group was organized to evaluate yet again if changes to the policy were needed. Over the fall 2017, the students looked to the 2011 group’s suggestions for inspiration, as well as NAAB’s recently expanded articulation of studio culture policy in relation to staff roles in the learning environment. This student assessment resulted in clarifying additions for two extant bullet points and the addition of one new bullet point to address respect for and care of the facilities and equipment that sustain our shared, and often overcrowded, learning environment.

1.1.2 Faculty and Staff—Faculty Workload

Visiting Team Report [2012]: “Both students and faculty at the WAAC indicated that the workload for faculty at the facility was inordinately high, and that some professors appeared overworked. Full-time faculty indicated that a typical semester includes one lecture and a studio course, along with thesis committees. In addition, with only three, full-time Virginia Tech faculty, they are each on every thesis committee, compared to the smaller number of committees that the Blacksburg faculty are required to serve on. WAAC faculty reported that this, at times, made it difficult to pursue their own research work. Refer to Section I.2.1 for additional information.”

Program Activities in Response [2012-1017]: In fall 2012, an additional tenure-track faculty member, Nathan Heavers, was hired in the Landscape Architecture program at the Washington-Alexandria Architecture Center (WAAC). While this faculty member primarily teaches students in the Master of Landscape Architecture program, he also serves as a member of graduate thesis committees for architecture students, relieving some of the burden of thesis committee service for the existing WAAC architecture faculty. Moreover, in fall 2015, Dr. Markus Breitschmid relocated from the Blacksburg campus to Alexandria in order to provide an additional faculty line to support the architecture programs at the WAAC.

A.9 Historical Traditions and Global Culture

Visiting Team Report [2012]: “The history and theory courses offered in Blacksburg and the WAAC vary considerably in content and quality with regards to the fulfillment of the SPC category of Historical Traditions and Global Culture. In particular, ARCH 3116, the second part of the mandatory two-semester survey, reinforces a Eurocentric view of history at the expense of non-Western architecture. Non-Western material was extensively found in ARCH 3115 as well as ARCH 4034” (Building Cities).

Program Activities in Response [2012-2017]: There have never been history and theory courses to fulfill SPC A.9 (now SPC A.7) taught at the WAAC; this remains the case since the last accrediting visit. The cause of concern expressed in the 2012 VTR relative to ARCH 3116 can largely be attributed to the tenured, senior faculty member who was teaching the second semester of the history of architecture

sequence from an unapologetic Eurocentric point of view given the comprehensive diversity conveyed in the preceding semester. With the departure of that faculty, a search was conducted for a two-year hire--with a tenure-track hire planned for the end of that period. From 2014-2016, Laura McGuire, Ph.D. very ably taught the year-long history of architecture sequence from a culturally broad and global perspective. In fall 2016, after a successful national tenure-track search, Joseph Bedford (Ph.D. 2017) joined the faculty. He brings a thoughtful and innovative approach to the survey of architecture course—topically, chronologically, and globally driven.

Concurrent with Professor Bedford's arrival, a long-planned curricular shift was initiated. The undergraduate, required history survey (ARCH 3115-16) was modified from the normative fall-spring academic year for second-year architecture students to a spring-fall schedule that straddles the second semester of first-year and the first semester of second-year. This move enables our architecture students to enter their second-year and engage their design work with greater disciplinary knowledge and a more comprehensive understanding of architecture as a global, cultural artifact--necessarily tied to its social, political, economic, artistic, intellectual, technological, and environmental contexts.

Program Response to Changes in Conditions (2009 versus 2014):

In 2014, SPC condition A.9 (now A.7) was revised and abbreviated to: "...histories of architecture and cultural norms of a variety ofsettings in terms of ...factors." The content of ARCH 3115-16 has this content codified in its extant, official university syllabus. Moreover, a recent course revision for ARCH 3115-16 (currently in 15-day review for the University Curriculum Committee) extends the approach through a title change to "Histories of Architecture" as well as the explicit commitment to fulfill Virginia Tech's *Pathways* mission to instill Integrative Learning Outcomes in "Intercultural and Global Awareness," which includes assessment metrics for: a). Identifying advantages and challenges of diversity and inclusion in communities and organizations and b). Addressing significant global challenges and opportunities in the natural and human world.

Section 3. Compliance with the Conditions for Accreditation

I.2.1 Human Resources and Human Resource Development

The program must demonstrate that it has appropriate human resources to support student learning and achievement. Human resources include full- and part-time instructional faculty, administrative leadership, and technical, administrative, and other support staff.

FACULTY

The School of Architecture+Design maintains, and recently received renewal for, restricted enrollment status with the University regarding internal transfer students in order to support excellent tutorial exchange between student and teacher—one that promotes student achievement. Restricted major status is necessitated not only by growing enrollment pressures and physical resource constraints, but faculty and staff numbers. The designation allows the undergraduate architecture program to regulate the number of internal transfer students and thus, maintain both the high quality of entering students and innovative, hands-on teaching.

In addition to controlling enrollment numbers, the School of Architecture+Design has been increasing its faculty ranks. Since the last accrediting visit, Architecture faculty hires have surpassed retirements and departures.

Resumes of Faculty

Resumes for all full-time and part-time instructional faculty teaching in the professional degree programs are located in the Supplemental Materials: [Resumes of Faculty](#).

Matrix of Faculty Teaching and Credentials

Matrices of Faculty Teaching for the two academic years preceding the APR (2015-2016, 2016-2017) are located in the Supplemental Materials, or go directly to: [Matrices of Faculty Teaching and Credentials](#) folder. The matrix for (2017-2018) will be updated to reflect the current academic year at least 30 days in advance of the accrediting team's visit.

FACULTY DEVELOPMENT

Architecture faculty are supported by the University, College, and School with various resources and opportunities related to the institution, teaching, research, and scholarship. [Virginia Tech's Human Resources](#) homepage is devoted to work-life issues, while other offices within the University offer focused support of teaching and learning, research and discovery, and outreach and engagement. The [College of Architecture and Urban Studies's Human Resources](#) webpage provides numerous "Helpful Links and Resources," as well as information regarding Staff and Faculty opportunities for participation in shared governance.

Teaching excellence is supported by Virginia Tech's Center for Instructional Development and Educational Research ([CIDER](#)) which fosters the design, development, implementation, and evaluation of disciplinary and interdisciplinary learner-centered instruction; promotes and recognizes excellence in higher education instruction; supports and conducts research on the scholarship of teaching and learning; and advocates for a campus climate that values educating the whole student through effective, innovative, and transformative instruction. Over the last five years, several architecture faculty have been the recipients of CIDER Instructional Grants, and most recently in 2017 of a Teaching Large Class Grant to develop an online oral history of architectural history and theory. As well, two faculty from the School have been selected for the very competitive, university-wide Diggs Teaching Scholars Award (2009, 2016); two faculty awarded by the Academy of Teaching Excellence (2014): one with a University Sporn award and one with Alumni Teaching award; one faculty awarded by the Academy with the university-wide Wine Award (2012); and six faculty recognized as Teacher of the Week (between 2013-17). Finally, the School's Foundation Program and its faculty cohort were recognized in 2013 with a University Exemplary Program Award for "effectively implementing and assessing programs for first-year students that incorporate problem solving, inquiry, and/or integration of learning skills."

University Technology-enhanced Learning and Online Strategies ([TLOS](#)) leads an array of activities, tutorials, and services to promote online programs and technology-enhanced learning. Moreover, the new TLOS Grant Program awards seed, research, and teaching development grants. In 2017, an architecture faculty member was awarded a TLOS Design Development Grant to develop an online oral history of architectural history and theory.

Networked Learning Initiatives ([NLI](#)), formerly the Faculty Development Institute (FDI), is a centralized, cross-discipline professional development program. As a unit of TLOS, the NLI provides teaching and learning infrastructure for integrating technology across content areas. NLI offers direct assistance, plus programming and training opportunities, for increased technology integration and digital fluency to faculty. All architecture faculty participate in NLI's Faculty Computer Refresh Program at four year intervals which is tied to mandatory, yet various courseware workshops over the four-year cycle.

Faculty travel for conference and/or participation is supported financially at the University, College, School, and Program level. The University supports faculty travel for the purpose of participation at international conferences. International Travel Supplemental Grants are administered through the Office of Vice President for Research (OVPR) and faculty may be award one grant per year for up to \$1000 to supplement funding from the applicant's home academic or research unit. The College of Architecture and Urban Studies provides travel assistance to faculty to attend conferences and professional meetings, to present papers, or to serve on panels. Financial support can reach \$750 for assistant professors and \$300 for associate professors. The School of Architecture+Design supplements this support with an additional \$750 for all faculty attending conferences. Additional funds are also available for new and pre-tenured faculty to travel in support of the development of their research, scholarship, or creative work. Ph.D. students also receive support for travel to research conferences.

A Study-Research Leave (also known as a "sabbatical") may be granted to faculty members for research and/or advanced study necessary to enhance their competencies to carry out their obligations to the university. There are two programs of paid study leave for faculty members: Study-Research Leave (SRL) provides one academic year of leave at half-pay and Research Assignment leave (RA) provides one semester of leave at full pay. Since the last accreditation visit, the following architecture faculty members have been granted Research Assignments and Study-Research Leaves:

	<u>Research Assignment</u>	<u>Study-Research Leave</u>
Fall 2013	Paul Emmons	
Spring 2014	James Jones	
Fall 2014		David Dugas, Steve Thompson
Spring 2015		Mehdi Setareh
Fall 2015	Scott Gartner	
Spring 2016		
Fall 2016	Elizabeth Grant, Markus Breitschmid	
Spring 2017		
Fall 2017		Marcia Feuerstein
Spring 2018		Marcia Feuerstein, William Galloway

To further the University's mission to assist Virginia Tech in preparing, recruiting, and retaining high quality and diverse faculty are the [Advance VT](#) programs. These programs facilitate success in scholarship, teaching, engagement and administration for a wide range of audiences, including graduate students preparing for faculty careers, early career faculty, senior faculty preparing for leadership roles, search committees, department heads, and senior administrators. Relatedly, the University has several [Work-Life Initiatives](#), including: Extension of Tenure Clock, Modified Duties, Part-time Tenure Track, Dual Career Program, Child Care Partnership, Lactation support, and Retirement transition, to facilitate faculty development over the course of their career at Virginia Tech. Naturally, there are overt Career Development opportunities related to Promotion and Tenure. Links and descriptions regarding the latter

policies on faculty development programs are in the Supplemental Materials: [Human Resource Development Opportunities](#).

Faculty Disciplinary and Practical Development

While full-time faculty have University policy limitations on outside employment and/or consulting work, several faculty members manage to maintain direct engagement with professional practice. Twenty-four tenured or tenure track faculty and 8 adjunct faculty in the School are licensed architects, including a full-professor licensed in 2017. Faculty remain current with their knowledge through institutional design opportunities and consultancy work, as well as offering, and participating in, continuing education seminars--including attending our own Lunch&Learn presentations. Finally, professional conferences such as AIA, ACSA, SBSE, AWC, AAG, and AISI expose the faculty to new practices, as well as allow the faculty to share their own developments with others.

Faculty are engaged with AIA professional organizations across the state. Each fall, Virginia Tech's architecture faculty participate in AIA Virginia's annual conference and expo, [Architecture Exchange East](#) (ArchEx). Faculty comprise committee members, speakers, workshop leaders, and Honors and Design awardees, including the two recent AIA Virginia Prizes for Design Research and Scholarship (2014, 2015). As well, in 2016, two architecture faculty were recognized, one with the William C. Noland Medal for accomplishments by an architect spanning a broad spectrum of the profession, and another with the Architecture Medal for Virginia Service honoring significant contribution to and public awareness of Virginia's built environment. There are also collaborations with and recognitions from the local [Blue Ridge AIA](#) chapter. Annually, the School of Architecture+Design collaborates with the Blue Ridge chapter to host a lecture by a nationally or internationally renowned practitioner on campus in Blacksburg. In 2016, three architecture faculty or faculty teams received Blue Ridge AIA design awards: one each of: honor, merit, and citation.

There are several cross-disciplinary design-build research opportunities in the College that challenge and deepen faculty member's knowledge of, and direct engagement with, the changing modalities of the discipline. Many of these projects are tied to our research centers: the [Center of High Performance Environments](#) and the [Center for Design Research](#). The former includes a significant focus on sustainable building envelopes and systems, including green roofs, while the latter includes four prototypes (2015-2017) of the [FutureHAUS](#)'s novel component-based manufacturing system and the concept's development for the 2018 [Solar Decathlon Middle East](#). Other ongoing architecture and design projects are a clinic in Uganda, a library for Mzuzu University in Malawi, furniture prototypes for the new African Design Center in Rwanda, and an ecopark and visitor's center for the Prince William County Landfill, Virginia.

Architectural projects falling outside the oversight of the Centers are often course-based and range from buildings to pavilions to installations. These include five projects (2010-2015) in the impoverished Appalachian rail towns of Covington and Clifton Forge, Virginia undertaken by the endorsed *design/build Lab* which received repeated acclaim by national and international professional organizations—most recently, winning the American-Architects building of the year for 2016 for the Sharon Fieldhouse. Also nationally recognized is the unconventional "cube" project that purposely evolved over five years, actively engaged 200 students and eight faculty members, and took place as an ongoing process of creation. The mostly cast-in place concrete construct was recognized with an ACSA Design-Build Award in 2016. Other local, temporary installations include three wooden structures sited on the University's drillfield for outdoor music performances by 1) a brass quintet, 2) a string quartet, and 3) a wind ensemble (2016) and a paper lantern, interactive light and sound display at the Smithsonian's Freer Gallery in Washington, DC (2013).

Finally, faculty have another outlet for professional engagement with students via the [Community Design Assistance Center](#) (CDAC), an outreach center of the College. CDAC assists underserved communities, civic groups, and nonprofit organizations in improving their natural and built environments through research, community engagement, and interdisciplinary design. Architecture students, with landscape architecture, planning, and building construction students, are paid to work under the guidance of volunteer design faculty. Architecture faculty and licensed architect, Kevin Jones, currently heads the

Faculty Support division--faculty and students from the architecture program frequently comprise the design teams for targeted outreach projects that span months to years. Recent projects include a conceptual design the American Legion Post 256 in Blowing Rock, NC; "brownfields" redevelopment plans for the Towns of Saltville and Damascus, VA; and conceptual designs for the Russell county Fairgrounds Association.

Faculty Research and Scholarship, Creative Activities Development

In addition to faculty engaged in professional practice, built works, and experimental constructions, many Architecture faculty are actively engaged in professional research and scholarship. A [list of past and projected faculty research, scholarship, creative activities](#) by full-time instructional faculty since the previous visit (2012-2017) is included with the Supplemental Materials.

STUDENT DEVELOPMENT

Student Support Services

The Architecture program, its administrators, faculty, and staff, are committed to student success. All parties work diligently toward meaningful student support from the first visit to campus as a prospective student through a matriculated student's graduation.

Prospective student tours are hands-on and conducted twice-weekly throughout the school year by the School director and assistant director, program chairs, and select Architecture faculty with deep knowledge of the curriculum, opportunities, and unique attributes of the program. An annually low attrition rate of architecture students during the first-year attests to the program's commitment to help prospective students make decisions that are best for themselves, and for their families. In addition to information sessions, prospective students have an opportunity to experience the unique pedagogy of the School prior to applying as an undergraduate student by attending the annual career discovery program, [Inside Architecture and Design](#), which serves approximately one hundred high school students each summer. Indeed, many incoming undergraduate students have first participated in *Inside Architecture and Design* which just hosted its 20th summer class. Additionally, undergraduate students admitted to the University have the opportunity to experience studio-based education through the First-Year Experience courses, delivered 6 weeks prior to their first fall semester. Some of these students choose to pursue Architecture as their future major.

Academic Advising

Upon admission and prior to the start of classes, all admitted students are offered orientation sessions. Incoming undergraduate students and their families participate in the general freshman orientation program organized by the University, and then continue with special orientation sessions in the Architecture program. Here they are introduced to, and work with, a dedicated professional academic advisor, Ms. Tamela Gallimore and as of fall semester 2017, a second advisor, Mr. Vernon Ferguson. During this session students are introduced to the curriculum, sign up for first-semester classes, and are introduced to their role and responsibilities as advisees. Parents also have an advising session, meeting with program chairs during this period, where questions, from long range to short term, from supplies to curriculum, from campus to study abroad are addressed.

In the fall and spring semesters, each year, advising sessions are scheduled for each section of the Foundation Design Lab prior to the deadline for "Course Requests." Ms. Gallimore meets with students to review registration requirements, related policies and procedures, and to answer questions as they arise. Students are able to schedule individual appointments with Ms. Gallimore as needed. The program considers early attention to advising matters as critical to a student's future success, both as it relates to the specificity of a professional program's demands, and to a student's independence and self-reliance.

Advising for graduate students in the Master of Architecture program also begins with applicant interviews and a special orientation session prior to the start of fall semester classes. During this process, and

throughout a graduate student's tenure, Ms. Peggy Moles plays an active role in advising and assisting students with scheduling requirements. The primary advisor for graduate students is the Chair of the Graduate Program, Prof. David Dugas. In addition, each graduate student has a principal thesis committee chair, chosen from among the faculty in the Architecture Program, to offer academic advice on their student's individual Plan of Study.

Throughout the School, design lab instructors often operate as student advisors for routine questions concerning common curriculum problems. Students' design lab instructors also serve as mentors for professional advising concerns, career related issues, and job placement opportunities. Because of the nature of the design lab, which is the central hub of the educational environment in architecture, students and their faculty are in frequent contact with one another, fostering an advising environment that is unique within the University.

Graduation analysis reports, called [Degree Audit Reporting System](#) (DARS) reports, are prepared by the University Registrar and are available to students at any point during their tenure. These reports are a computer analysis of the student's academic standing and curriculum fulfillment, and are used by the architecture program to routinely enable students to evaluate their progress to degree. During the third year of study, students are encouraged to obtain a copy of their DARS report for review. Students regularly review their reports with our team of professional advisors, as well as confer with their lab instructors to insure timely graduation.

The undergraduate program chairs, Prof. Jim Bassett (Foundation), Prof. Mario Cortes (Core Professional), and Prof. Heiner Schnoedt (Advanced Professional), and School Director, Prof. Hunter Pittman are also available as advisors when needed. This is particularly the case when a student wishes to initiate a grade appeal, or when a student feels that he or she is unable to resolve a problem or question directly with their faculty advisor and/or lab faculty. In addition, the Associate Dean for Academic Affairs, Prof. Kathryn Albright and College Coordinator of Student Advising, Mr. Robert Jacks are available for academic advising at the college level, including directing students to appropriate university level support, both academic and personal.

In addition to the advising programs within the School, the University offers a number of special advising programs to address the specific academic needs of students. The [Student Success Center](#) offers programs to enrich educational experiences including: a Tutoring Program, a Seminar Series on Academic Success, Peer Academic Coaching, Reading Assessment and Assistance, U-Turn, and the Black Male Excellence Network (BMEN). In addition, the University offers special advising through the [Writing Center](#), as well as tutorial courses in English as a second language and English technical writing courses for international students are available through the Virginia Tech [Language and Culture Institute](#). Students with disabilities requiring targeted accommodations and access are fully supported through the [Services for Students with Disabilities](#) (SSD).

Academic Advising trends

The School has requested, and recently been granted, resources to bolster student advising. During the summer 2017, a search was conducted to add a second full-time academic advisor to the Architecture program. These efforts have been aimed toward bringing advising loads in line with those recommended by the National Academic Advising Association's (NACADA) 2011 National Survey of Academic Advising (Carlstrom, 2013), where the median caseload of advisees per full-time professional Academic Advisor is 296 students for every one full-time Academic Advisor. We are encouraged by this development as it further supports our commitment to student success.

Career, Internship, and Employment guidance

Students and faculty receive information about the Architectural Experience Program (AXP) through multiple avenues. These include, one-on-one meetings and informational sessions given by the School's Architect Licensing Advisor to the various programs within the School (entering first year undergraduates; professional program undergraduates; all graduate students; and students studying at the Washington-Alexandria Architecture Center). Students are also directed to our e-portal on the Architecture Program's

website pointing to NAAB (<http://archdesign.vt.edu/architecture/naab>), AXP (<http://archdesign.vt.edu/students/intern-development-program-idp-info-for-architecture-students>), and other relevant web-based professional information. The APR has a dedicated section, below, providing more details about the Architecture program's AXP / ARE supervision.

Each year during the spring semester, since 2004, the School has coordinated a Career Day. The past year (2017), 82 firms attended the event, and students throughout our professional programs presented portfolios and work samples to practitioners and representatives from firms seeking to interview students for summer internships or entry-level positions. The in-person portfolio reviews and conversations also help clarify the array of opportunities in the profession and the types of practices that a student might like to pursue. Additionally, the Career Day event has not only proven to be an important avenue of communication between students and professionals, but between our faculty and alumni. As many of our Career Day professionals are our alumni, faculty members usually take the opportunity to cultivate our ties to the profession. In 2018, the event is scheduled to be augmented by a lecture by Steven Holl—a gift to students, alumni, and career day firms.

Outside of our Career Day, our alumni network and firms with Virginia Tech graduates are very active throughout the year to assist our students in obtaining summer internships or permanent positions. During the most active season, we receive multiple requests per week inviting VT architecture students to join firms temporarily or as a career start. The offers are sent to targeted groups based on the parameters of the requests. School faculty members overall have taken a very direct and active role to direct students to firms with a high level of excellence. Our faculty members also make great efforts with their personal contacts and targeted recommendations to place our students in firms across the country. In recent years, our graduates have obtained permanent positions with Steven Holl, Olson-Kundig, Bohlin Cywinski Jackson, SHoP, Richard Meier, David Chipperfield, Lake/Flato, and many other exceptional offices, including firms in Europe and Asia. To strengthen ties with alumni for our current students, our Dean and School Director organize regular alumni meetings in cities across the country and during major architecture events, such as the AIA Convention, which benefits our students directly with unfolding possibilities for career starts.

Throughout the year, internship offers and job search announcements are disseminated in our weekly e-newsletter, sent directly to students, faculty, and staff. As well, students are directed to the School's [career discovery resources](#) and [employment opportunities](#) webpages which contain an extensive amount of information concerning major or career direction; externships and internships; and career-related experiences. Beyond the School of Architecture+Design, the University's [Career and Professional Development](#) website is an additional resource for our students and alumni with postings for internships and career opportunities, as well as advice and resources for career development.

The curriculum itself offers opportunities for students with a deeper interest in the profession early on. A semester-long Professional Internship Program is possible in the 4th year, with special permission and in a well-established firm. Students identify a mentor who directs them to engage on a professional level with schematic design, design development, construction documents, bidding and negotiation, permit and construction preparation, and construction/contract administration, client contact, and construction site visits. Weekly documentation, a mentor's evaluation letter, and a presentation on campus denote the level of accomplishment. With an accommodating course timetable, students at our WAAC are able to take on a 20-hour (8:00-12:00, five days-a-week) internship with an array of firms in the Washington metropolitan area. Many firms also directly advertise their available positions at the WAAC. Our Chicago Studio allows 16 students per semester in their 4th-year to embed in four Chicago firms, currently including Studio Gang and SOM, in pursuing their own academic projects, while leveraging consultants and other professional resources at the firm.

Personal advising

Virginia Tech's [Cook Counseling Center](#) offers workshops and counseling services meeting a wide variety of student needs including individual and group therapy, couples therapy, crisis intervention, medical and psychiatric referral, career counseling, study skills counseling, time management, concentration and

memory improvement, exam preparation and test taking, and managing test anxiety. Regularly Architecture faculty and program chairs refer students for assistance when struggles become apparent. Faculty can suggest directly a counseling visit to students, however students can be assisted indirectly through referrals to the CAUS's Associate Dean for Academic Affairs, architecture Prof. Kathryn Albright or to the [Dean of Students](#), Tom Brown, and his office staff.

AXP / ARE

From 2007 to 2014 we had a very diligent and conscientious IDP Coordinator, Margarita McGrath AIA. She mentored students through a series of changes in IDP, interfaced regularly with the head of NCARB to assist individual students, and advocated for student-centered policies. She attended two national conventions and supported the attendance of two of our professional program faculty at two others. Annually, she led two IDP public information sessions in Blacksburg (fall, spring) and one session at the WAAC. Additionally, she met and corresponded with many other students on a one-to-one basis.

Greg Tew, AIA served as the architecture program's Architect Licensing Advisor from 2015-17. Greg is an Associate Professor in the School of Architecture+Design's interior design program. He is a licensed architect, the recipient of multiple AIA Honor Awards, and currently sits on the Board of Directors for the AIA Blue Ridge Chapter, serving on the Board's Education Committee. In July 2016, Greg attended the Licensing Advisor Summit in Chicago to support his advising role. Greg advised students during his tenure by responding to student questions about AXP and ARE throughout the year.

With the intention of having a more hands-on Architect Licensing Advisor, the School appointed Kevin Jones, AIA. In July 2017, Kevin attended the Licensing Advisor Summit to familiarize himself to his new duties and to supplement his knowledge for teaching Professional Practice and Integrative Design. Kevin is a licensed architect and joined the faculty two years ago after practicing in Richmond, Virginia for the prior 11 years. He is also a member of the Board of Directors for the AIA Blue Ridge Chapter, overseeing the biannual Design + Honor Awards as well as the Communications Committee. As well as admirably fulfilling his teaching duties, Kevin volunteers as faculty leader to the Community Design Assistance Center (CDAC), where he mentors students engaged in real design projects for a variety of community clients and organizations. In the Spring of 2017, Kevin helped facilitate a visit by NCARB representatives to campus, and started the 2017-18 school year with an AXP / ARE informational meeting with interested students and faculty.

Staff Development

The School provides funds and time for staff to attend off-campus seminars, training courses, and lectures related to their job responsibilities and duties, as well as on-campus opportunities. Staff regularly participate in programs for professional, leadership, organization, and diversity development offered by the [University Organization and Professional Development](#) office. A comprehensive variety of ongoing professional development workshops, training classes, and cohort-based learning experiences provide all Virginia Tech employees with opportunities to develop workplace skills and strengthen operational knowledge.

The College Staff Association holds regular meetings to discuss issues of common concern and has opportunities to meet formally and informally with the Dean. In addition, the School director holds regular meetings with the School staff in order to coordinate major events, discuss performance plans, and the general management of the administrative offices, shop, and computing facilities.

I.2.2 Physical Resources

The program must describe the physical resources available and how they support the pedagogical approach and student achievement.

General Description

The School of Architecture+Design maintains extensive facilities to support its academic programs. Our primary facilities – Cowgill Hall, Burchard Hall, and Burruss Hall – are located on the 2,600-acre main Virginia Tech campus, located in the town of Blacksburg in the rural, mountainous region of Southwestern Virginia. In addition, the School of Architecture+Design has teaching and research centers in the Washington, DC metropolitan area: the Washington-Alexandria Architecture Center (WAAC); and in Riva San Vitale, a small town in the Canton of Ticino, Switzerland: the Steger Center, formerly identified as the Center for European Studies and Architecture (CESA).

[Cowgill Hall](#), completed in 1968 and extensively renovated in 2007-08, is the main building of the College of Architecture & Urban Studies, housing the College's central administrative offices, the School of Architecture+Design's administrative offices, faculty offices, and studio spaces for the undergraduate and graduate architecture programs. Cowgill Hall contains approximately 61,000 gross sq. ft. of space, comprised largely of open studios with adjacent studio support spaces, including seminar and meeting rooms, classrooms, and a computer output lab. The main lobby on the 2nd floor of Cowgill Hall serves as the School's principal exhibition space. The ground floor houses the Art and Architecture Library, a branch of the University's Newman Library; as well as two newly constructed spaces: one for 3-D CNC manufacturing via robotic arms and 3D printers, and the other, an archive space for the works of late Alumni Distinguished Professor of Architecture, Olivio Ferrari.

[Burchard Hall](#), located beneath Cowgill Plaza and first occupied in fall of 1998, contains approx. 41,500 square feet of space. The central space contains four studio areas, each housing fifty or more students, and each with an adjacent seminar/meeting space. A computer output room, a large-scale scanning room, a rapid prototyping room, and various workshops, including generously equipped wood and metal shops, a ceramics studio, a printmaking studio, two darkrooms, a plastics workshop, a silk-screen printing room, and a textile lab are located immediately adjacent to the studio spaces. Two-person faculty offices overlook the studios from a mezzanine level. Cowgill and Burchard Halls are available to students 24 hours-a-day, with after-hours access via a card-swipe entry system.

Burruss Hall is home to the Interior Design Program, located on the second floor facing Cowgill Plaza. The Interior Design Program occupies 12,000 square feet of renovated space (2006-07) in Burruss Hall, accommodating open studios, a thirty-six seat classroom, a materials library, 10 faculty offices, and computer output facilities. Burruss Hall is the main administrative building of the University, housing the President's and Provost's Offices. Also located on the ground floor of Burruss Hall are the office facilities for the Landscape Architecture program, including an administrative office area, 7 faculty offices, a conference room, a seminar room, a thirty-two seat classroom, and computer output facilities. A distance-learning classroom provides an interactive link with the Washington-Alexandria Architecture Center.

The Collegiate Square Studio houses design labs for the Landscape Architecture program's students. Located on the upper floor of the Collegiate Square office and retail complex, near the corner of Price's Fork Road and North Main Street in Blacksburg, adjacent to the Virginia Tech main campus, approx. 0.3 miles from Cowgill, Burchard, and Burruss Halls, the 9,000 square foot leased space also includes a reading/reference area, a student lounge area, and a small but well-equipped model shop with a laser cutter for model making.

Hancock Hall, room 100, a 300-seat auditorium adjacent to Cowgill Hall, is shared between the School of Architecture+Design and the University. The School of Architecture+Design has priority scheduling two of the five days of the week, as well as most evenings. The space is used primarily for large lecture classes and general school-wide lectures.

The Community Design Assistance Center (CDAC), located in a storefront office on Main Street in Blacksburg, serves the College in the capacity of outreach and engagement. Students are hired on a wage basis to work on projects in an interdisciplinary studio environment. The mission of CDAC is to assist communities and non-profit organizations throughout the Commonwealth and improve the quality of life through pre-professional assistance in the areas of architecture, landscape architecture, planning, and public administration and policy.

The [Research + Demonstration Facility](#) (RDF) is located approx. 1 mile from Cowgill Hall in the University's Plantation Road Research District. The first two phases of the RDF were dedicated in the spring of 1994. The main purpose of this facility is to link the academic, research, and outreach efforts of the School. The complex contains an interior high bay space for full size prototyping, a robotics and digital fabrication lab, a small auditorium, workshop space, office areas, a testing facility for wall constructions, an acoustics lab, and testing facilities for indoor air quality. In addition to the 12,000 sq. ft. of conditioned space, there are a series of test cells for experimental use. Designed by Profs. Jack Davis, FAIA, and William Galloway, the RDF is the result of a series of construction research projects supported by the National Concrete Masonry Association and other industry associations. Building trade organizations and material suppliers embraced the Research + Demonstration Facility as a unique opportunity to participate directly with building-related research. Over 47 suppliers contributed over \$350,000 in donated materials. This material was carefully integrated and coordinated into a cohesive and expressive facility. The 2002, 2005, and 2009-10 Solar Decathlon projects (including the LumenHAUS) were fabricated at the RDF.

The "VT Fire" Foundry facility, adjacent to the RDF, is jointly operated by the College of Engineering, the School of Visual Arts, and the School of Architecture+Design. Also nearby is a facility for vibration testing to support ongoing research by licensed engineer and Architecture faculty member, Prof. Mehdi Setareh.

The Environmental Systems Laboratory (ESL), located within four miles of the main Virginia Tech campus, had one of its buildings destroyed by fire in the spring of 2017. The building had contained a metal shop with welding stations, a wood shop, and a high bay space equipped with an overhead crane for large scale prototyping. Current plans include transferring the operations formerly housed in the ESL facility to a proposed Advanced Design and Construction Facility behind the Research + Demonstration Facility. Both the ESL and the RDF provide space for students and faculty members to conduct research work and design-build projects.

The [Washington-Alexandria Architecture Center](#) (WAAC), located in Old Town Alexandria, Virginia, is based in a turn of the century urban schoolhouse (formerly the Prince Street School, 1001 Prince St.) renovated in the middle 1980s, with over 14,000 square feet of studio space, class/review rooms, offices, a library, computer facilities, and exhibition spaces. A distance-learning classroom allows for the use of real-time video between the School of Architecture+Design in Blacksburg and the Center. The Center houses graduate and undergraduate studios for Virginia Tech architecture students, as well as students from a consortium of other universities in this country and abroad. The adjacent building (1021 Prince St.), home to the College's Urban and Regional Planning and Public Administration and Policy programs, also includes wood and metal shop facilities for the Architecture program, located on the ground floor. The University Foundation owns and manages a nearby 23-unit apartment building, providing an affordable housing option for 64 students studying at the Center. The University recently purchased another nearby building at 601 Prince St., in part to accommodate the Master of Landscape Architecture program and the new Urban Design concentration within the Master of Science in Architecture program.

Virginia Tech's [Steger Center for International Scholarship](#) (formerly Center for European Studies and Architecture –CESA) in Riva San Vitale, Switzerland was initially an endeavor of the Architecture Program to support and expand its long-standing study abroad program. Financial issues and programmatic opportunities brought the University to develop a plan to establish an interdisciplinary international facility. This led to the current distribution of the approximately 45 students in residence during the academic year (one-third architecture students and two-thirds students from other colleges). The Steger Center for International Scholarship is housed in the 200-year old Casa Maderni, a villa with private gardens located near the southern tip of Lake Lugano. The Center serves as an international crossroads in the fields of

architecture, history, culture, language, and global economies. The old town of Riva San Vitale, rich in tradition, is situated near the geographic center of Europe, giving access to a wide range of destinations. The School of Architecture+Design maintains a lab of approximately sixteen students at the Steger Center each semester, staffed by one Architecture faculty member. Students dine in the facility and are housed in the Casa Maderni or in apartments close by.

Changes to the School of Architecture+Design

Changes since the last accrediting visit range from partitioning to building acquisition. Cowgill Hall changes include the addition of four new faculty offices on the fourth floor and one administrative office partition—thus, a new office in the School’s administrative suite on the second floor. The adjacent Architecture+Design Conference room was also reconfigured to accommodate larger groups and was outfitted with a video conferencing system (polyCom) to facilitate interaction between faculty and students on campus and off-campus, i.e. WAAC, Chicago, Steger Center. Recent Cowgill Hall renovations have converted two faculty offices and a storage room on the ground floor into showcases for digital manufacturing and an archive for the School.

At the Washington-Alexandria Center, a new building was purchased at 601 Prince Street. While the building primarily houses the Landscape Architecture graduate program, it also allows for Architecture Program use of studios, classrooms, and faculty offices. Renovations at the Center for European Studies in Architecture in Riva San Vitale, Switzerland were completed in fall 2014. Accessible and expanded classrooms, dining facilities, and studio space are now available.

Physical Resource Challenges

Currently, the School of Architecture+Design is challenged for space.

The fire at ESL limits the scope and capacity of current design-build and other research projects. Thus, replacing its missing capacity is critical and the College hopes to complete a new replacement building adjoining RDF by the summer of 2018. As well, the “Intelligent Infrastructure for Human-Centered Communities” Destination Area, which is in part guided by Architecture faculty, includes plans for a new Advanced Design and Construction facility that will be built in the vicinity of RDF. The projected facility will include many of the facilities that were planned for RDF Phase III that included wood and metal shops, research lab space, a lighting dome, a low-speed wind tunnel, classrooms, and offices for research staff. A re-assessment of the needed building programs at RDF is underway between the School, the College, and the University.

Increased enrollment puts added stress on existing lab, meeting, and workshop spaces. Despite the 2007-08 renovation of Cowgill Hall, there are limited seminar and meeting rooms to support design labs and non-studio courses, and insufficient faculty offices for every faculty to have their own office or a reasonably scaled, shared office. Finally, a space for computer software instruction continues to be a high priority.

The development of a new University Master Plan for the Blacksburg campus is underway and scheduled to be presented to the University community in late 2017/early 2018. Preliminary draft plans have indicated that as part of a proposed “Creativity and Innovation District” to be located at the boundary of campus and downtown Blacksburg, the School Architecture+Design is targeted for a new facility as an anchor to the District. The projected timeline is at least ten years and currently, a distant vision. Thus, as programs and departments in buildings adjacent to Cowgill are re-located, the School looks to supplement our facilities to address current and projected space needs relative to increased enrollment.

Computing Resources:

The students and faculty of the School of Architecture+Design have access to a vast array of computing resources at Virginia Tech. These services are provided in different tiers from the University level, through the College of Architecture and Urban Studies, and the School of Architecture+Design.

At the University level, students and faculty have access to email services, course management provided through the online Canvas application, and ePortfolios to document and share professional information. The University also provides a series of Enterprise level services including website hosting and design tools, Network Attached Storage, and virtual server hosting. Computer hardware is provided to faculty and staff through the Networked Learning Initiatives (NLI) on a 3 to 4 year revolving cycle. Finally, the University provides internet access, backbone LAN services, and WLAN across campus. Wireless network service is available in 99% of all academic spaces, the majority of residence halls, and even in some outdoor areas including the Newman Library, Squires, Dietrick Hall patios, the Solar Table area near Pritchard/Peddrew-Yates, and the Johnston Student Center/Cowgill Hall stair terrace.

The College supports the faculty and staff community by providing full service computer hardware and software support for both PC and Mac computers. The College also provides additional computing resources such as FTP and file vault services, basic printing support and first line support of University services. In addition, the College's off-campus Research and Demonstration Facility houses state of the art large-scale digital fabrication equipment including a large-format CNC router, a large-format CNC plasma cutter, a 3.2-meter robot arm, and other digital fabrication and robotics tools, all for large-scale study and 1:1 constructions.

The School provides more direct services to students, including computer purchasing consultation, hardware, and software support assistance, as well as providing support for technology-based systems, such as scanning, printing, 3d printing, and laser cutting. Over the last few years, the [laptop computing requirements](#) have evolved, all incoming students are now expected to have a workstation quality computer and required to purchase the Microsoft Campus Agreement Software Bundle. The School's current, required add-ons include: Adobe Creative Cloud, Rhino 5, Microsoft Project, and Microsoft Visio and architecture students can also acquire at no or low-cost: Autodesk, ArchiCad, and SketchUp. A portion of the Architecture + Design student program fee goes to support the School's computing infrastructure for students, including facilities upgrades, as well as staff, GTAs, and wage employees. In addition, a significant portion of the School's SCHEV (State Council of Higher Education for Virginia) Equipment Trust Fund allocation each year goes to purchasing input and output devices for the various student computer labs. Students receive an initial printing allocation of \$20 each semester, posted to their individual user accounts; once this initial allocation has been used, students pay a nominal charge for output, to recover the cost of consumables — ink, toner, paper, 3D printing media, etc. — and equipment maintenance; these charges are only 15-35% of the cost of comparable output at local private printing businesses.

As the students have acquired the digital tools to complete assignments on their own machines, the focus of the School's computing efforts has shifted from providing basic computers for student use to upgrading existing equipment to newer, higher quality devices and to providing computing services that would otherwise be cost prohibitive to individual students. Special purpose computers are equipped with CAD/CAM software, such as MasterCAM, for particular modeling and CNC applications. Students in the School have a wide array of computing resources available to support their work. Input/output labs are located in close proximity to the various studios in each of the School's buildings. These labs are provided with black-and-white and color laser printers, wide-format color inkjet plotters, and 11×17 color scanners. In addition, a staffed input/output lab is located in 013 Burchard Hall, with a range of wide-format color inkjet plotters, 11×17 color laser printers, large-format (36" wide) color scanners, a wide-format automatic paper trimmer/cutter, a Dimension 3D rapid prototyping printer, and a laser cutter (LaserCMM) for group projects (located in 014 Burchard). In Burchard 013, students can also check out equipment: digital SLR cameras, photo light kits, and digital projectors. The Burchard Shop (rms. 121-127) provides a number of digital fabrication tools, including a large-format laser cutter (LaserCMM) for individual student use. LaserCMM units are also located in the Collegiate Square studio space (for the Landscape Architecture Program) and at the Washington-Alexandria Architecture Center.

From its founding, the structured environment of the Architecture Program has included diverse facilities supporting the education of the architect--extensive wood and metal working shops, darkrooms and photographic studios, pottery and kilns, printmaking and silk-screen facilities, sewing stations and other

material and media opportunities--advancing design thinking and research. This continues with the establishment of a new digital fabrication and printing facility in 2016-17. Harnessing the strategic position of the library, two glass boxes have been designed to showcase and give access to tools providing an immersive digital design and fabrication environment, including Design Robotics and Additive Manufacturing (3D printing) support for dedicated studios and students across all the School's programs.

The following equipment is provided in 6 general purpose computing labs and other dedicated Blacksburg, on-campus locations:

- 6 – 11x17 scanners
- 2 – 36" wide format scanners
- 8 – color laser printers
- 1 – B/W laser plotter
- 12 – Wide format color inkjet plotters
- 1 – Sublimation Printer and Heat Press
- 1 – Dimension 3D rapid prototyping printer
- 3 – Laser Cutter/Engravers
- 16 – Nikon digital SLR cameras
- 2 – GoPro video cameras
- 24 – Nikon Lenses
- 8 – Digital projectors

The following equipment is provided at WAAC (1001 Prince Street) computer lab:

- 19 – dell Optiplex desktop (SCHEV late 2012)
- 1 – Epson 1000XL flat bed scanner
- 1 – design jet 1100ps - Ink-Jet plotter
- 1 – design jet 2300ps - Ink-Jet plotter - Has scanning capability
- 1 – design jet 2500ps - Ink-Jet plotter - Has scanning capability
- 1 – laser jet 700 - Black and white printer. Up to 11 x 17" paper.
- 1 – Konica Minolta biz hub c258 - Color copier
- 1 – digital projector
- 1 – paper cutter
- 2 – laser cutter
- 1 – Epson P800 photo printer
- 1 – small sheet paper cutter

The following equipment is provided at WAAC (601 Prince Street) computer lab:

- 7 dell desktop (SCHEV late 2012)
- 1 Epson large flat bed scanner
- 1 design jet 2500ps - Ink-Jet plotter - Has scanning capability
- 1 design jet 1200ps - Ink-Jet plotter
- 1 Konica Minolta biz hub 223 - Black and white copier
- 1 Konica Minolta biz hub 224Color copier
- 1 laser cutter
- 1 small sheet paper cutter

I.2.3 Financial Resources

School budgets: The table of budget data below shows expense categories over which the School has control or influence. It was developed from transactions and budget data compiled by the Dean's office of the College of Architecture & Urban Studies in consultation with the School of Architecture+Design's

Business Manager for the most recent fiscal year (2016-17); it is compared to the year prior to the last accreditation visit (2010-11).

	FY10-11	FY16-17
Operating Budgets		
Capital (instructional facilities maintenance & improvements)	58,920	64,670
Capital (research facilities maintenance & improvements)	124,405	-
Enrichment	88,355	131,860
Equipment	22,079	-
Equipment Maintenance	15,656	10,319
Faculty Travel	96,258	92,566
Instructional Support	127,913	80,720
Operations	197,166	269,520
Software	16,435	15,906
Study Abroad Support	35,411	44,000
Washington-Alexandria Architecture Center	137,420	107,532
Total Operating	920,018	817,093
Salaries and Benefits		
Faculty Salaries	5,479,409	5,651,046
Staff Salaries	351,749	658,590
Wages	63,113	754,745
Graduate Assistantships	607,914	820,250
Tuition Remission Scholarships	497,325	661,300
Fringe Benefits	1,675,409	2,403,300
Total Salaries and Benefits	8,674,919	10,949,231
State Equipment Trust Fund	130,353	78,545
TOTAL INSTITUTIONAL DIRECT PROGRAM SUPPORT	9,725,290	11,844,870
Sponsored Research Expenditures	297,482	346,302
VTF Operating Supplement	73,200	141,719
Total Financial Resources Available	10,095,972	12,332,890

[Data provided by College of Architecture & Urban Studies] [In Financial Resources, data is for entire School of Architecture+Design – there is no broken-out data for architecture program alone]

Institutional Allocation of Financial Resources: Currently, financial resources are allocated to the School of Architecture+Design through a process that flows from the University budget office as approved by the Board of Visitors. The budget is managed at the University level by the office of the provost and ultimately allocated to the School by the Director of Finance Administration in the Dean's office. Since the last accreditation visit, the School of Architecture+Design has restructured the fiscal management of the School by adding a Business Manager. This position was created in 2015 to allow the School to have

more direct influence and control over its fiscal matters and is critical to managing the new PIBB budget model discussed below. See additional information in [Financial Resources Comparison Tables](#).

Additional Revenue Categories: Beyond the direct institutional support of the professional programs, the School's programs are supported by the "Architecture+Design Fee" which is a fee based form of "differential tuition." In the spring of 2008, the School applied for and received approval for an additional fee for architecture and design students of \$650 per academic year for full-time students. This fee has increased over time and as of 2016-17 was \$948 per academic year. Students enrolling in the Architecture, Interior Design, Industrial Design, and Landscape Architecture programs in the fall of 2008 and afterward must pay this fee. Revenues from the fee come directly to the School to support student related areas of the operating budget. However, the University and College take a 18% charge on the fee each year. This percentage kept by the University reflects both the original agreement and increases in the withheld percentage specified in subsequent agreements as the fee has increased. The fee revenue provides additional support to student groups and supports lecture series guests, but is also used to support some of the graduate assistantship budget and provide additional funding for adjunct and visiting faculty. As well, it can be used to fund items in support of instruction, like furniture and equipment for our facilities. The revenue from the Architecture+Design Fee is interwoven into our operating budgets and is reflected in the direct institutional support income in the above budget data. The revenue from the fee has helped increase our total revenue and also replaced the \$605,252 lost to budget cuts during the 2007-2011 period reported in the 2012 APR. Architecture+Design Fee revenues, as of the last accreditation (2012), were \$589,000 and as of 2016-17 the fee revenue [due both to fee increases and student enrollment increases] was \$827,393.

Another smaller source of revenue beyond the base budget reported above, and not included as part of the Virginia Tech Foundation endowment and unrestricted funds, comes from the Career Day event. The Career Day, initiated in the spring 2004, has not only been a strong vehicle for interactions between students and the profession, but has also enhanced the relationship between the School and the profession. The event has generated substantial funds for student awards and scholarship support over the past thirteen years. After suffering a downturn following the recession, the Career Day has been growing steadily since the last accreditation visit. In 2017, the Career Day had 81 participating firms and generated revenue of \$60,800.

Advancement [Development] Activities: The University reported a record year of private donations for the second straight year reporting [\\$162.28 million for FY2016-17](#). The development/private fund-raising arm of the University was consolidated during the 2015-16 academic year with alumni relations and university relations [communications] moving into the Advancement Division. The College and the School have been participating in this shift and the College, in the spring of 2017, has a new compliment of staff for advancement, alumni relations, and communications that work for the School and College but also report to the Advancement Division at the University.

Since the last accreditation, the School's endowments and unrestricted funds from private sources have increased. In 2015, the School received a major endowment gift from alumnus Robert L. Turner for support of lectures, study abroad, and faculty development totaling \$1,835,702. As the College welcomes a new dean in October 2017 and the School's director enters his first full year, plans are in place, along with the College advancement team, to revive the School's Advisory Board with 20-30 members and to participate in the formation of a new College Advisory Board during the next year.

School of Architecture+Design Endowment Funds (as of 8/28/2017):

Academic Support	\$1,490,923
Professorships	\$1,830,292
Research Support	\$258,693
Scholarships	\$2,765,575
Total Value of Endowed Funds	\$6,345,483

Changes in funding model: The University is on a multi-year track to change the current incremental budgeting model in place for decades [budgets based on last year's allocation plus or minus an increment determined in the Provost's office and distributed by the colleges to departments] to a new model called the [Partnership for an Incentive Based Budget \[PIBB\]](#). This is a major shift for the entire campus and the University is working on a multi-year implementation schedule for the model to ease the colleges and departments into using the PIBB model in their long-term planning and goal setting. The University has also been clear that PIBB is not a Responsibility Center Management (RCM) approach. While it is designed to decentralize and place more revenue and budget responsibility on units, there will be no "taxes" for the central university services or plant. Architectural education in studio settings is relatively expensive and this budgetary challenge is evident in the student credit hour metric that is the major unit for allocating the PIBB budget. Nevertheless, the School is in relatively strong position given its prestige and pedagogical model, and has the support of the University, being promised a continuing subsidy based on some of the factors in our funding. However, over the next five year cycle, the College and School will be expected to make adjustments in resource allocation, work to increase private funding, and increase research revenue. The College and School must make resource decisions regarding growing or shrinking programs in the School. The Architecture programs are a stable base within the School, but recently the undergraduate program has seen increased enrollment due to other considerations [discussed below]. These increases, as long as they are managed properly, benefit the School in PIBB allocation models.

An additional aspect that is connected to the new university initiatives and the PIBB model is the addition of a new faculty rank of "Collegiate Faculty" which is envisioned to be a teaching focused rank that offers more stability than adjunct ranks, but is not tenured. The School hired its first "Assistant Collegiate Professor" in the spring 2017. These positions have terms of increasing lengths as a faculty member is promoted – progressively 3 years, 5 years, 7 years. While full impacts of this change are unknown at this time, the School believes that as current faculty members retire and as we are granted new positions, they are likely to be somewhat skewed toward the Collegiate Faculty ranks rather than tenure-track.

Pending reductions or increases in enrollment and plans for addressing these changes: Over the past three years, the B.Arch Program has seen an increase of 35-40 students with each incoming class above what was constant for the previous fifteen years. The program has gone from incoming classes of 90-95 to classes of 140 over the last three years. One factor in this is a move by our new University President to increase undergraduate enrollment overall – we are a small piece in this, although the PIBB discussed above will likely see the School increase the enrollments in some of the School's other programs or possibly add some type of new general design program. We have been assured that, while we will be expected to build out the B.Arch program over the program's five constituent years to a steady state of entering classes at 140 students, we will not be expected to grow beyond that. The current enrollment growth started with an enrollment agreement the College entered into approximately ten years ago. Because the College was not meeting other targets, and because Architecture had capacity in applicants to help the overall College enrollments, Architecture's enrollments were actively allowed to increase. The Director and Program Chairs have been addressing this situation with the University's enrollment management team, and while we can successfully adjust to the 140 number -- with the marginal resource increases promised (for example, adjuncts to increase the number of design lab sections) -- going beyond these numbers is seen as detrimental to the educational quality of the Program. The University has assured us that the current trend will not be exceeded. Ultimately, enrollment, physical resources, and all forms of funding reflected through the PIBB and Beyond Boundaries Initiative at the University level will be driving factors in strategic planning slated in the next year for the School, as well as for the College as the new Dean also addresses these issues.

Planned or in-progress institutional development campaigns that include designations for the program: As discussed above and in "Long Range Planning," the University has totally revamped its development efforts, establishing a new Division for Advancement which is led by a new Vice President, who is starting his second full year. The College advancement staff members who work between the College [and serve the School] and the Division for Advancement are all less than a year in their

positions. There will be a major push for advancement in the College with the new Dean, and the School is poised to participate fully. The first step, which is underway in the School, is the re-establishment of an effective Advisory Board in tandem with the new Dean's process for re-establishing the College Advisory Board, first meetings of both of these boards is expected in early Fall 2018. The University is also planning to launch a new sustained, large-scale capital campaign in the near future – a quiet phase is currently underway.

I.2.4 Information Resources

The program must demonstrate that all students, faculty, and staff have convenient, equitable access to literature and information, as well as appropriate visual and digital resources that support professional education in architecture.

Further, the program must demonstrate that all students, faculty, and staff have access to architecture librarians and visual resource professionals who provide information services that teach and develop the research, evaluative, and critical thinking skills necessary for professional practice and lifelong learning.

Institutional Context

The Art and Architecture Library is one of three university libraries on the Virginia Tech campus. (Refer to [Information Resources](#) folder in the Supplemental Materials for planning and annual reports with regard to the broader campus context.) With nearly 80,000 volumes, the Art and Architecture Library is the largest branch library at Virginia Tech. Located in Cowgill Hall, the library provides resources and services that support all departments within the College of Architecture and Urban Studies and related art and design academic programs at Virginia Tech. Additional collections offered through the Art and Architecture Library include Artstor, a visual arts database containing over 2.1 million digital images, and a study collection of approximately 350 architectural drawing sets. With its specialized collections and services, the Art and Architecture Library plays a critical role in the educational mission and goals of the Architecture program at Virginia Tech. While the Library increasingly facilitates access to online and digital information resources, students and faculty in Architecture need, highly value, and benefit from the proximity of a physical collection devoted to research in art, architecture, and design. Typically, a specialized Librarian is available for individual research consultations and training sessions as well as course- and project-specific library instruction.

Library and Information Resource Collections

Overview of Collection Goals and Funding

The Art and Architecture Library's collections support all aspects of the School of Architecture+Design's academic programs that includes the five-year undergraduate first-professional B.Arch. and graduate Master of Architecture degrees. Funding for Architecture collections is adequate. During the 2016 fiscal year, the library spent \$22,952 on monographs and \$51,978 on serials for the collection. In 2016-2017 the library spent approximately \$27,059 on monographs and \$58,139 on serials. These figures do not represent the volumes obtained through the library's approval plan with Yankee Book Peddler, which include books from university presses and publishers such as Wiley, Princeton Architectural Press, and Rizzoli. The library also maintains an approval plan with Worldwide Exhibition Catalogs for art, architecture, and photography materials.

A principal goal of the Art and Architecture librarian has been to increase access to the rapidly expanding list of subject-specific online databases and research tools, while maintaining high standards in the selection of digitally produced content. Although the production of electronic content for the disciplines of art, architecture, and design is less than many other disciplines such as the sciences, the online resources that are available allow Architecture students and faculty to access to quality research material from their dorm rooms, the WAAC, and while studying/working abroad. The Library currently maintains access to the Avery Index to Architecture Periodicals, Art Full Text, Building Green, Building Types Online, and a number of other subject-specific and general information databases of relevance to the

School of Architecture's programs. Notable E-book collections include LeCorbusier Online and the Birkhauser DETAIL collection.

Many faculty and students in Architecture actively participate in the development of the library collection by suggesting the addition of new books, journals, and DVDs or streaming media to add. This is often carried out informally, due to the central location of the branch library, through conversations or via email. "Request a Book" links are also accessible through the library website, with contact information for subject bibliographers. The librarian also periodically meets and/or corresponds with members of the CAUS Library Committee for input on collection issues.

Collection Description

The Art and Architecture Library collection contains all university library materials in art, architecture, and design. It maintains strong collections in architecture, landscape architecture, building technology and construction, industrial design, and photography, with an emphasis on modern and contemporary architecture and design. The library currently provides access to 77,827 monographs, maintains roughly 200 journal subscriptions in print and digital formats, a media collection of over 300 DVDs, and subscribes to both the aforementioned Artstor image database and Pidgeon Digital, an online collection of lectures and interviews by renowned architects, among more than a dozen research databases. School of Architecture+Design theses are also available online and in print. Moreover, the library provides access to a developing and notable collection of furniture designed by important figures in the history of architecture and design (e.g., Eames, Aalto, Mies, Rietveld, the Shakers...) for study, use, and display.

The main library (Newman Library) is a short walk away and provides the benefits of a university research library. Of special interest to architecture students and faculty is the International Archive of Women in Architecture (IAWA), a joint program of the College of Architecture and Urban Studies and the University Libraries at Virginia Tech. The IAWA, comprised of around 450 collections of primary source material from nearly 40 countries, documents the history of women's contributions to the built environment by collecting, preserving, storing, and making available to researchers the professional papers of women architects, landscape architects, designers, architectural historians and critics, and urban planners, and the records of women's architectural organizations. The IAWA collection is located in the Special Collections department of the Newman Library. Approximately 6,124 NA volumes (monographs and journals) are housed in the Storage facility due to the infrequency of their circulation or physical condition. The average annual number of volumes acquired by the library stands between 1,500 and 2,000 volumes.

Levels of Coverage

A. Area: Architecture

B. Classes and Levels

N	Fine Arts, General	Study
NA	Architecture	Research
NE	Graphic Arts	Study
NK	Design	Research
SB	Landscape Architecture	Research
TA	Engineering, General	Research
TH	Building Construction, Civil Eng.	Research
TR	Photography	Study

Significant Problems

Since June 2017, the Art & Architecture Library is without a Head Librarian or a Public Services Specialist, as evident in the [Art and Architecture Library's organizational chart](#). This constitutes half of the library staff. Recent interim oversight by outside university staff lacks direct expertise in the unique browsing research methods and resource use patterns that best support architecture and design research and scholarship, and corresponds with increased physical resources being moved to two off-campus storage facilities. A search for a new Art & Architecture Librarian is underway; Campus interviews with

three candidates took place in the late fall 2017. One librarian candidate suggested the adoption of high-density mobile shelving to address this issue.

Washington-Alexandria Architecture Center Library

The Washington-Alexandria Architecture Center library provides students and faculty with a critical resource supporting the study of theory, history, and design. In 1997, the Library was dedicated to Gregory K. Hunt, former WAAC faculty member and former Dean of the School of Architecture at Catholic University, in recognition of his commitment to establishing a significant collection at the WAAC.

Today, the Hunt Library contains more than 5,000 bound volumes in the subject areas of architecture, landscape architecture, urban planning and design, construction, engineering, and art. The majority of the collection has been amassed through generous donations from faculty, students, alumni, and friends of the Center. Dr. Marco Frascari, formerly G.T. Ward Professor of Architecture, made the largest donation of 500 volumes, journals, and periodicals in January 1998.

The Hunt Library at the Center is served by a full-time librarian, Marlene Koenig, assisted by Graduate Student Assistants drawn from both the Masters and Ph.D. levels with a minimum allocation of 30 hours a week. The library coordinator at WAAC maintains contact with the librarian at the Northern Virginia campus in Falls Church and with the Head of the Art and Architecture Library in Blacksburg. The Art & Architecture librarian on the main campus in Blacksburg also serves as a resource to the students and faculty at the Center.

The Virginia Tech Library System [VTLS] / Addison digital catalog is available to students at the Center via high-speed Ethernet connections. Students at the WAAC facilities have access through the Virginia Tech library system to a wide range of digital search and full-text research tools.

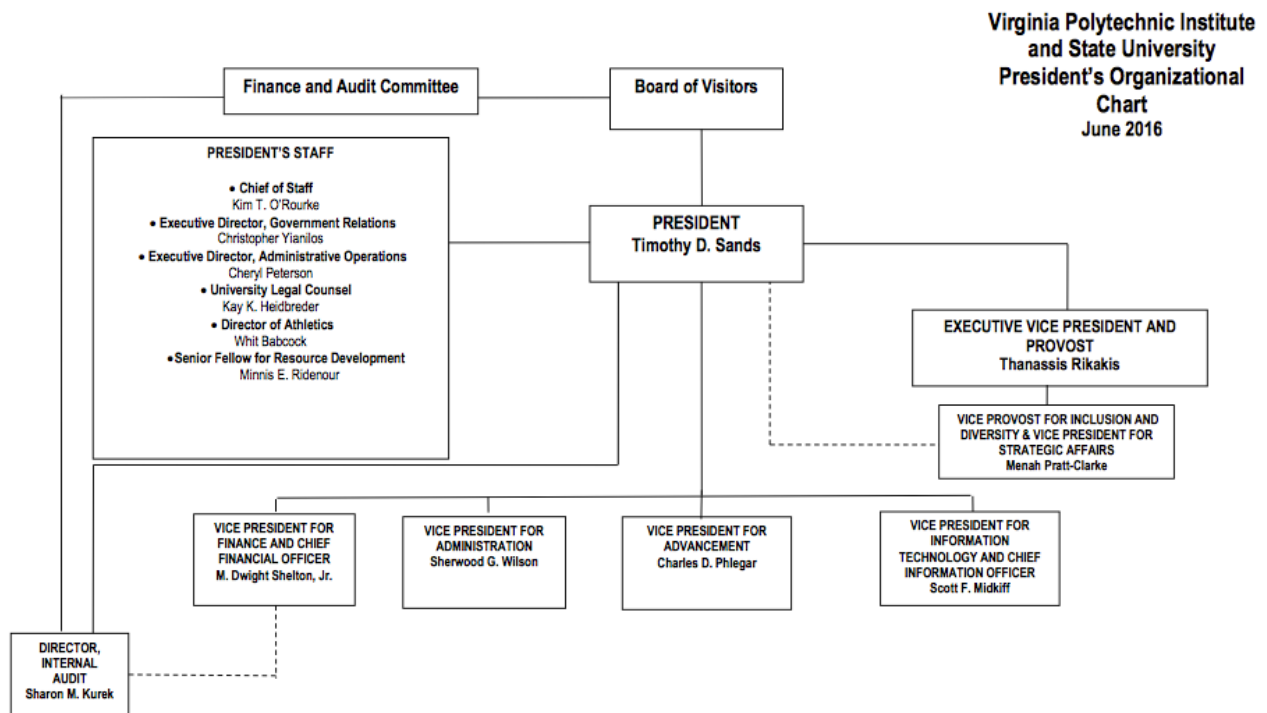
Students can request books in the collection from the Blacksburg campus through the Inter-Library Loan (ILIAD) system that are then shipped directly to the Center or to their home address. Students and faculty have access to a reserve collection housed at the Virginia Tech Falls Church center. Students and faculty also take advantage of the many excellent libraries in the area, including the Library of Congress.

I.2.5 Administrative Structure & Governance

Administrative Structure: The program must describe its administrative structure and identify key personnel within the context of the program and school, college, and institution.

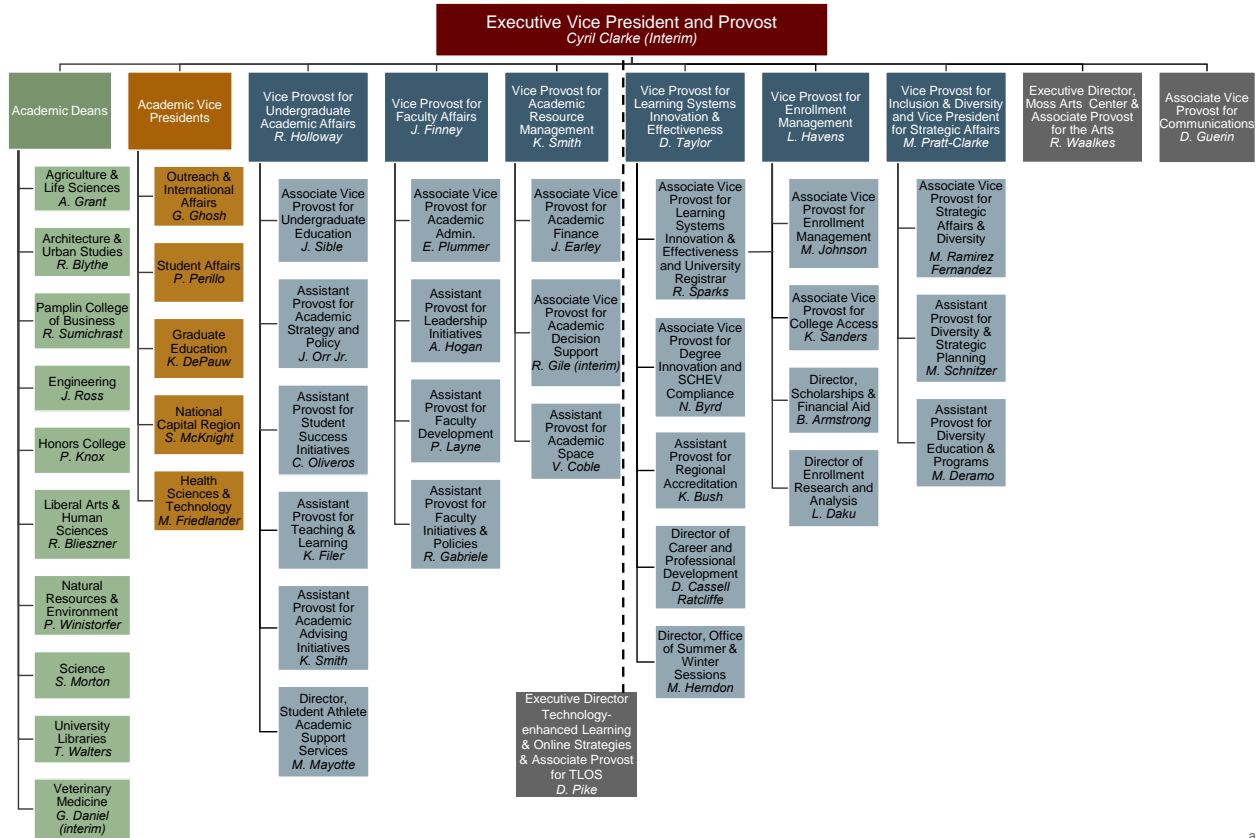
Governance: The program must describe the role of faculty, staff, and students in both program and institutional governance structures. The program must describe the relationship of these structures to the governance structures of the academic unit and the institution.

President's Office Organization Chart (acquired August 11, 2017)



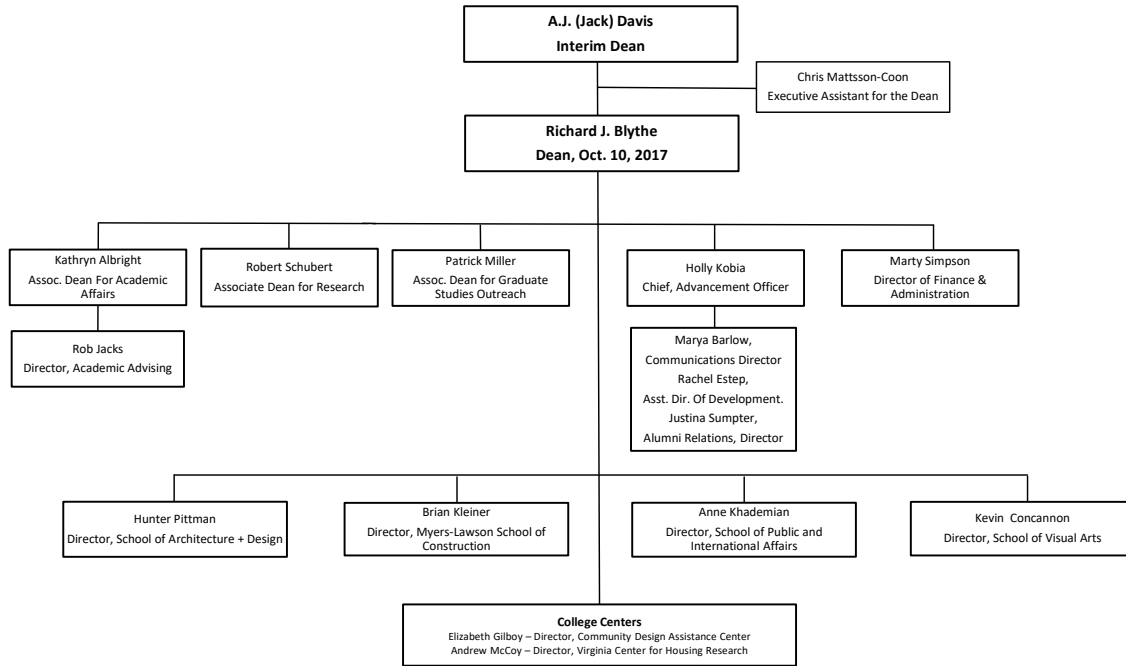
NOTE: Refer to Organizational Chart for the Senior Vice President and Provost to see additional Vice Presidents and College Deans.
 COLLEGE DEANS (8): Agriculture and Life Sciences, Architecture and Urban Studies, Pamplin College of Business, Engineering, Liberal Arts and Human Sciences, Natural Resources and Environment, Science, Veterinary Medicine. Dean of the Honors College. Dean of University Libraries.
 VICE PRESIDENTS (6): VP and Dean for Graduate Education, VP for Health Sciences and Technology, VP for the National Capital Region, VP for Outreach and International Affairs, VP for Research and Innovation, VP for Student Affairs.

Provost's Office Organization Chart (acquired January 27, 2018)

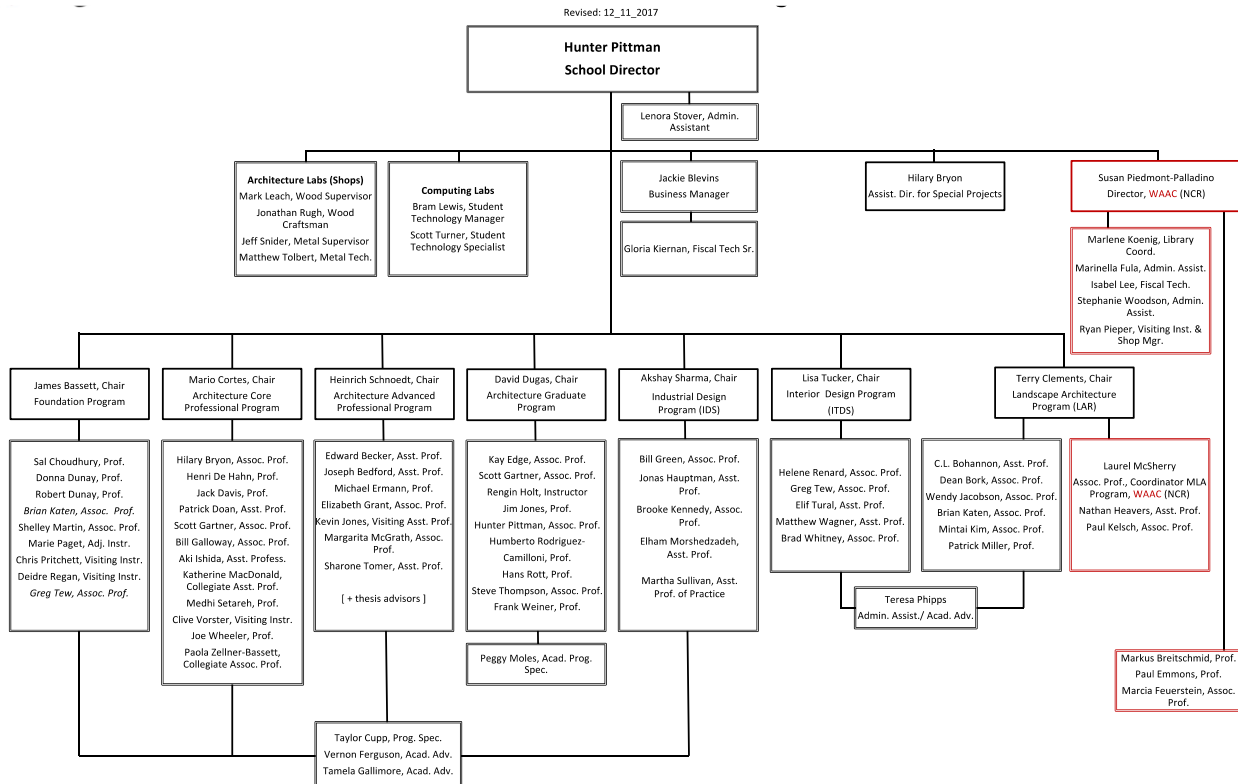


as of:

College of Architecture & Urban Studies' Organization Chart (acquired September 1, 2017)



School of Architecture+Design Organization Chart (acquired January 27, 2018)



Administrative Structure of the Program

The five-year undergraduate Bachelor of Architecture (B.Arch.) program has three divisions: the Foundation Program (1st year), the Core Professional Program (2nd and 3rd year), and the Advanced Professional Program (4th and 5th year). The Graduate Architecture Program has three degree programs: Master of Architecture (M.Arch), Master of Science in Architecture (MS.Arch.), and the Ph.D. in Architecture and Design Research (Ph.D. ADR). The program chairs are responsible for academic affairs within their respective programs. The Chairs of the divisions of the Undergraduate Architecture program, the Chair of the Graduate Architecture Program, the Chairs of the Industrial Design, Interior Design, and Landscape Architecture programs, and the Director of the Washington-Alexandria Architecture Center report to the School Director. The School Director meets regularly with the Program Chairs to coordinate the academic and administrative affairs of the School. The School Director reports to the Dean of the College of Architecture & Urban Studies.

College of Architecture and Urban Studies Administration:

Dean: Richard Blythe, Ph.D.
Associate Dean for Research: Professor Robert Schubert
Associate Dean for Academic Affairs: Professor Kathryn Albright
Associate Dean for Graduate Studies and Outreach: Professor Patrick Miller
Director of Finance and Administration: Marty Simpson
Communications Manager: Marya Barlow
Director of Alumni Relations: Justina Sumpter
Director of Development: Holly Kobia
Fiscal and Human Resources Assistant: Ingrid Skenderian

School of Architecture+Design Administration:

Director: Prof. Hunter Pittman
Assistant Director of Special Programs: Prof. Hilary Bryon
Foundation Program Chair: Prof. James Bassett
Core Professional Program Chair: Prof. Mario Cortes
Advanced Professional Program Chair: Prof. Heiner Schnoedt
Graduate Architecture Program Chair: Prof. David Dugas
Industrial Design Program Chair: Prof. Akshay Sharma
Interior Design Program Chair: Prof. Lisa Tucker
Landscape Architecture Program Chair: Prof. Terry Clements
Director of the Washington-Alexandria Architecture Center: Prof. Susan Piedmont-Palladino
Business Manager: Jackie Blevins

School of Architecture+Design Office Staff:

Nora Stover, Administrative Assistant to School Director
Tamela Gallimore, Academic Advisor (Undergraduate Programs: Architecture and Industrial Design)
Vernon Ferguson, Academic Advisor (Undergraduate Programs: Architecture and Industrial Design)
Peggy Moles, Program Support Technician Senior (Graduate Architecture Program)
Taylor Cupp, Program Support Specialist
Teresa Phipps, Program Coordinator / Advisor (Undergraduate Programs in Landscape Architecture and Interior Design and Landscape Architecture Graduate Program)

School of Architecture+Design Shop Staff:

Mark Leach, Wood Shop Supervisor
Jonathan Rugh, Wood Shop Craftsman
Jeff Snider, Metal Shop Supervisor
Matt Tolbert, Metal Shop Craftsman

School of Architecture+Design Computing Staff:

Bram Lewis, Student Computing Manager
Scott Turner, Student Computing Specialist

Opportunities for involvement in governance, incl. curriculum development, by faculty, staff, and students:

Faculty may participate in School governance through service on the School Curriculum Committee (one faculty member elected from each program), the School Executive Committee (program chairs plus one faculty member elected from each program and one faculty at-large), and the School Peer Review Committee (one faculty member elected from each program), which handles reviews for reappointment and promotion and tenure.

Faculty may participate in College governance through service on the College Curriculum Committee (elected faculty representatives from each program) and the College Promotion and Tenure Committee (a combination of elected and appointed members). Faculty, staff, and students may participate in College governance through service on the College Honorifics Committee (elected faculty, staff, and student representatives from each program in the College), which has responsibility for selecting recipients of all College-level awards.

Faculty may participate in University governance through service on the University Council (elected College representative), the Commission on Undergraduate Studies and Policies (elected College representative), the Commission on Graduate Studies and Policies (elected College representative), the Undergraduate Curriculum Committee (elected College representative), the Graduate Curriculum Committee (elected College representative), the Faculty Senate (elected School/Department representatives), the Academic Support Committee (elected College representative), the Athletics Committee (elected College representative), the University Building Committee (faculty representatives nominated by the Faculty Senate), the Commencement Committee (elected College representative), the Faculty Honorifics Committee (faculty representatives nominated by the Faculty Senate), the Intellectual Property Committee (faculty representatives nominated by the Vice President for Research Programs and the Presidents of the Faculty and Staff Senates and the Chair of the Commission on Administrative and Professional Faculty Affairs), Committee for Curriculum for Liberal Education (elected College representative), Commission on Faculty Affairs (faculty representatives nominated by the Faculty Senate), Commission on Outreach and International Affairs (elected College representative), Commission on Research (elected College representative), and the University Advisory Council on Strategic Budgeting and Planning (elected College representative). Faculty and staff may participate in university governance through service on the Employee Benefits Committee (faculty representatives nominated by the Faculty Senate, staff representatives nominated by the Staff Senate), the Energy and Sustainability Committee (faculty representatives nominated by the Faculty Senate, staff representatives nominated by the Staff Senate), the Library Committee (elected College faculty representative, staff representatives nominated by the Staff Senate), Transportation and Parking Committee (faculty representatives nominated by the Faculty Senate, staff representatives nominated by the Staff Senate), and the Commission on Equal Opportunity and Diversity (faculty representatives nominated by the Faculty Senate, staff representatives nominated by the Staff Senate). Faculty and students may participate in University governance through service on the Honor System Review Board (faculty representatives nominated by the Faculty Senate). Staff may participate in University governance through service on the Commission on Staff Policies and Affairs (staff representatives elected by the Staff Senate).

II.1.1 Student Performance Criteria: B.ARCH PROGRAM (See larger: [Undergraduate Program Matrix](#))

Ability Proficiency in using specific information to accomplish a task, correctly selecting the appropriate information, and accurately applying it to the solution of a specific problem, while also distinguishing the effects of its implementation.

Understanding The capacity to classify, compare, summarize, explain, and/or interpret information.

UNDERGRADUATE MATRIX (rev. 01-20-2108)

Required Courses in Professional Degree Program	Student Performance Criteria (2014 Conditions) Ability Understanding																									
	A.1	A.2	A.3	A.4	A.5	A.6	A.7	A.8	B.1	B.2	B.3	B.4	B.5	B.6	B.7	B.8	B.9	B.10	C.1	C.2	C.3	D.1	D.2	D.3	D.4	D.5
First Year ARCH 1015, 1016 Foundation Design Lab					●																					
Second Year ARCH 2015, 2016 Architecture II ARCH 2034 The Art of Building ESM 3704 Basic Principles of Structures ARCH 2044 Building Materials ARCH 3115, 3116 History of Architecture				●		●			●																	
Third Year ARCH 3015, 3016 Architecture III ARCH 4075, 4076 Building Structures I-II ARCH 3045, 3046 Building Assemblies ARCH 4055, 4056 Environmental Building Systems ARCH 3054 Building Analysis				●		●			●	●	●	●	●	●	●				●	●	●					
Fourth Year ARCH 4015, 4016 Architecture IV Integrative Design ARCH 4044 Professional Practice ARCH 4034 Building Cities ARCH 4114 Concepts Ideas Representation		●		●		●			●	●	●	●	●	●	●		●		●	●	●					
Fifth Year ARCH 4515, 4516 + ARCH 4524 Architecture V + Thesis Documentation	●	●	●		●	●																				

● Primary
● Secondary

Bachelor of Architecture Program:

Brief descriptions of the relationship between the given SPC with the Primary Course fulfilling that criterion and the methodology for assessing student work.

REALM A: CRITICAL THINKING AND REPRESENTATION

A.1 Professional Communication Skills

"Ability to write and speak effectively and use appropriate representational media both with peers and with the general public."

ARCH 4524 Thesis Documentation (with ARCH 4515-16 Architecture V / thesis) is the Primary Course in which this Criterion is fulfilled. Each student is required to produce a thesis document in which their theoretical, conceptual, and professional position for their thesis project is articulated. The thesis documentation consists of writings, drawings, and other kinds of illustrations relating to the architectural work taking place in ARCH 4515-16. Students are required to demonstrate an ability to support his/her thesis project with specific architecturally suitable graphic and other types of representations. Drawings and models, both analog and digital, are typically engaged by the students to explore and relay the constituents of their architectural projects. Design iterations are discussed, presented, exhibited, and progressively documented. Coincident writing is analytic, descriptive, and interpretative in nature; and research-based writings utilize academic and professional sources. Students present and discuss the work in-progress at several occasions with advisors and the thesis peer group at large. The work of ARCH 4524 is coupled to the work produced in courses ARCH 4515-16 (Architecture V-Thesis). Communication skills are cultivated in all preceding design labs, reaching the highest level of accomplishment in the presentation of the thesis. High level achievement is demonstrated in a student's ability to concisely, deeply, and eloquently document the architecture and an architectural position through coincident words and images, as well as adhere to scholarly conventions of attribution.

A.2 Design Thinking Skills

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

ARCH 4524 Thesis Documentation (with ARCH 4515-16 Architecture V / thesis) is the Primary Course in which this Criterion is fulfilled. Over a student's final two semesters, each student is required to produce a thesis project (ARCH 4515-16) and corresponding thesis book / document (ARCH 4524). A thesis project is defined as advanced, independent architectural research requiring articulation of a conceptual and professional position. Each student formulates his/her own architectural research question. Guided by a faculty advisor, students seek, through a mature design process accompanied by relevant research, to develop an understanding of the challenges of architecture both as a building endeavor and as a cultural mission. Students are required to lay out arguments with reason and verify their assumptions. The aim of this course sequence is to allow for a better comprehension of the complexity of architecture in a contemporary and historical context. The process of inquiry, interpretation, and mature understanding of architecture is evaluated based on clearly conveyed design and research results. Student ability is evidenced regularly through written statements, oral pin-up presentations, and formal exhibitions which are engaged by peers and faculty from across the School, but ultimately presented through the thesis documentation (ARCH 4524).

A.3 Investigative Skills

"Ability to gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment."

ARCH 4524_Thesis Documentation (with ARCH 4515-16_Architecture V / thesis) is the Primary Course in which this Criterion is fulfilled. Each student is required to develop a concise record and documentation, which clarifies the theoretical, conceptual and professional position of a thesis project. The thesis and its documentation requires each student to identify relevant sources as they may relate to the architectural problems and challenges in their thesis question and their project. Materials consulted by thesis students range from archival collections to GIS data, from historic maps to construction documents, from acoustical sound maps to cultural narratives. Students subsequently evaluate the significance, relevance, and applicability of the chosen sources within the context of their developing project. This process requires abilities of research, judgment, selection, interpretation, and documenting of sources by means of writings, drawings, diagrams, and other visual techniques. Investigations are presented throughout the design process, but formally collected in the final thesis documentation. High level achievement is demonstrated in a student's ability to concisely, deeply, and eloquently document the architecture and the associated contributing investigations in support of that work.

A.4 Architectural Design Skills

"Ability to effectively use basic formal, organizational and environmental principles and the capacity of each to inform two- and three-dimensional design."

ARCH 3015-16_Architecture III is the Primary Course in which this Criterion is fulfilled. The course provides for exploratory investigation and measured refinements of fundamental design principles. Students develop the ability to order and synthesize the structural, technological, programmatic, typological, situational, and material aspects of architecture in an appropriately articulated whole. Moving between architectural proposition, architectonic idea, and building, their architecture is engaged with integrity from building to element, from locality to detail. Students are expected to demonstrate the ability to develop a complex building with a reasoned grammar, while concurrently addressing the complexity of natural and human-made forces. Students present their work several times during the semester using both analogue and digital models and drawings. High achievement demonstrates a well-organized, integrated approach toward the building and graphic clarity in the architecture's presentation.

A.5 Ordering Systems

"Ability to apply the fundamentals of both natural and formal ordering systems and the capacity of each to inform two- and three-dimensional design."

ARCH 1015-16_Foundation Design Lab is the Primary Course in which this Criterion is fulfilled. The course sequence is structured through the study of components of design (such as elements, structure, space, relationships of part to whole, craft, role of representation, and design media) and how they are incorporated in the creation of two- and three-dimensional designs via systems of order. The development and application of natural and formal ordering systems (hierarchy, progression, symmetry, classification, proportion, etc.) relevant to a work is practiced as a significant aspect of establishing relationships in a project between materials, tools, techniques, form, and idea; and is considered foundational to advanced design work. High achievement is recognized by a student's ability to apply and integrate ordering systems in a work both as an aspect of a project's development--*how the idea of order informs the work*--and as a quality of coherence in a final 2-dimensional or 3-dimensional product.

A.6 Use of Precedents

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

ARCH 3015-16_Architecture III is the Primary Course in which this Criterion is fulfilled. Throughout the undergraduate professional program, students are expected to identify, assess, and interpret physical, formal, and theoretical precedents. Students in Architecture III engage, throughout the semester, independent precedent studies as related to developments in their design work. Students research and analyze precedents related to building typology, structure, materiality, organization, form, place, etc. leading towards an informed, appropriate, and relevant architectural proposition. Student ability to evaluate and value relevant precedents is most evident in the architectural project itself, however precedents under review are also presented in graphic and oral presentations. More explicit precedent studies are undertaken in the design lab's companion course, Building Analysis (ARCH 3054). High achievement is evident through the breadth, depth, and synthesis of multiple, topical precedents informing a student's project.

A.7 History and Global Culture

"Understanding of the parallel and divergent histories of architecture and the cultural norms of a variety of indigenous, vernacular, local, and regional settings in terms of their political, economic, social, ecological, and technological factors."

ARCH 3115-16_History of Architecture is the Primary Course in which this Criterion is fulfilled. The History of Architecture two-semester sequence explores architecture globally from prehistory to the current day as a cultural production reflective of its social, political, economic, artistic, intellectual, technological, and environmental contexts. Lectures and readings expose the principles of historical ideas, forms, buildings, and processes across time and across continents. Student understanding is demonstrated through analytic writings and drawings in varying combinations of quizzes, tests, notes, timelines, discussions, case studies, and researched essays. Student work that demonstrates rigor in both comprehension and synthesis of reading and lecture material is regarded as a high level of understanding, while more rote responses are a minimum achievement.

A.8 Cultural Diversity and Social Equity

"Understanding of the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the responsibility of the architect to ensure equity of access to buildings and structures."

ARCH 4034_Building Cities is the Primary Course in which this Criterion is fulfilled. Building Cities explores how cities and settlements have developed historically and around the globe, and how the discipline/profession of architecture participates in the making of urban form. Lectures and readings examine how urban design and planning theories; architecture and urban spatial patterns; and political, economic, and cultural forces impact how cities have been made and experienced. Student understanding is ascertained through discussion, written reading responses, case studies, and written exams. High achievement is evident through a student's assimilation and synthesis from multiple sources, while minimum achievement is more narrowly informed.

REALM B: BUILDING PRACTICES, TECHNICAL SKILLS AND KNOWLEDGE

B.1 Pre-Design

"Ability to prepare a comprehensive program for an architectural project that includes an assessment of client and user needs; an inventory of spaces and their requirements; an analysis of site conditions (including existing buildings); a review of the relevant building codes and standards, including relevant sustainability requirements, and assessment of their implications for the project, and a definition of site selection and design assessment criteria."

ARCH 4015, 4016_Architecture IV (Integrative Design) is the Primary Course in which this Criterion is fulfilled. Students are introduced to questions of site, governance, programming, and

sustainability/energy through weekly demonstrations where brief lectures and case studies are combined with relevant field trips and in-class sketch charrette exercises. Through the charrettes, students are encouraged to immediately begin integrating their pre-design discoveries into their work. To further reinforce and develop these abilities, specific assignments (comprehensive analyses of place, detailed architectural programs, code/zoning worksheets, and energy simulations) are incorporated into the work. Student efforts are assessed through a combination of in-class pinup presentations, submitted work (both written and graphic), and as a part of the overall development of their lab project. Work that meets the minimum requirements of a particular assignment achieves a 'marginal' pass, while student work that shows a high level of inquiry and integration with regard to how program, environment, and regulations affect architectural design and decision-making earns a 'high' pass.

B.2 Site Design

"Ability to respond to site characteristics, including urban context and developmental patterning, historical fabric, soil, topography, ecology, climate, and building orientation, in the development of a project design."

ARCH 3015-16_Architecture III is the Primary Course in which this Criterion is fulfilled. The decisions of how to respond to the setting of a proposed building are fundamental to an architectural position. In Architecture II, students are introduced to architectural qualities as related to a site's topography, orientation, settlement patterns, and history. In Architecture III, the categories of the criterion are both qualitatively and quantitatively assessed relative to the development of an architectural project. Each student is required to analyze the particular topographical and topological situation of project settings. These aspects entail the physical qualities and unseen forces that work against the building, such as the geological quality of the soil, subterranean and on-terrain watershed conditions, and plant life. Ability to respond to site characteristics is demonstrated in the students' projects, but also in studies devoted to understanding and responding to focused site circumstances during the course of a project's development.

B.3 Codes and Regulations

"Ability to design sites, facilities, and systems that are responsive to relevant codes and regulations, and include the principles of life-safety and accessibility standards."

ARCH 4015, 4016_Architecture IV (Integrative Design) is the Primary Course in which this Criterion is fulfilled. Codes and regulations, such as those concerned with accessibility, egress, and life-safety systems are introduced in the Building Assemblies course (ARCH 3045-46) and engaged as an integral and significant part of the total system of an architectural project in Architecture III (ARCH 3015-16). In ARCH IV, the lab instructors emphasize that regulatory instruments need to be understood as a generative constraint, which necessitates their early introduction to the design process of a building. Ability to design responsive sites, facilities, and systems with the minimum level of competency is evidenced in student designed buildings that address and integrate an array of codes and regulations, however with a perfunctory approach.

B.4 Technical Documentation

"Ability to make technically clear drawings, prepare outline specifications, and construct models illustrating and identifying the assembly of materials, systems, and components appropriate for a building design."

ARCH 4015, 4016_Architecture IV (Integrative Design) is the Primary Course in which this Criterion is fulfilled. The one semester Integrative Design Lab stresses the essential relationship between the underlying ideas of the students' architectural propositions and the constructed reality

through which these ideas are expressed in a built work. Through weekly demonstrations, trips to mechanical rooms and construction sites, visits from talented practitioners, and sketch charrette exercises, students work to incorporate questions of systems, materials, assembly, and specifications into their designs. Students demonstrate their integration of this material through conventional, scaled plans, sections, and elevations, detailed wall sections, models (digital or physical), by preparing specifications for important material assemblies, and through energy modeling studies designed to investigate how questions of thermal performance (R-values, glazing types, shading, etc.) impact design decisions (thickness of a wall, development of a roof form, design of an elevation, etc.). Work that meets the minimum requirements for the particular exercises and which possess a minimum competency are given a 'marginal' pass, while work that demonstrates a strong dialogue between architectural notions and technical competency is awarded a 'high' pass.

B.5 Structural Systems

"Ability to demonstrate the basic principles of structural systems and their ability to withstand gravitational, seismic, and lateral forces, as well as the selection and application of the appropriate structural system."

ARCH 4075-76_Building Structures I, II is the Primary Course in which this Criterion is fulfilled. In Building Structures I, II; as well as its pre-requisite ESM 3704: Basic Principles of Structures, students learn about: the geometrical properties of structural members, i.e. area, moment of inertia, section modulus, and radius of gyration; typical structural loads that buildings are commonly subjected to, such as dead loads, live loads, snow loads, wind loads, seismic loads, soil loads, and hydrostatic loads; and different structural systems, including beams, columns, trusses, cross-braced frames, rigid frames, arches, and cables. The course conveys the advantages and disadvantages of structural steel, reinforced concrete, and wood, as well as contemporary design codes and specifications used for each material. Students are expected to determine axial, shear, moment, and deflection analysis of structural elements. As well, students develop the ability to identify the importance of structure in an architectural design, trace loads/forces through the horizontal diaphragms and down to the ground (soil), analyze/design basic structural elements, and envision behavior of structures under standard building loads. Thus, the students develop an understanding of the requirements of modern structural systems, including the ability to resist dead and live loads, resist the governing or critical lateral force, and ensure building stability. Student ability is demonstrated via directed homework assignments, quizzes, and exams.

B.6 Environmental Systems

"Ability to demonstrate the principles of environmental systems' design, how design criteria can vary by geographic region, and the tools used for performance assessment. This demonstration must include active and passive heating and cooling, solar geometry, daylighting, natural ventilation, indoor air quality, solar systems, lighting systems, and acoustics."

ARCH 4055-56_Environmental Building Systems is the Primary Course in which this Criterion is fulfilled. The Environment & Building Systems course sequence has a primary focus on understanding the basic principles, application, and performance of systems, including acoustical, lighting, and climate modification systems with particular focus on building envelope systems. Students are required to complete the following assignments: solar geometry heliodon sundial, energy modeling of student studio projects in Energy-10 software, heat gain and heat loss estimations for studio projects, direct gain space glazing and thermal mass sizing for studio projects, thermal and daylight monitoring and data-logging of physical models, plotting the psychrometric chart, calculating thermal transmittance of student studio projects, and quantifying light levels to make critical observations for student designs. These assignments are supported with lectures, field trips,

and readings that address issues of sustainability, including solar geometry, heat transfer, steady-state and periodic heat flow theory, passive heating and cooling, mechanical systems, glass technology, daylighting, electric lighting, water and waste systems, vegetated roofs, power, energy sources, and indoor air quality. Students are assessed via exams, drawing exercises, reading quizzes, and projects. High level work demonstrates the ability to harmonize performance demands and design considerations, whereas minimum ability is demonstrated through more conventional, standardized approaches.

B.7 Building Envelope Systems and Assemblies

"Understanding of the basic principles involved in the appropriate selection and application of building envelope systems relative to fundamental performance, aesthetics, moisture transfer, durability, and energy and material resources."

ARCH 3045-46 Building Assemblies is the Primary Course in which this Criterion is fulfilled. The Building Assemblies course sequence is configured through lectures that present the basic principles and conventional practices of building envelopes as systems and assemblies. Case studies are utilized to consider both the underlying logic of conventional practices and the potential range and malleability of these conventions while maintaining the underlying performative and systemic functionality. Weekly course lectures are combined with regular drawing exercises that enable the development and assessment of understanding. Understanding is measured through the ability to communicate the appropriate and fundamental layers of building envelope assemblies with regard to structure, thermal and moisture protection, finish, and other performative metrics.

B.8 Building Materials and Assemblies

"Understanding of the basic principles used in the appropriate selection of interior and exterior construction materials, finishes, products, components and assemblies based on their inherent performance, including environmental impact and reuse."

ARCH 3045-46 Building Assemblies is the Primary Course in which this Criterion is fulfilled. The Building Assemblies course sequence is configured through lectures that present the basic principles and conventional practices of building construction and assembly as they relate to material attributes, performance, cost, and impact. Case studies are utilized to assess conventional practices, their logic and malleability, with respect to a range of questions that arise as the architect seeks to resolve design aspirations with input from materials, processes, systems, economics, codes, life safety considerations, and environmental impact. Weekly course lectures are combined with regular drawing exercises that enable the development and assessment of understanding. Understanding is measured through the ability to communicate comprehensively the appropriate and fundamental layers of building assemblies with regard to structure, thermal and moisture protection, finish, and other performative metrics.

B.9 Building Service Systems

"Understanding of the basic principles and appropriate application and performance of building service systems, including lighting, mechanical, plumbing, electrical, communication, vertical transportation, security, and fire protection systems."

ARCH 4055-56 Environmental Building Systems is the Primary Course in which this Criterion is fulfilled. Each student is introduced to various building service systems by means of lectures, assignments, and field trips to buildings. The following systems are introduced: plumbing; sanitary installations; electrical installations; air-renewal and air-conditioning systems; transportation systems such as elevators, escalators, and staircases; heating systems; and security and fire

protection systems. Each student has to demonstrate their understanding of the underlying concepts, as well as the application of the various service systems, in quizzes and exams.

B.10 Financial Considerations

"Understanding of the fundamentals of building costs, which must include project financing methods and feasibility, construction cost estimating, construction scheduling, operational costs, and life-cycle costs."

ARCH 4044 Professional Practice is the Primary Course in which this Criterion is fulfilled. Students are introduced to the fundamentals of costs, finances, and estimating through a mix of lecture content, visiting guests, readings, and the completion of various in-class exercises, as well as individual/group assignments. In some cases, these exercises are tied to efforts in the design lab, allowing a new lens (cost/schedule/fees) through which students can come to understand their architectural designs. Students are assessed based on the plausibility of their cost analyses, and the degree to which they have accurately accounted for all of the various parameters that contribute to questions of costs, fees, and schedule. As well, they are assessed based on their ability to meaningfully contribute to class discussions related to these matters. Students who exhibit a basic level of understanding and retention of the material earn a 'marginal' pass, while students who take their understanding of the material and question, challenge, and adapt the content in their course assignments and discussion contributions earn a 'high' pass.

REALM C: INTEGRATED ARCHITECTURAL SOLUTIONS

Brief description of the pedagogy and methodology used to address Realm C:

The Integrative Design Lab (ARCH 4015, 4016) focuses on developing in students an understanding for the relationship between their architectural ideas and the constructed realities of those ideas. Design rigor and conceptual clarity are not ignored in favor of technical considerations. Rather, these are developed early in the semester as essential guiding parameters against which the various technical, contextual, programmatic, regulatory, and performance metrics are brought to bear. The lab emphasizes the importance of an architect taking ownership of the myriad variables at play in a project – looking for design opportunities in both the poetic and the pragmatic.

The semester features a carefully organized sequence of technical topics, short assignments, charrette exercises, field trips, visits with practitioners, and reviews wherein students are challenged to integrate questions of site, program, structure, energy, systems, and code into their architectural thinking. The goals for the students are two-fold: (1) The development of thoughtfully and competently integrated architectural propositions developed across an entire semester, and (2) the creation of multiple, discrete opportunities where the challenge of integrating a particular concept leads to the discovery of new avenues of architectural investigation.

C.1 Research

"Understanding of the theoretical and applied research methodologies and practices used during the design process."

ARCH 4015, 4016 Architecture IV (Integrative Design) is the Primary Course in which this Criterion is fulfilled. Through specific assignments related to precedent studies, site, energy, program, code, and other topics, students are introduced to the importance of research in their design process. The Integrative Design Lab stresses the gathering of relevant data, the definition of guiding parameters (be they architectural, programmatic, site, or otherwise), and the translation of these parameters in avenues of architectural investigation. Through a mix of desk critiques and presentations, students are challenged to show the evidence of their studies and describe the ways that it informs both their design process and their design work. Student work is assessed based on

the evidence of depth, iteration, and architectural thought, with 'high' pass being earned by students whose research opens new avenues of investigation in their work.

C.2 Integrated Evaluations and Decision-Making Design Process

"Ability to demonstrate the skills associated with making integrated decisions across multiple systems and variables in the completion of a design project. This demonstration includes problem identification, setting evaluative criteria, analyzing solutions, and predicting the effectiveness of implementation."

ARCH 4015, 4016_Architecture IV (Integrative Design) is the Primary Course in which this Criterion is fulfilled. The Integrative Design Lab stresses the role of iteration and a clear process to the development of a strong architectural project. Sketch charrette exercises allow the students to focus on identifying the questions of interest to them in a given scenario (e.g. what are the possibilities and limitations of expressing a structural system). In some assignments, this work is synthesized into submissions which are discussed with an eye for what was learned, how it was considered, and what the next steps might be. Student ability to iterate and investigate is assessed through various assignments, desk-critiques, and formal/informal reviews undertaken throughout the semester. Faculty and practitioners are invited to the studio to challenge the students' assumptions on their work and aid in the development of new frameworks for architectural decision-making. Student efforts that competently address the questions at hand earn a 'marginal' pass, while work that presents evidence of iteration, creative thought, and a balance of research and speculation is awarded a 'high' pass.

C.3 Integrative Design

"Ability to make design decisions within a complex architectural project while demonstrating broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life-safety, environmental systems, structural systems, and building envelope systems and assemblies."

ARCH 4015, 4016_Architecture IV (Integrative Design) is the Primary Course in which this Criterion is fulfilled. The Integrative Design Lab focuses on the development of conceptually rigorous, thoughtfully designed, and technically competent works of architecture. Through a carefully sequenced set of topics organized across the semester, these questions are brought to bear in the lab. The efforts culminate in a set of documents, comprised of 3-4 design boards and a book. The boards (part of a school-wide Integrative Design competition) allow the students to tell the story of their work, and includes a mix of architectural and technical graphics, diagrams, and writing. In the book, students are challenged to curate their work into sections corresponding to the different C.3 criterion topics, with a focus on combining multiple drawings, graphics, models, and words in order to demonstrate their decision-making. 'Marginal' pass is conveyed to student work that meets the minimum requirements for technical competency, while 'high' pass is reserved for those students whose work demonstrates a clear relationship between their architectural proposition and the various technical components required to realize their design.

REALM D: PROFESSIONAL PRACTICE

D.1 Stakeholder Roles in Architecture

"Understanding of the relationships among key stakeholders in the design process—client, contractor, architect, user groups, local community—and the architect's role to reconcile stakeholder needs."

ARCH 4044_Professional Practice is the Primary Course in which this Criterion is fulfilled. Students are introduced to the roles of various stakeholders in the construction ensemble through a

mix of lecture content, visiting guests, the occasional field trip, and preparatory readings and online resources. Students' understanding is assessed through written assignments, their ability to contribute during facilitated in-class discussion sessions, examinations, and larger individual and group projects. Students who exhibit a basic level of understanding and retention of the material earn a 'marginal' pass, while students who take their understanding of the material and question, challenge, and adapt the content in their course assignments and discussion contributions earn a 'high' pass.

D.2 Project Management

"Understanding of the methods for selecting consultants and assembling teams; identifying work plans, project schedules, and time requirements; and recommending project delivery methods."

ARCH 4044 Professional Practice is the Primary Course in which this Criterion is fulfilled. Students are introduced to the basics of project management, schedules, teaming, and project delivery through a mix of lecture content, visiting guests, the occasional field trip, and preparatory readings and online resources. Students' understanding is assessed through written assignments, their ability to contribute during facilitated in-class discussion sessions, examinations, and larger individual and group projects. Students who exhibit a basic level of understanding and retention of the material earn a 'marginal' pass, while students who take their understanding of the material and question, challenge, and adapt the content in their course assignments and discussion contributions earn a 'high' pass.

D.3 Business Practices

"Understanding the basic principles of a firm's business practices, including financial management and business planning, marketing, organization, and entrepreneurship."

ARCH 4044 Professional Practice is the Primary Course in which this Criterion is fulfilled. Students are introduced to business practices and planning as well as finances, marketing, etc. through a mix of lecture content, visiting guests, and preparatory readings and online resources. Students' understanding is assessed through written assignments, their ability to contribute during facilitated in-class discussion sessions, examinations, and larger individual and group projects. Students who exhibit a basic level of understanding and retention of the material earn a 'marginal' pass, while students who take their understanding of the material and question, challenge, and adapt the content in their course assignments and discussion contributions earn a 'high' pass.

D.4 Legal Responsibilities

"Understanding of the architect's responsibility to the public and the client as determined by regulations and legal considerations involving the practice of architecture and professional service contracts."

ARCH 4044 Professional Practice is the Primary Course in which this Criterion is fulfilled. Students are introduced to the important legal responsibilities and regulatory instruments that impact the profession through a mix of lecture content, visiting guests, and preparatory readings and online resources. Students' understanding assessed through written assignments, their ability to contribute during facilitated in-class discussion sessions, examinations, and larger individual and group projects. Students who exhibit a basic level of understanding and retention of the material earn a 'marginal' pass, while students who take their understanding of the material and question, challenge, and adapt the content in their course assignments and discussion contributions earn a 'high' pass.

D.5 Professional Conduct

"*Understanding* of the ethical issues involved in the exercise of professional judgment in architectural design and practice and understanding the role of the NCARB Rules of Conduct and the AIA Code of Ethics in defining professional conduct."

ARCH 4044 Professional Practice is the Primary Course in which this Criterion is fulfilled. Students are introduced to questions of ethics and codes of conduct in the practice of architecture through a mix of lecture content, case studies, and preparatory readings and online resources. Students' understanding is assessed through written assignments, their ability to contribute during facilitated in-class discussion sessions, examinations, and larger individual and group projects. Students who exhibit a basic level of understanding and retention of the material earn a 'marginal' pass, while students who take their understanding of the material and question, challenge, and adapt the content in their course assignments and discussion contributions earn a 'high' pass.

II.1.1 Student Performance Criteria: M. ARCH PROGRAM (See larger: [Graduate Program Matrix](#))

Ability Proficiency in using specific information to accomplish a task, correctly selecting the appropriate information, and accurately applying it to the solution of a specific problem, while also distinguishing the effects of its implementation.

Understanding The capacity to classify, compare, summarize, explain, and/or interpret information.

GRAD MATRIX
 Revised 01.27.2018

Pre-professional Equivalent	M.Arch.2	M.Arch.3	Required Courses in Professional Degree Program	Student Performance Criteria (2014 Conditions)								Student Performance Criteria (2014 Conditions)															
				A.1	A.2	A.3	A.4	A.5	A.6	A.7	A.8	B.1	B.2	B.3	B.4	B.5	B.6	B.7	B.8	B.9	B.10	C.1	C.2	C.3	D.1	D.2	D.3
		First Year	ARCH 4715-4716 Qualifying Design Lab			●		●																			
			ARCH 4705-4706 Qualifying Design Seminar																								
			ARCH 5134 Topics in Arch. History & Theory																								
		Second Year	ARCH 5515-5516 Architecture & Systems Lab					●																			
			ESM 3704 Basic Principles of Structures																								
			ARCH 5755G Building Environmental Systems																								
			ARCH 5775G-5776G Intermediate Building Structures										●														
			ARCH 5565-5566 Building Materials & Construction						●																●		
			ARCH 5715-16 Architecture and Urbanism Lab																								
			ARCH 5705-5706 Architecture and Urbanism Seminar																								
		Sum	ARCH 5755-5756 Advanced Design Lab			●		●		●				●	●	●	●	●	●	●	●	●					
		Third Year	ARCH 5994 Research & Thesis	●	●	●			●													●	●	●			
			ARCH 5044G Professional Practice	●																							
			ARCH 5624 Urban Design Seminar																								

Ability Primary
 Understanding Secondary

Master of Architecture Programs:

Brief descriptions of the relationship between the given SPC with the Primary Course fulfilling that criterion and the methodology for assessing student work.

REALM A: CRITICAL THINKING AND REPRESENTATION

A.1 Professional Communication Skills

"Ability to write and speak effectively and use appropriate representational media both with peers and with the general public."

ARCH 5994_Research & Thesis is the Primary Course in which this Criterion is fulfilled. Over the final two semesters of the M.Arch degree, each student is required to produce a thesis project. Within the work of the thesis project, students are required to present reasoned arguments with both visual and verbal means, and verify their assumptions. Students are required to regularly discuss, present, and critique their ongoing design thesis work publicly through the means of oral, written, and graphic presentation. The student is evaluated through regular formal reviews with a three-member faculty committee and student peers, culminating in a final public thesis defense and a final thesis document which is formally submitted for approval to the Graduate School of the university. The thesis book is edited in dialog with the chair of the committee and exemplifies the student's ability to communicate architectural ideas through appropriate hand and digital skills using architectural drawing conventions, as well as written communication.

A.2 Design Thinking Skills

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

ARCH 5994_Research & Thesis is the Primary Course in which this Criterion is fulfilled. Over the final two semesters of the M.Arch degree, each student is required to produce a thesis project. Architectural concepts are formulated through abstract means such as diagramming and verbal questioning. Students are required to refine, present, and defend their design thinking formally in public reviews with faculty and student peers and are tasked with considering diverse points of view in response to direct critique. The student is required to make conclusions and test outcomes relevant to the defined limits of the project framed by ongoing faculty critique as well as defined project criteria in an ongoing design process resulting in a conceptually coherent thesis project. The work is evaluated through formal reviews with a three-member faculty committee and student peers and culminates in a final public thesis defense and a final thesis document which is formally submitted to the Graduate School.

A.3 Investigative Skills

"Ability to gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment."

ARCH 5994_Research & Thesis is the Primary Course in which this Criterion is fulfilled. Over the final two semesters of the M.Arch degree, each student is required to produce a thesis project. During the course of the thesis project, the student is required to demonstrate their ability to research, discover, and define relevant information and performance that can frame their individual design thesis project. The thesis project requires that a student be able to identify, codify, and edit critical information that frames their chosen project. Investigative work is documented through both visual and written means in a formal thesis document submitted to the student's thesis committee, as well as the Graduate School.

A.4 Architectural Design Skills

"Ability to effectively use basic formal, organizational and environmental principles and the capacity of each to inform two- and three-dimensional design."

ARCH 5515-16 Architecture & Systems Laboratory is the Primary Course in which this Criterion is fulfilled.

This studio course concentrates on formal, organizational, and environmental principles in the process of a studio design problem. Students are required to demonstrate architectural design skills in the pursuit of a complete design project. The student projects are assessed in a combination of daily studio one-on-one critique with faculty, periodic formal in-progress reviews, coupled with a final public review including faculty critique and evaluation of the completed and documented project presented with appropriate representational media including both hand and digital drawing, as well as study models. Work that evidences the minimum of design thinking skills achieves a 'marginal' pass, while student work that shows a high level of design thinking earns a 'high' pass.

A.5 Ordering Systems

"Ability to apply the fundamentals of both natural and formal ordering systems and the capacity of each to inform two- and three-dimensional design."

ARCH 4715-16 Qualifying Design Laboratory is the Primary Course in which this Criterion is fulfilled. This two semester course deals with fundamental design questions and their relation to sensible knowledge and requires the student to demonstrate ability to recognize, evaluate, and deploy systems of order in the study and execution of a sequence of two- and three-dimensional design problems. Student work is critiqued in ongoing reviews during the semester and is documented in a final portfolio. Work that evidences the minimum use of ordering systems achieves a 'marginal' pass, while student work that shows a high level of ability in the deployment of ordering systems earns a 'high' pass.

A.6 Use of Precedents

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

ARCH 5755-56 Advanced Design Laboratory is the Primary Course in which this Criterion is fulfilled. Students in the Advanced Design Lab are required to draw on a wide range of precedents that include design traditions, the history of structure and material use, statutory requirements, and cultural patterns arising from urban conditions, to frame the building problem. High achievement is evident through a student's assimilation and synthesis from multiple sources, while minimum achievement is more narrowly informed.

A.7 History and Global Culture

"Understanding of the parallel and divergent histories of architecture and the cultural norms of a variety of indigenous, vernacular, local, and regional settings in terms of their political, economic, social, ecological, and technological factors."

ARCH 5134 Topics in Architectural History [M.Arch 3 History] is the Primary Course in which this Criterion is fulfilled. Two courses comprise a topical, interdisciplinary study of architecture across time and continents as cultural productions reflective of their social, political, economic, artistic, intellectual, technological, and environmental situations. Student understanding is demonstrated through analytic writings and possibly in drawings, in varying combinations of quizzes, tests, notes, timelines, discussions, case studies, and researched essays. Student work

that demonstrates rigor in both comprehension and synthesis of reading and lecture material is regarded as a high level of understanding, while more rote responses are a minimum achievement.

A.8 Cultural Diversity and Social Equity

"Understanding of the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the responsibility of the architect to ensure equity of access to buildings and structures."

ARCH 5044G Professional Practice is the Primary Course in which this Criterion is fulfilled. Students in this course are introduced to the wide range of questions regarding the architect's role in promoting and enhancing human habitation through sensitivity to differing cultures, behaviors, and needs. Various forms of alternative practices are presented in a global context of varying societal and cultural systems. These dimensions of practice are introduced through lectures and class discussions and are evaluated through tests and essays. Student work that demonstrates rigor in both comprehension and synthesis of reading and lecture material is regarded as a high level of understanding, while more rote responses are a minimum achievement.

REALM B: BUILDING PRACTICES, TECHNICAL SKILLS AND KNOWLEDGE

B.1 Pre-Design

"Ability to prepare a comprehensive program for an architectural project that includes an assessment of client and user needs; an inventory of spaces and their requirements; an analysis of site conditions (including existing buildings); a review of the relevant building codes and standards, including relevant sustainability requirements, and assessment of their implications for the project, and a definition of site selection and design assessment criteria."

ARCH 5755-56 Advanced Design Laboratory is the Primary Course in which this Criterion is fulfilled. Students are introduced to questions of site, governance, programming, and sustainability/energy through weekly demonstrations where brief lectures and case studies are combined with relevant field trips and in-class sketch charrette exercises. Through the charrettes, students are encouraged to immediately begin integrating their pre-design discoveries into their work. To further reinforce and develop these abilities, specific assignments (comprehensive analyses of place, detailed architectural programs, code/zoning worksheets, and energy simulations) are incorporated into the work. Student efforts are assessed through a combination of in-class pinup presentations, submitted work (both written and graphic), and as a part of the overall development of their studio project. Work that meets the minimum requirements of a particular criterion/assignment achieve a 'marginal' pass while student work that shows a high level of inquiry, iteration, and integration – as well as conceptual rigor and clarity of presentation – earns a 'high' pass.

B.2 Site Design

"Ability to respond to site characteristics, including urban context and developmental patterning, historical fabric, soil, topography, ecology, climate, and building orientation, in the development of a project design."

ARCH 5755-56 Advanced Design Laboratory is the Primary Course in which this Criterion is fulfilled. The decisions of how to respond to the setting of a proposed building are fundamental to an architectural position. In the Advanced Design Laboratory, students are introduced to architectural qualities as related to a site's topography, orientation, settlement patterns, and history. These criteria are both qualitatively and quantitatively assessed relative to the development of an architectural project. Each student is required to analyze the particular topographical and topological situation of a project's setting. These aspects entail the physical qualities and unseen

forces that work against the building, such as the geological quality of the soil, subterranean and on-terrain watershed conditions, and plant life. Ability to respond to site characteristics is demonstrated in the students' projects, but also in studies devoted to understanding and responding to focused site circumstances during the course of a project's development.

B.3 Codes and Regulations

"Ability to design sites, facilities, and systems that are responsive to relevant codes and regulations, and include the principles of life-safety and accessibility standards."

ARCH 5755-56_Advanced Design Laboratory is the Primary Course in which this Criterion is fulfilled. Codes and regulations, such as those concerned with accessibility, egress, and life-safety systems are engaged as an integral and significant part of the total system of an architectural project. Lab instructors emphasize that regulatory instruments need to be understood as a generative constraint, which necessitates their early introduction to the design process of a building. Ability to design responsive sites, facilities, and systems with the minimum level of competency is evidenced in student designed buildings that address and integrate an array of codes and regulations, however with a more perfunctory approach.

B.4 Technical Documentation

"Ability to make technically clear drawings, prepare outline specifications, and construct models illustrating and identifying the assembly of materials, systems, and components appropriate for a building design."

ARCH 5755-56_Advanced Design Laboratory is the Primary Course in which this Criterion is fulfilled. The Advanced Design Laboratory stresses the essential relationship between the underlying ideas of the students' architectural propositions and the constructed reality through which these ideas are expressed in a built work. Through weekly demonstrations, trips to mechanical rooms and construction sites, visits with talented practitioners, and sketch charrette exercises, students work to incorporate questions of systems, materials, assembly, and specifications into their designs. Students demonstrate their integration of this material through detailed wall sections, models (digital or physical), and by preparing specifications for important material assemblies. Work that meets the minimum requirements for particular exercises and which possess a minimum competency are given a 'marginal' pass, while work that demonstrates a strong dialogue between architectural notions and technical competency is awarded a 'high' pass.

B.5 Structural Systems

"Ability to demonstrate the basic principles of structural systems and their ability to withstand gravitational, seismic, and lateral forces, as well as the selection and application of the appropriate structural system."

ARCH 5775G-76G_Intermediate Building Structures is the Primary Course in which this Criterion is fulfilled. Intermediate Building Structures as well as its pre-requisite ESM 3704: Basic Principles of Structures, students learn about: the geometrical properties of structural members, i.e. area, moment of inertia, section modulus, and radius of gyration; typical structural loads that buildings are commonly subjected to, such as dead loads, live loads, snow loads, wind loads, seismic loads, soil loads, and hydrostatic loads; and different structural systems, including beams, columns, trusses, cross-braced frames, rigid frames, arches, and cables. The course conveys the advantages and disadvantages of structural steel, reinforced concrete, and wood, as well as contemporary design codes and specifications used for each material. Students are expected to determine axial, shear, moment, and deflection analysis of structural elements. As well, students develop the ability to identify the importance of structure in an architectural design, trace loads/forces through the horizontal diaphragms and down to the ground (soil), analyze/design basic

structural elements, and envision behavior of structures under standard building loads. Thus, the students develop an understanding of the requirements of modern structural systems, including the ability to resist dead and live loads, resist the governing or critical lateral force, and ensure building stability. Student ability is demonstrated via directed homework assignments, quizzes, and exams.

B.6 Environmental Systems

"Ability to demonstrate the principles of environmental systems' design, how design criteria can vary by geographic region, and the tools used for performance assessment. This demonstration must include active and passive heating and cooling, solar geometry, daylighting, natural ventilation, indoor air quality, solar systems, lighting systems, and acoustics."

ARCH 5755G_Building Environmental Systems is the Primary Course in which this Criterion is fulfilled. This course introduces issues and concepts related to Environmental Building Systems and Environmentally Responsive Design. The issues are presented as they relate to the interactions that take place between the exterior environment, occupants, architectural systems, and placemaking. Emphasis is placed on strategies that minimize energy use and reduce the need for active systems while either generating or supporting architectural concepts. This course includes discussions of architectural form, human physiology, climate, site analysis, solar geometry, thermal properties of materials, solar utilization (passive and active), shading, electric and natural light, natural ventilation and indoor air quality, and acoustics. The course is conducted through lectures and class discussions, filed trips, and readings. The design integration techniques presented encourage analysis and synthesis. Easy-to-use analysis techniques, including rules-of-thumb, nomographs, simple computer programs (Climate Consultant), and scale models, are used to inform design decisions. Ability is determined through a demonstrated understanding through synthesis of the class material in five assignments. Assignment one challenges synthesis of site, climate, and solar geometry in a proposition for a small art gallery. Assignment two requires the comparative analysis (thermal performance) of two envelope assemblies--one lightweight and the other heavy construction. Through assignment three the student must demonstrate understanding of daylighting. Assignment four includes issues of natural ventilation and indoor air quality. Assignment five requires the assessment of HVAC and electric lighting systems. High level work demonstrates the ability to sustainably harmonize performance demands and design considerations, whereas minimum ability is demonstrated through more conventional, standardized approaches.

B.7 Building Envelope Systems and Assemblies

"Understanding of the basic principles involved in the appropriate selection and application of building envelope systems relative to fundamental performance, aesthetics, moisture transfer, durability, and energy and material resources."

ARCH 5565-66_Building Materials & Construction is the Primary Course in which this Criterion is fulfilled. The Building Materials and Construction course sequence is configured through lectures that present the basic principles and conventional practices of building envelopes as systems and assemblies. Case studies are utilized to consider both the underlying logic of conventional practices and the potential range and malleability of these conventions while maintaining the underlying performative and systemic functionality. Weekly course lectures are combined with drawing exercises that enable the development and assessment of understanding. Understanding is measured through the ability to communicate the appropriate and fundamental layers of building envelope assemblies with regard to structure, thermal and moisture protection, finish, and other performative metrics.

B.8 Building Materials and Assemblies

"*Understanding* of the basic principles used in the appropriate selection of interior and exterior construction materials, finishes, products, components and assemblies based on their inherent performance, including environmental impact and reuse."

ARCH 5565-66_Building Materials & Construction is the Primary Course in which this Criterion is fulfilled. The course sequence is configured through lectures that present the basic principles and conventional practices of building construction and assembly as they relate to material attributes, performance, cost, and impact. Case studies are utilized to assess conventional practices, their logic, and malleability with respect to a range of questions that arise as the architect seeks to resolve design aspirations with input from materials, processes, systems, economics, codes, life safety considerations, and environmental impact. Weekly course lectures are combined with drawing exercises that enable the development and assessment of understanding. Understanding is measured through the ability to communicate comprehensively the appropriate and fundamental layers of building assemblies with regard to structure, thermal and moisture protection, finish, and other performative metrics.

B.9 Building Service Systems

"*Understanding* of the basic principles and appropriate application and performance of building service systems, including lighting, mechanical, plumbing, electrical, communication, vertical transportation, security, and fire protection systems."

ARCH 5755G_Building Environmental Systems is the Primary Course in which this Criterion is fulfilled. Each student is introduced to various building service systems by means of lectures, assignments, and field trips to buildings. The following systems are introduced: plumbing, sanitary installations, electrical installations, air-renewal and air-conditioning systems, transportation systems such as elevators, escalators, and staircases, heating systems; and security and fire protection systems. Each student has to demonstrate their understanding of the underlying concepts, as well as the application of the various service systems, in quizzes and exams.

B.10 Financial Considerations

"*Understanding* of the fundamentals of building costs, which must include project financing methods and feasibility, construction cost estimating, construction scheduling, operational costs, and life-cycle costs."

ARCH 5044G Professional Practice is the Primary Course in which this Criterion is fulfilled. Students are introduced to the fundamentals of costs, finances, and estimating through a mix of lecture content, visiting guests, exams, and the completion of various in-class exercises. Students are assessed based on their ability to meaningfully contribute to class discussions related to these matters. Students who exhibit a basic level of understanding and retention of the material earn a 'marginal' pass, while students who take their understanding of the material and question, challenge, and adapt the content in their course assignments and discussion contributions earn a 'high' pass.

REALM C: INTEGRATED ARCHITECTURAL SOLUTIONS

Brief description of the pedagogy and methodology used to address Realm C:

The Advanced Design Laboratory focuses on developing in students an understanding for the relationship between their architectural ideas and the constructed realities of those ideas. Design rigor and conceptual clarity are not ignored in favor of technical considerations. Rather, these are developed early in the semester as essential guiding parameters against which the various technical, contextual, programmatic, regulatory, and performance metrics are brought to bear. The

lab emphasizes the importance of an architect taking ownership of the myriad variables at play in a project – looking for design opportunities in both the poetic and the pragmatic.

The summer sessions, over which this course is taken, feature a carefully organized sequence of technical topics, short assignments, charrette exercises, field trips, visits with practitioners, and reviews wherein students are challenged to integrate questions of site, program, structure, energy, systems, and code into their architectural thinking. The goals for the students are two-fold: (1) the development of thoughtfully and competently integrated architectural propositions developed across an entire summer, and (2) the creation of multiple, discrete opportunities where the challenge of integrating a particular concept leads to the discovery of new avenues of architectural investigation.

C.1 Research

"Understanding of the theoretical and applied research methodologies and practices used during the design process."

ARCH 5755-56_Advanced Design Laboratory is the Primary Course in which this Criterion is fulfilled. Through specific assignments related to precedent studies, site, energy, program, code, and other topics, students are introduced to the importance of research to their design process. The Advanced Design Laboratory stresses the gathering of relevant data, the definition of guiding parameters (be they architectural, programmatic, site, or otherwise), and the translation of these parameters in avenues of architectural investigation. Through a mix of presentations and desk critiques, students are challenged to show the evidence of their studies and describe the ways that it is informing both their design work and process of design. The work is assessed based on the evidence of depth, iteration, and architectural thought, with 'high' pass being earned by students whose research opens new avenues of investigation in their work.

C.2 Integrated Evaluations and Decision-Making Design Process

"Ability to demonstrate the skills associated with making integrated decisions across multiple systems and variables in the completion of a design project. This demonstration includes problem identification, setting evaluative criteria, analyzing solutions, and predicting the effectiveness of implementation."

ARCH 5755-56_Advanced Design Laboratory is the Primary Course in which this Criterion is fulfilled. The Advanced Design Laboratory stresses the role of iteration and a clear process to the development of a strong architectural project. Sketch charrette exercises allow the students to focus on identifying the questions of interest to them in a given scenario (e.g. what are the possibilities and limitations of expressing a structural system). For some assignments, this work is synthesized into submissions which are discussed with an eye for what was learned, how it was assessed, and what the next steps be. Student ability to iterate and investigate is assessed through various assignments, desk-critiques, and formal/informal reviews undertaken throughout the semester. In some cases, faculty/practitioners are introduced to the studio to challenge the students' assumptions on how their designs will work. Efforts that competently address the questions at hand earn a 'marginal' pass, while work that presents evidence of iteration, creative thought, and a balance of research and speculation is awarded a 'high' pass.

C.3 Integrative Design

"Ability to make design decisions within a complex architectural project while demonstrating broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life-safety, environmental systems, structural systems, and building envelope systems and assemblies."

ARCH 5755-56_Advanced Design Laboratory is the Primary Course in which this Criterion is fulfilled. The Advanced Design Laboratory focuses on the development of conceptually rigorous, thoughtfully designed, and technically competent works of architecture. Through a carefully sequenced set of topics organized across the semester, these questions are brought to bear in the lab. The efforts culminate in a comprehensive set of documents, comprised of detailed drawings, models, and a specification and project document book. In the book, students are challenged to curate their work into sections corresponding to the different C.3 criteria topics, with a focus on combining multiple drawings, graphics, models, and words in order to demonstrate the integrative nature of their architectural decision-making. 'Marginal' pass is conveyed to student work that meets the minimum requirements for technical competency, while 'high' pass is reserved for those students whose work demonstrates a clear relationship between their architectural proposition and the various technical components required to realize their design.

REALM D: PROFESSIONAL PRACTICE

D.1 Stakeholder Roles in Architecture

"Understanding of the relationships among key stakeholders in the design process—client, contractor, architect, user groups, local community—and the architect's role to reconcile stakeholder needs."

ARCH 5044G_Professional Practice is the Primary Course in which this Criterion is fulfilled. Students are introduced to the roles of various stakeholders in the construction ensemble through a mix of lecture content, visiting guests, the occasional field trip, and preparatory readings and online resources. The Professional Practice course concentrates on the three primary parties in the construction process (Owners, Architects, and Contractors), as well as the larger range of project stakeholders (public and private, institutional, community and individual). The roles and concerns of these critical stakeholders are discussed and understood in the context of cultural, statutory, and ethical frameworks that underpin the building process. Students are assessed through written assignments, their ability to contribute during facilitated in-class discussion sessions, and larger individual and group projects. Students who exhibit a basic level of understanding and retention of the material earn a 'marginal' pass, while students who take their understanding of the material and question, challenge, and adapt the content in their course assignments and discussion contributions earn a 'high' pass.

D.2 Project Management

"Understanding of the methods for selecting consultants and assembling teams; identifying work plans, project schedules, and time requirements; and recommending project delivery methods."

ARCH 5044G_Professional Practice is the Primary Course in which this Criterion is fulfilled. Students are introduced to the basics of project management, schedules, teaming, and project delivery through a mix of lecture content, visiting guests, the occasional field trip, and preparatory readings and online resources. Students are assessed through written assignments, their ability to contribute during facilitated in-class discussion sessions, and larger individual and group projects. Students who exhibit a basic level of understanding and retention of the material earn a 'marginal' pass, while students who take their understanding of the material and question, challenge, and adapt the content in their course assignments and discussion contributions earn a 'high' pass.

D.3 Business Practices

"Understanding the basic principles of a firm's business practices, including financial management and business planning, marketing, organization, and entrepreneurship."

ARCH 5044G Professional Practice is the Primary Course in which this Criterion is fulfilled. Students are introduced to business practices and planning as well as finances, marketing, etc. through a mix of lecture content, visiting guests, and preparatory readings and online resources. Students are assessed through written assignments, their ability to contribute during facilitated in-class discussion sessions, and larger individual and group projects. Students who exhibit a basic level of understanding and retention of the material earn a 'marginal' pass, while students who take their understanding of the material and question, challenge, and adapt the content in their course assignments and discussion contributions earn a 'high' pass.

D.4 Legal Responsibilities

"Understanding of the architect's responsibility to the public and the client as determined by regulations and legal considerations involving the practice of architecture and professional service contracts."

ARCH 5044G Professional Practice is the Primary Course in which this Criterion is fulfilled. Students are introduced to the important legal responsibilities and regulatory instruments that impact the profession through a mix of lecture content, visiting guests, and preparatory readings and online resources. Students' understanding is assessed through written assignments, their ability to contribute during facilitated in-class discussion sessions, examinations, and larger individual and group projects. Students who exhibit a basic level of understanding and retention of the material earn a 'marginal' pass, while students who take their understanding of the material and question, challenge, and adapt the content in their course assignments and discussion contributions earn a 'high' pass.

D.5 Professional Conduct

"Understanding of the ethical issues involved in the exercise of professional judgment in architectural design and practice and understanding the role of the NCARB Rules of Conduct and the AIA Code of Ethics in defining professional conduct."

ARCH 5044G Professional Practice is the Primary Course in which this Criterion is fulfilled. Students are introduced to questions of ethics and codes of conduct in the practice of architecture through a mix of lecture content, case studies, and preparatory readings and online resources. Students are assessed through written assignments, their ability to contribute during facilitated in-class discussion sessions, and larger individual and group projects. Students who exhibit a basic level of understanding and retention of the material earn a 'marginal' pass, while students who take their understanding of the material and question, challenge, and adapt the content in their course assignments and discussion contributions earn a 'high' pass.

II.2.1 Institutional Accreditation

Virginia Polytechnic Institute and State University is accredited by the Southern Association of Colleges and Schools (SACS). The most recent [letter from SACS](#) is in the Supplemental Materials.

II.2.2 Professional Degrees & Curriculum

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

NAAB-Accredited Degrees Offered

The School of Architecture+Design offers the following NAAB-Accredited first professional degree programs:

- Bachelor of Architecture*** 5-year Undergraduate Architecture Program
(160 credit hours)

- Master of Architecture*** 3½ -year Comprehensive Professional Studies Program
(non-pre-professional degree + 84 credit hours)

- 2-year Advanced Professional Studies Program
(pre-professional degree + 54 credit hours)

Distribution of Curricular Components in B.Arch. Curriculum

General Studies

CLE credits (non-ARCH) (Not incl. ARCH 3115-16 History of Arch. or ARCH 1015 Fdn Design Lab)	27 cr. hrs.
Additional Courses in Humanities, Sciences, or Social Sciences	6 cr. hrs.
ESM 3704	3 cr. hrs.
Professional Electives (non-ARCH)	3 cr. hrs.
Free Elective (non-ARCH)	6 cr. hrs.

***Sub-total
45 credit hours***

Professional Studies

Required ARCH Courses (Incl. ARCH 3115-16 History of Arch. or ARCH 1015 Fdn Design Lab)	104 cr. hrs.

Sub-total 104 credit hours

Optional Studies

Professional Electives (may be ARCH)	3 cr. hrs.
Free Electives (may be ARCH)	8 cr. hrs.

Sub-total 11 credit hours

TOTAL 160 cr. hrs.

Distribution of Courses in B.Arch. Curriculum
 Student Checksheet (2015-16)

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
 College of Architecture and Urban Studies
 School of Architecture + Design
BACHELOR OF ARCHITECTURE
 For Students Graduating in Calendar Year 2016

Student Name	Student Number	
FIRST YEAR	FALL	SPRING
Foundation Design Laboratory ARCH 1015 [see note 1 and 6], [University ViEWS requirement - see note 5] ARCH 1016, [University ViEWS requirement- see note 5] [see note 6 and 7]	(6) _____	(6) _____
Area I: Writing and Discourse ENGL 1105, 1106: First Year Writing	(3) _____	(3) _____
Area V: Quantitative and Symbolic Reasoning MATH 1535, 1536: Geometry and Mathematics of Design	(3) _____	(3) _____
Area IV: Scientific Reasoning and Discovery Science: Biology, Chemistry, Physics, Geology	(3) _____	(3) _____
Credit Hours for Each Semester	(15)	(15)
CREDIT FOR THE YEAR		(30)
SECOND YEAR		
Architecture II ARCH 2015 [University ViEWS requirement- see note 5], [see note 6 and 7] ARCH 2016 [University ViEWS requirement- see note 5], [see note 6 and 7]	(6) _____	(6) _____
Building Materials ARCH 2044	(2) _____	
The Art of Building ARCH 2034		(2) _____
Basic Principles of Structures ESM 3704	(3) _____	
Building Structures ARCH 4075 [see note 7]		(3) _____
History of Architecture ARCH 3115, 3116 [Area II: Ideas, Cultural Traditions and Values] [see note 2], [University ViEWS requirement- see note 5], [see note 7]	(3) _____	(3) _____
Area III: Society and Human Behavior	(3) _____	(3) _____
Credit Hours for Each Semester	(17)	(17)
CREDIT FOR THE YEAR		(34)
THIRD YEAR		
Architecture III ARCH 3015 [University ViEWS requirement- see note 5] [see note 6 and 7] ARCH 3016 [University ViEWS requirement- see note 5] [see note 6 and 7]	(6) _____	(6) _____
Building Assemblies ARCH 3045, 3046 [see note 7]	(2) _____	(2) _____
Building Analysis ARCH 3054 [University ViEWS requirement- see note 5] [see note 7]		(2) _____
Building Structures ARCH 4076 [see note 7]	(3) _____	
Environment and Building Systems ARCH 4055, 4056 [see note 7]	(3) _____	(3) _____
Additional Elective courses in Area II, III, or IV	(3) _____	(3) _____
Credit Hours for Each Semester	(17)	(16)
CREDIT FOR THE YEAR		(33)

FOURTH YEAR	FALL	SPRING
Architecture IV		
ARCH 4015 [University ViEWS requirement- see note 5], [see note 6 and 7]	(7) _____	
ARCH 4016 [University ViEWS requirement- see note 5], [see note 6 and 7]		(7) _____
Professional Practice		
ARCH 4044 [University ViEWS requirement- see note 5]	(3) _____	
Building Cities		
ARCH 4034		(3) _____
Ideas, Concepts and Representations of Architecture		
ARCH 4114	(2) _____	
Professional Elective [see note 3]	(3) _____	(3) _____
Area VII: Critical Issues in a Global Context	(3) _____	
Free Elective [see note 8]		(3) _____
Credit Hours for Each Semester	(18)	(16)
CREDIT FOR THE YEAR		(34)
 FIFTH YEAR		
Architecture V		
ARCH 4515 [University ViEWS requirement- see note 5], [see note 6 and 7]	(9) _____	
ARCH 4516 [University ViEWS requirement- see note 5], [see note 7]		(6) _____
Thesis Documentation		
ARCH 4524 [University ViEWS requirement- see note 5], [see note 7]		(3) _____
Free Elective [see note 8]	(3) _____	(3) _____
Free Elective [see note 8]	(3) _____	
Free Elective [see note 8]		(2) _____
Credit Hours for Each Semester	(15)	(14)
CREDIT FOR THE YEAR		(29)
TOTAL CREDIT HOURS FOR FIVE YEARS:		(160)
Required for BACHELOR OF ARCHITECTURE Degree		

Notes:

1. The requirement for Curriculum for Liberal Education Area VI: Creativity and Aesthetic Experience is satisfied through Foundation Design Laboratory, ARCH 1015.
2. ARCH 3115-16 fulfills the Curriculum for Liberal Education Area II [Ideas, Cultural Traditions and Values] requirement. Six additional semester hours of electives in Area II, III, or IV related to humanities (a foreign language study is highly recommended), sciences, or social sciences are required of students in the Bachelor of Architecture program.

3. Professional elective requirements may be satisfied with courses in ARCH, ART, BC, IDS, ITDS, LAR, SPIA, and UAP at the undergraduate level, if NOT listed as required for the degree. Students choosing the professional electives which are repeatable for credit [Arch 3514, 4214, 4414] may repeat these courses ONLY if they are listed with different subtopic titles; duplication of topics will NOT be allowed. Review the Undergraduate Course Catalog for the maximum number of credit hours allowed for each course. To fulfill the degree requirement of at least 6 credits earned through professional elective courses, no more than one course in each of the three ARCH subject areas of "Media & Methods," "Technology," and "History & Theory" can be counted towards degree requirements.

The subject area "**Media & Methods**" consists of the following courses: ARCH 3514: Design-Related Media; ARCH 4164: Computer Applications in Design; ARCH 4304: Topics in Design Methods.

The subject area of "**Technology**" consist of the following courses: ARCH 4144: Advanced Building Structures I; ARCH 4154: Advanced Building Structures II; ARCH 4204: Urban Technology and Architecture; ARCH 4414: Advanced Environment Building Systems.

The subject area of "**History & Theory**" consists of the following courses: ARCH 4214: Topics in Architecture History and Theory and ARCH 4654: Urbanization and Urbanism in Europe.

The following courses are not approved for the professional elective requirement: Independent Study 2974, 4974; Special Study 2984, 4984; Undergraduate Research 4994

4. Satisfactory progress toward degree: in addition to University requirements, upon completion of the second year in the program, students must have completed ARCH 1015-1016, ARCH 2015-2016, ARCH 2034, ESM 3704, ARCH 4075, ARCH 3115-3116, with a minimum in-major grade point average of 2.00 or above.

A minimum overall 2.0 GPA is required for graduation. A minimum in-major 2.0 GPA is required for all Architecture courses.

In order to graduate with a Bachelor of Architecture degree and to fulfill professional degree requirements mandated by the NAAB, a total of 45 credits in non-architecture courses are required. Non-architecture courses are defined as courses with a course designator other than ARCH (Architecture).

Restricted Major Requirements: Students who make application to Architecture through the internal transfer process must meet the following requirements prior to entering the major.

- 1) Min 2.5 GPA in all courses prior to ARCH 1015.

- 2) Application to Summer Qualifying Design Lab; Interview for Summer Qualifying Design Lab
- 3) Faculty Review of Summer Work and 3.5 min in Lab for admission to 2nd Yr Lab
- 4) Faculty Review of Summer Work and < 3.5 and >2.0 min in Lab for admission to 1st Yr Lab

5. This course incorporates the university ViEWS [Visual Expression, Writing and Speaking] requirements. Consult the VirginiaTech Curriculum for Liberal Education Guide: <http://www.cle.prov.vt.edu/> for the University Policy on ViEWS. A copy of the specific School proposal is available in the School's administrative offices. The ViEWS communication requirement is met through an array of Theory and History courses, Technology courses, Practicum courses, and Studio courses.

6. From the first semester of the first year onward [1015-4515] all students must earn a grade of "C-" or above in each semester of their architecture design lab in order to proceed to the next lab in the five year sequence.

7. Course prerequisite required: Please refer to the Undergraduate Course Catalog for specific course prerequisite information.

8. At least 14 credits taken as free electives must be courses at least at the 2000-level in order to count towards the fulfillment of degree requirements.

Foreign Language Requirement: students who did not complete 2 units of a foreign language in high school must earn 6 credits of a college foreign language, such credits to be in addition to those normally required for graduation.

Bachelor of Architecture: Outline of the Curriculum

The five-year NAAB-accredited Bachelor of Architecture degree program requires successful completion of a total of 160 semester credit hours, taken over the course of five academic years (ten academic semesters), for graduation.

General Studies

All candidates for Bachelor's degrees at Virginia Tech must complete the requirements of the University Curriculum for Liberal Education (CLE), which consists of seven areas of study:

- Area I: Writing and Discourse - 6 credits - The Bachelor of Architecture Curriculum requires the completion of two three-credit hour courses of Freshman English [ENGL 1105 / ENGL 1106].
- Area II: Ideas, Cultural Traditions, and Values* - 6 credits - The Bachelor of Architecture Curriculum requires the completion of two three-credit hour courses of History of Architecture [ARCH 3115 / ARCH 3116]. The University has approved these two courses to satisfy its Area II requirement in the Humanities.
- Area III: Society and Human Behavior* - 6 credits - The Bachelor of Architecture Curriculum requires completion of two three-credit hour courses in qualifying courses in the social sciences (see "Curriculum for Liberal Education - Guide for Students, Advisors & Faculty").
- Area IV: Scientific Reasoning and Discovery* - 6 credits - The Bachelor of Architecture Curriculum requires completion of two three-credit hour courses in the physical sciences (see "Curriculum for Liberal Education - Guide for Students, Advisors & Faculty").
- Area V: Quantitative and Symbolic Reasoning - 6 credits - The Bachelor of Architecture Curriculum requires completion of two three-credit hour courses of Geometry and Mathematics of Design [MATH 1535 / MATH 1536]. The University has approved these two courses to satisfy its Area V requirement in mathematics.
- Area VI: Creativity and Aesthetic Experience - 1 credit - The Bachelor of Architecture Curriculum requires completion of the six-credit hour course Foundation Design Lab [ARCH 1015]. The University has approved this course to satisfy its Area VI one-credit hour of study requirement in the arts.
- Area VII: Critical Issues in a Global Context - 3 credits - The Bachelor of Architecture Curriculum requires completion of three credit hours from a list of approved University CLE courses (see "Curriculum for Liberal Education - Guide for Students, Advisors & Faculty").

*Beyond the minimum requirements of the University Curriculum for Liberal Education (34 credits), the Bachelor of Architecture program requires the completion of a total of six additional credits of elective courses from the University Curriculum for Liberal Education in Areas II, III or IV.

Refer to the [Curriculum for Liberal Education - Guide for Students, Advisors & Faculty](#) for the 2015-2018 academic years. In the coming academic year (2018-19), CLE will be superseded by [Pathways to General Education](#).

Professional Studies

All students in the School of Architecture+Design – Architecture, Industrial Design, Interior Design and Landscape Architecture – begin their studies in a common first year Foundation Program. The focus in the first year is on basic elements of design, addressed conceptually, visually, and haptically. Studies are undertaken in two- and three-dimensions using a range of traditional and novel materials and tools. Projects focus on the process of design, discovery through iteration, precision within limits, and development of aesthetic judgment, self-discipline, and the capacity for self-evaluation. Architecture students begin the first semester of their two-semester sequence of History of Architecture in the spring. The History sequence presents students with both the shared and distinctive ideas, forms, buildings, processes, and organizations as tied to locale and culture within the discipline of Architecture around the globe.

After successfully completing the first year of basic design study, students in the Architecture, Industrial Design, Interior Design, and Landscape Architecture programs enter focused studios in their respective disciplines. The Core Professional Architecture Program (the second and third year) employs design theory and processes to study the design of buildings. Students conduct interactive investigations of architectural space, environmental forces, and building technology. Foundations in discipline-specific knowledge are progressively introduced, discussed, and examined as they contribute to the complex totality of a work of architecture. Students explore natural and cultural forces as they relate to architecture through means of representation specific to the discipline, including traditional drawings and models, as well as contemporary virtual tools and digital production. Architectural constructs of smaller scales build on knowledge of basic design principles studied in the first year. In Building Materials, students are introduced to the attributes of materials with which buildings are built and as demonstrated in exemplary built works. Similarly, architecture as the Art of Building is conveyed through the detailed and integrative study of exemplary built works. The sequence of structures courses also begins in the second year.

The third year continues the study of fundamental design principles, and builds further competence in technical concepts and their applications, including measures of quality in architecture. The instructional content of this year articulates and communicates to students the unique nature of architecture through the study of interrelationships of material, construction systems, site, and building programs. The Architecture III design laboratory guides the student's growing experience with practical design problems and provides order to the gradual exploration and learning of the nature and means of achieving architecture. Associated with Architecture III are lectures, presentations, and workshops intended to demonstrate how diverse systems in the design and construction of buildings are integrated; Building Analysis, Building Assemblies, and Environmental Buildings Systems courses give focused examination to the diverse systems.

Students are situated in the Advanced Professional Program for their fourth and fifth years. The fourth year builds on the increased comprehension of building systems acquired during the third year. Students are required to take one semester of a focused, Integrative Design lab; this option can be taken in either semester and is offered on campus, in Chicago, or at WAAC. Integrative Design Lab aims for a comprehensive design which addresses relevant aspects of site, building program, fire safety and egress, code compliance and accessibility, zoning, and construction details demonstrating a broad technical and professional competence in architectural design. Fourth-year students have the option to study in a variety of off-campus programs, listed below. The aim of the various program options is to promote an in-depth understanding of the relationship between an architectural idea and a physical building form in different contexts. The Professional Practice course, available to fourth-year students at multiple locations, introduces issues such as the legal, ethical, and business aspects of architectural practice, allowing multiple opportunities for students to interact with practicing architects. Two additional history and theory courses are required: Concepts, Ideas, and Representations and Building Cities.

In the fifth year, students conduct a year-long advanced study with individual faculty advisors. The in-depth engagement with research, theory, and design is intended to broaden a student's expertise in a particular area within the field of architecture. Fifth-year students are expected to formulate and accomplish advanced-level work in the form of a thesis project. Working with their advisors, students develop and discuss their research and design progress, and have periodic formal peer reviews throughout the year. Students are required to present documentation of their fifth-year work with the School upon graduation. Any fifth-year student who, due to off-campus engagement, did not complete Professional Practice; Integrative Design Laboratory; Concepts, Ideas, and Representations; and Building Cities during their fourth year must fulfill these requirements during their fifth year, before graduating.

Optional Studies

List of Minors that B.Arch. Students May Elect to Pursue

The following minors are offered in other programs or schools within the College of Architecture and Urban Studies:

- Minor in Building Construction
- Minor in Landscape Architecture
- Minor in Industrial Design

In addition, undergraduate students may pursue dual degrees, concentrations, or minors in other colleges within the University.

List of Off-Campus Programs for Students in the B.Arch. Program

The following programs are offered to B. Arch students, and students typically participate during their fourth year:

Study Abroad Programs: Study abroad programs offer an opportunity to make comparative studies of different cultures, their architecture, and the history and theory of cities. In addition to travel, all study abroad programs offer preparatory lectures and discussions which address topics in detail.

Fall Travel Study Abroad (sponsored by School of A+D): Fall semester; 13 CR total.

Over the course of approximately ten weeks, the program visits about 300 important buildings in 25-30 European cities. On site, at times accompanied by the architect, students document the architectural and urban elements. In addition to the group itinerary, students also travel independently for two weeks to seek out places of professional or disciplinary interest. Upon their return, faculty supervise the remaining part of the semester which is dedicated to a detailed study and research of a discovered building or architectural condition. The research results are compiled into a book. The work extends into the following Spring semester when the students mount a three-day exhibition of the experiences, findings, research, and sketches accumulated while studying abroad.

Europe Residency (sponsored by School of A+D): Fall, Spring semester; 13 CR total.

The University owned Steger Center in Riva San Vitale, Switzerland, with lab space and library, allows one-semester residency students to enroll in design laboratory, and seminar courses. Together with Virginia Tech students from various campus-wide programs, our students share well-equipped lecture rooms and dining facilities. All students are housed on site by Virginia Tech. Study trips outside Switzerland include travel to Italy, France, Austria, Germany, and Spain to engage buildings and their architects, designers, and patrons of international scope. The program takes advantage of international exhibitions of art and culture, and regularly invites professionals for project critiques and lectures to the Steger Center. Courses in Design, History/Theory, and Culture Study are offered each semester. (See section I.2.2 Physical Resources.)

International exchange programs

Virginia Tech, the College, and the School have developed and maintained a number of bi-lateral exchange agreements with Universities, and architecture schools, across the globe. At the moment, our longest exchange, spanning 20 years, with the Accademia di Architettura in Mendrisio, Switzerland continues to attract students to participate in the design studios of the world-renowned architects who are teaching there. Students are required to pass the full-time coursework at the host institution at the 4th year level.

Architecture Professional Internship Program:

The Professional Internship Program offers the opportunity for fourth-year undergraduate architecture students to engage for one semester in a well-established firm for academic credit, with special permission only. The firm is required to provide a mentor who agrees to direct a student in daily activities centered around typical professional architectural tasks, such as schematic design, design development, construction documents, permitting, contract administration, client contact, and construction site visits. Students maintain and submit weekly documentation of their work to demonstrate content comparable to ARCH 4015-16 (fourth-year laboratory). At the end of the Professional Internship, each student submits a portfolio of performed tasks structured by week, together with a letter of evaluation by the mentor. Upon return to campus, the student is required to make a presentation to at least two faculty members for final evaluation.

Washington-Alexandria Architecture Center (WAAC):

The Washington-Alexandria Architecture Center's facilities are located within the historic district of Old Town, Alexandria, Virginia, providing studios, a library, shops, darkroom, computer lab, and classrooms, as well as a 23-unit dormitory building. Undergraduate students in the Bachelor of Architecture program may elect to study at the WAAC for one or two semesters during their fourth year. With approval of the Advanced Professional Program Chair and the WAAC, B.Arch. students may also complete their thesis at the Center during their fifth year. The WAAC allows students to address the complexities of urban areas, using the National Capital Region as a resource laboratory for design and research. The Washington, D.C. metropolitan area possesses many cultural and educational resources, including the various facilities of the Smithsonian Institution, The American Institute of Architects, the Library of Congress, and the National Building Museum. The WAAC, established in 1980, continues to serve as an urban extension of the College, providing numerous opportunities by which students can pursue their programs of study along with students from an affiliated consortium of architecture schools. (See section I.2.2 Physical Resources.)

Chicago Studio (sponsored by School of A+D): Fall, Spring semester; 13 CR total.

The School of Architecture+Design has an agreement with Chicago area architecture firms to host and mentor 4th year B.Arch. students in a major metropolitan area. The one-semester Chicago Studio is an alternative to the traditional upper level design laboratory with the aim to more closely integrate education and practice. Host firms provide each student with his or her own workstation where they undertake their own academic projects. The firms mentor students with critiques and provide professional resources and consultants, lectures and engagement with practitioners, and neighborhood groups and civic groups. Course work consists of 4th-year Integrative Design laboratory, an urban design seminar, and a Professional Practice course seminar. The professional practice course seeks to directly support the studio by providing local examples from practice, in addition to the usual course material. Prior to departure, an urban theory seminar introduces Chicago's historic dimensions and engages students in planning concepts and urban concerns through research and writing.

Master of Architecture: Outline of the Curriculum

The graduate curriculum is structured to allow flexibility and to accommodate diverse student requirements. This is accomplished by offering a combination of paths of study available within each of the various program options. Central to the academic structure of these several options is the design laboratory. The design laboratories are oriented toward formulation and resolution of design questions at a broad range of scales. These learning-oriented laboratories facilitate the use of previously acquired knowledge, skills, and experience gained through prior academic studies and in the architectural profession, as well as facilitate the acquisition of new knowledge and skills.

Within the Master of Architecture program, two study options are offered leading to a first professional architecture degree: the three and one-half years of **Comprehensive Professional Studies** following a Bachelor's degree in an unrelated field or two years of **Advanced Professional Studies** following a pre-professional Bachelor's degree in architecture or architectural studies.

Comprehensive Professional Studies [M.Arch 3]:

A three and one-half year professional degree option is provided for students with degrees in fields other than architecture. The student will have undertaken little or no concentration in architecture prior to enrollment in the program. Students in this program option complete a sequence of study to provide a foundation of environmental design experiences and to promote a basic understanding of the discipline. Upon successful completion of the qualifying year, students advance through a sequence of studies providing for development of building design skills and knowledge of building systems and the technical processes of construction. During the final year of the curriculum, students pursue individual study interests, and complete a one year thesis. This program normally requires at least three and one-half years (three academic years, plus one required summer) of study. Students in the M.Arch 3 program may spend a semester participating in the Europe Study Abroad Travel or Residency programs and/or, with approval of the Graduate Architecture Program Chair, may elect to study at the Washington-Alexandria Center for their final, thesis year.

M.Arch 3 - First Year (Qualifying Design Laboratory)

The central focus of the qualifying year is the design laboratory, in which students and faculty explore the nature of architectural inquiry through the study of concepts and principles of form, through development of environmental awareness and aesthetic judgment, and through the study of architectural drawing and descriptive geometry. As a complement to the design lab, the Qualifying Design Seminar introduces students to the basic historical, ethical, intellectual, and theoretical foundations of the discipline of architecture.

Students in M.Arch 3 Comprehensive Professional Studies Program must complete 18 credit hours (two semesters) of Qualifying Design Laboratory (ARCH 4715-16) and 6 credit hours (two semesters) of Qualifying Design Seminar (ARCH 4705-06). Additionally, students in this program take two semesters (6 credit hours) in topics of the History of Architecture (ARCH 5134).

M. Arch 3 – Second Year (Architecture and Systems Laboratory)

The major emphasis of the Architecture and Systems Laboratory is on building design in support of fundamental human needs, and on the integration of knowledge of building systems, support structure, assembly, and construction in the design process. During their second year, students in the M.Arch 3, Comprehensive Professional Studies Program must complete two semesters (12 credit hours) of Architecture and Systems Laboratory (ARCH 5515-16).

M. Arch 3 –Professional Core Courses

Professional Core Courses are intended to provide a basic understanding of the building technologies required to mediate between human activities and detrimental forces, between principles of materials and construction, between building structural and environmental systems, and of professional architectural

practice. The following, related courses provide support for interactive exploration of the relation between architecture and technology in the design laboratories: ARCH 5044G Professional Practice, ARCH 5755G Building Environmental Systems, ARCH 5565-5566 Building Materials and Construction, and ARCH 5775G-5776G Intermediate Building Structures. Students in the M.Arch 3, Comprehensive Professional Studies Program must complete 18 credit hours of Professional Core Courses. Some Professional Core courses (ARCH 5755G: Bldg. Env. Systems; ARCH 5565-66: Bldg. Materials and Construction; ARCH 5775G-76G: Intermediate Bldg. Structures) are not offered off-campus at the Washington-Alexandria Center. Students planning to study in Alexandria for the final year of the program must take these courses during the second year or during summer sessions at the Blacksburg campus.

M. Arch 3 - Advanced Design Laboratory (Summer)

The Advanced Design Laboratory provides for further development of students' building design skills through an integrated design project in which they must address relevant aspects of site, building program, fire safety and egress, code compliance and accessibility, zoning, and construction details, thus demonstrating their technical and professional competence in architectural design. Students in the M.Arch 3, Comprehensive Professional Studies Program must complete 6 credit hours of Advanced Design Laboratory (ARCH 5755-56).

Urban Design Seminar

This seminar reviews modern concepts in architecture and urban design, as well as their historical and philosophical origins. Significant works of architecture and the theories of their authors are evaluated critically through studies supported by readings of the architects' ideas informing the work. The purpose is to assist students in articulating their own positions within the discipline of architecture. Students in the M.Arch 3, Comprehensive Professional Studies program must complete one semester (3 credit hours) of Urban Design Seminar ARCH 5624.

Building Science Courses

Building Science Courses provide students with advanced study in the principles of environmental science and building systems technologies. Core courses which are regularly offered on the main campus, based on staff availability, are: ARCH 5035, 5036: Advanced Environmental Controls; ARCH 5045: Environmental Design Research; and ARCH 5055, 5056: Advanced Building Structures. Multiple sections of each of the above courses, comprised of separate, but related subject areas, may be offered each year.

Electives

Elective course offerings are intended to reinforce and support the student's professional development and the broad scope of individual interests that students bring to the program. In addition to the elective course offerings in other departments within the College of Architecture and Urban Studies, students are encouraged to study in other disciplines in other Colleges within the University. Although students may define their own areas of interest, regularly offered graduate elective courses in the Architecture Program include: ARCH 5115, 5116: Media and the Environment Workshop; ARCH 5125, 5126: Materials Processes Workshop; ARCH 5134: Topics in Architecture History and Theory; and ARCH 5064: Computer Applications in Design. Each year Special Study Options (ARCH 5984) are offered with varying content. These courses, as well as ARCH 5974: Independent Study, may be used for elective credit.

Research & Thesis

Each candidate for the M.Arch 3 degree is required to produce a design thesis to demonstrate their contribution to the investigation of complex questions inherent in the discipline of architecture. In terms of faculty and facilities, the full resources of the College and University are available to the student in support of the thesis effort. Faculty from other disciplines, normally outside of involvement in the environmental design process, are encouraged to participate and may serve as a member of the student's thesis committee. The thesis year should provide the opportunity for maturation of those skills and attitudes students have acquired. The thesis culminates in a final examination (defense), in which the student's architectural design work, research, body of scholarship, and professional inquiry are presented to the thesis committee and student colleagues, and in the thesis document, which should demonstrate

each student's academic accomplishment and professional potential. Research and Thesis (ARCH 5994) is offered every academic term and the credit is variable. Students must complete a minimum of six total credit hours of Research and Thesis; a maximum of 10 total credit hours of Research and Thesis may count toward the 54 minimum graduate credit hours required on the Plan of Study (9 credits of Research & Thesis recommended).

Beyond the three academic years in this program, students are required to complete one additional full semester of study, usually during the summer. During this additional semester students participate in the Advanced Design Studio (ARCH 5755-56) which immerses students in an integrative design experience.

Graphic Overview of M.Arch 3 Curriculum

Fall Semester			Spring Semester			
First Year			Cr.			
ARCH 4715	Qualifying Design Laboratory	9	ARCH 4716	Qualifying Design Laboratory	9	
ARCH 4705	Qualifying Design Seminar	3	ARCH 4706	Qualifying Design Seminar	3	
ARCH 5134	Topic: History of Architecture	3	ARCH 5134	Topic: History of Architecture	3	
15			15			
Second Year						
ARCH 5515	Architecture & Systems Laboratory	6	ARCH 5516	Architecture & Systems Laboratory	6	
ARCH 5565	Building Materials & Construction	3	ARCH 5566	Building Materials & Construction	3	
ARCH 5755G	Building Environmental Systems	3	ARCH 5775G	Intermediate Building Structures I	3	
ESM 3704	Basic Principles of Structures	3	varies	Professional Elective Course	3	
15			12			
Summer Session I			Summer Session II			
ARCH 5755	Advanced Design Laboratory	3	ARCH 5756	Advanced Design Laboratory	3	
Fall Semester			Spring Semester			
Third Year						
ARCH 5994	Research & Thesis	6	ARCH 5994	Research & Thesis	3	
ARCH 5776G	Intermediate Building Structures II	3	ARCH 5624	Urban Design Seminar	3	
ARCH 5044G	Professional Practice	3	varies	Professional Elective Course	3	
12			9			
					TOTAL CREDITS	84

Advanced Professional Studies [M.Arch 2]:

A two-year course of study is intended for students who have previously obtained a four-year pre-professional [B.S., B.Des., or B.A.] degree in architecture from a school that in combination with its M.Arch degree is accredited by NAAB. Some international students will have completed a professional degree in architecture and still seek another professional degree. Applicants are evaluated on an individual basis for placement in the Master of Architecture program. Every applicant's previous academic record is reviewed in order to identify studies equivalent to those required in the first professional degree [M.Arch 3] curriculum. Students submitting applications demonstrating adequate preparation are given advanced standing and normally pursue a course of study requiring the completion of a minimum of 54 semester credit hours, usually requiring two academic years.

The first year of the Advanced Professional Studies program option provides for completion of the student's professional building design education and related technical and history/theory studies through

graduate design studios, seminars, building science courses, and general electives. The second year is reserved for preparation of an independent design thesis demonstrative of the student's academic accomplishment and professional potential. The M.Arch 2 course of study may be undertaken at both the Blacksburg campus and at the Washington-Alexandria Architecture Center.

Special Admissions Requirements for M.Arch 2 Program:

Applicants are evaluated on an individual basis for placement in this Master of Architecture Program. In order to be considered for admission to the M.Arch 2, Advanced Professional Studies option, every applicant's previous undergraduate transcript is reviewed for completion of a four-year pre-professional architecture or environmental design degree from a school with an NAAB-accredited B.Arch or M.Arch program or equivalent, and for successful completion of studies equivalent to required professional courses within the M.Arch 3 curriculum at Virginia Tech. Previous coursework should include the following requirements:

1. A minimum of two semesters of coursework equivalent to the required Building Materials and Construction — ARCH 5565, 5566 — courses, including building assembly, materials and methods of construction, accessibility, life-safety, code compliance, and cost control issues.
2. Coursework equivalent to the required Building Environmental Systems (ARCH 5755G) course.
3. A minimum of 2 semesters of coursework equivalent to the required Intermediate Building Structures (ARCH 5775G-76G) courses, and corresponding prerequisites in Statics and Strengths of Materials, equivalent to Basic Principles of Structures (ESM 3704).
4. A survey course in Architectural History, covering relevant aspects of the content of the required in two semesters of ARCH 5134: Topics in Architectural History and Theory [March.3 Architectural History requirement], that aligns currently with the History of Architecture (ARCH 3115-16) required of our B.Arch students.
5. A comprehensive, integrated design project equivalent to ARCH 5755-56 Advanced Design Laboratory.

Applicants should also have completed at least 114 total university-level semester credit hours, of which 45 semester credit hours must be outside architectural studies either as general studies or as electives with other than architectural content, prior to enrollment in the M.Arch 2 program.

Applicant portfolios are also reviewed for demonstration of the student's aesthetic judgment, basic design ability, visual investigation skills, and abilities in architectural design, including site design, identification of building elements and materials, and an understanding of their assembly, integration of building systems, a knowledge of building structure, and other evidence of understanding and abilities conforming to NAAB student performance criteria.

Students who, in the judgment of the faculty, have adequate preparation are given *advanced* status and are eligible for consideration for admission to the M.Arch 2 program. Where slight deficiencies in preparation exist, applicants may be admitted with the stipulation that they complete additional semesters of design studio work or additional supporting coursework. These prerequisites may not count toward the student's required graduate Plan of Study. Applicants to the M.Arch 2 program who, in the judgment of the Graduate Architecture Program faculty, do not demonstrate sufficient preparation may instead be offered admission into the M.Arch 3 program.

Graphic Overview of M.Arch 2 Curriculum

Fall Semester			Spring Semester		
First Year		Cr.			Cr.
ARCH 5715	Architecture & Urbanism Laboratory	6	ARCH 5716	Architecture & Urbanism Laboratory	6
ARCH 5705	Architecture and Urbanism Seminar	3	ARCH 5706	Architecture and Urbanism Seminar	3
varies	Building Science Course	3	varies	Building Science Course	3
varies	Professional Elective Course	3	varies	Professional Elective Course	3
		15			15
Summer Session I			Summer Session II		
ARCH 5755	Advanced Design Laboratory (optional)	3	ARCH 5755	Advanced Design Laboratory (optional)	3
Second Year					
ARCH 5994	Research & Thesis	6	ARCH 5994	Research & Thesis	3
ARCH 5044G	Professional Practice	3	varies	Professional Elective Course	3
varies	Professional Elective Course	3	varies	Professional Elective Course	3
		12	varies	Professional Elective Course	3
			TOTAL CREDITS		54

Distribution of Curricular Components in M.Arch 3 Curriculum

Credits from prior Undergraduate Degree (including General and Elective Studies)	84 credit hours (min.)
<i>Required Professional Studies (graduate)</i>	<i>78 credit hours</i>
<i>Elective Studies (graduate)</i>	<i>6 credit hours</i>
TOTAL graduate credits	84 credit hours
TOTAL (combined undergraduate and graduate)	168 credit hours (min.)

Distribution of Curricular Components in M.Arch 2 Curriculum

Credits from prior Undergraduate Degree (including General, Professional Studies, and Elective Studies)	114 credit hours (min.)
<i>Required Professional Studies (graduate)</i>	<i>33 credit hours</i>
<i>Elective Studies (graduate)</i>	<i>21 credit hours</i>
TOTAL graduate credits	54 credit hours
TOTAL (combined undergraduate and graduate)	168 credit hours (min.)

Academic transcripts of all applicants to the Master of Architecture Program are carefully reviewed by the Graduate Program Chair and by an Admissions Review Group made up of Graduate Program Faculty in order to determine appropriate placement within the Program. Due to the diversity of undergraduate academic backgrounds of applicants to the Master of Architecture Program (especially in the three and one-half year [M.Arch 3] option), a uniform distribution of the curricular components, *general studies*, *professional*, and *elective studies*, is not expected at the graduate level. In the judgment of the reviewers,

applicants with inadequate preparation in general studies will be declined admission or may be requested to complete additional preparatory coursework for graduate studies prior to admission into the first professional degree program.

Within the typical plan of study for the M.Arch 3 program option, required professional courses account for 78 credit hours and elective courses account for 6 credit hours of the minimum 84 credit hours required for the M.Arch degree. Sufficient credit hours of General Studies will be taken in undergraduate course work.

Within the typical plan of study for the M.Arch 2 program option, required professional courses account for 33 credit hours and elective courses account for 21 credit hours of the minimum 54 credit hours required. Sufficient credit hours of General Studies will be taken in undergraduate course work. Most students in both degree tracks will take additional credit hours that appear on the transcript, but not on the plan of study.

Off Campus Options

M.Arch 3 The first two years of study are in residence at the Blacksburg campus. Students may elect to spend their final academic year (or portion thereof) at the Washington-Alexandria Architecture Center (WAAC). Students may also spend a semester in residence at the Steger Center for International Scholarship in Riva San Vitale, Switzerland or participate in the Fall Travel Study Abroad.

M.Arch 2 The course of study may be undertaken at either/both the Blacksburg campus and at the Washington-Alexandria Architecture Center (WAAC).

Other Degrees Offered by the Graduate Architecture Program

Master of Architecture (M.Arch 1) – post professional degree (one year)

Master of Science in Architecture (MS) – post professional degree

Ph.D. in Architecture and Design Research – two degree tracks: *Architecture* and *Design Research*

Proposed Changes to the M.Arch 1 Program

A change in nomenclature for the M.Arch1 to a M.Des. designation is currently under curricular review.

II.3 Evaluation of Preparatory Education

II.3.1 Evaluation of Preparatory/Pre-Professional Education

Advanced Professional Studies [M.Arch 2]: *General Conditions for evaluations*

Student Evaluation

Applicants are evaluated on an individual basis for placement in the Master of Architecture Program. In order to be considered for admission to the M.Arch 2, Advanced Professional Studies option, each applicant's previous undergraduate transcript, portfolio, and standardized tests are reviewed for completion of a four-year pre-professional architecture or environmental design degree from a school with an NAAB-accredited B.Arch or M.Arch program, or equivalent, and for successful completion of studies equivalent to required professional courses within the M.Arch 3 curriculum at Virginia Tech. Students who, in the judgment of the faculty, have adequate preparation are given advanced status and are eligible for consideration for admission to the M.Arch 2 program. Where slight deficiencies in preparation exist, applicants may be admitted with the stipulation that they complete additional semesters of design work and/or additional supporting coursework.

Pre-Professional Degree Program Evaluation

Over the past number of years, the faculty has noticed a continuing decline in the ability of the pre-professional degree programs and students to demonstrate understanding and ability in the constructive, physical, and material components of the education of an architect. To address this concern the faculty is

trying to more closely monitor the pre-professional programs that provide the majority of our admissions, as well as make changes to address these concerns in our own M.Arch 2 program. In 2016-17, we began recommending that incoming M.Arch 2 students be advised to take an additional two semesters of Building Materials and Construction (ARCH 5565-66) as their elective Building Science courses in their first year to address this issue. Given the large number of pre-professional programs, it is important to closely monitor the capacities of students coming from varied undergraduate programs.

Pre-Admission Transcript Review:

The applicant's academic transcript(s) from previous degree program(s) is reviewed for demonstration of the student's successful performance in university level course work. A minimum of 114 total university-level semester credit hours, of which 45 semester credit hours must be outside architectural studies either as general studies or as electives with other than architectural content, prior to enrollment in the M.Arch 2 program.

Specific coursework is evaluated as to its ability to be equivalent to required professional courses within the M.Arch 3 curriculum at Virginia Tech. Previous coursework should include the following requirements:

- A minimum of two semesters of coursework equivalent to the required Building Materials and Construction — ARCH 5565, 5566— courses, including building assembly, materials and methods of construction, accessibility, life-safety, code compliance, and cost control issues.
- Coursework equivalent to the required Building Environmental Systems (ARCH 5755G) course.
- A minimum of 2 semesters of coursework equivalent to the required Intermediate Building Systems (ARCH 5775-76G) courses, and corresponding prerequisites in Statics and Strengths of Materials, equivalent to Basic Principles of Structures (ESM 3704).
- Two semesters minimum of courses in History and Theory of Architecture, covering relevant aspects of the content in the required Topics in Architectural History and Theory (ARCH 5134) courses.

Pre-Admission Portfolio Review:

Applicant portfolios are also reviewed for demonstration of the student's aesthetic judgment, basic design ability, visual investigation skills, and abilities in architectural design, including site design, identification of building elements and materials and an understanding of their assembly, integration of building systems, a knowledge of building structure, and other evidence of understanding and abilities conforming to NAAB student performance criteria.

Specific coursework is evaluated as to its ability to be equivalent to required professional design courses within the M.Arch 3 curriculum at Virginia Tech. Previous coursework is evaluated for the following requirements:

- Course work equivalent to ARCH 4715-16: Qualifying Design Laboratory
- Course work equivalent to ARCH 5515-16: Architecture & Systems Laboratory
- An integrative design project equivalent to ARCH 5755-56: Advanced Design Laboratory.

If admission is offered to a student without equivalent integrative design laboratory (studio), the student is notified of the deficiency and the necessity to enroll in ARCH 5755-56: Advanced Design Laboratory during both summer sessions following their first year in the program.

Post-Admission Review:

On or before the first week of the student's on-site enrollment, a personal interview is conducted by the academic advisor to review and evaluate the student's transcript(s) and portfolio in order to establish a plan of study. An evaluation form (see next page) is filled out in this interview to assist in the final

evaluation of prior coursework. Detailed questions address this coursework. The student will be asked to show additional course materials, descriptions, and content if it is not evident through the transcript and/or portfolio and/or on-line.

In the case of the integrative design project, the student is asked to bring in additional documents to demonstrate ability, if it is not demonstrated in the transcript or portfolio.

M.Arch.2, Advanced Professional Program, Advanced Credit Admissions Analysis

Name: _____ Student No.: _____

Review of Previous Academic Transcript(s):

Content Area	Equiv. VT M.Arch course	2018 Primary NAAB Student Performance Criteria
___ Building Materials & Construction	ARCH 5565-66	B7 Building Envelope Systems and Assemblies B8 Building Materials and Assemblies
___ Building Environmental Systems	ARCH 5755G	B6 Environmental Systems B9 Building Service Systems
___ Building Structures	ARCH 5775-76	B5 Structural Systems
___ Architectural History/Theory	ARCH 5134 (2 semesters) *equivalent (Arch 3115-16)	A7 Historical Traditions & Global Culture

Review of Portfolio:

Content Area	Equiv. VT M.Arch course	2018 Primary NAAB Student Performance Criteria
___ Basic Design	ARCH 4715-16	A5 Ordering Systems
___ Building Design	ARCH 5515-16	A4 Architectural Design Skills
___ Integrative Design	ARCH 5755-56	B1 Pre-Design B2 Site Design B3 Codes and Regulations B4 Technical Documentation C1 Research C2 Integrated Evaluations and Decision-Making C3 Integrative Design

Additional coursework which may be required on graduate Plan of Study at Virginia Tech (include in departmental letter and/or grad. admissions analysis form- Graduate School letter), unless determined otherwise through review of previous coursework in initial academic advising session with dept. advisor:

Comments:

Reviewed by: _____ Date: _____

II.4 Public Information

The NAAB expects programs to be transparent and accountable in the information provided to students, faculty, and the public. As a result, the following seven conditions require all NAAB-accredited programs to make certain information publicly available online.

II.4.1 Statement on NAAB Accredited Degrees.

On this page, <http://archdesign.vt.edu/architecture/naab> the following statement is provided:

“In the United States, most 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 professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year, three-year, or two-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 require a preprofessional undergraduate degree in architecture for admission. However, the preprofessional degree is not, by itself, recognized as an accredited degree.”

“Virginia Tech, College of Architecture and Urban Studies, School of Architecture+Design offers the following NAAB-accredited degree programs:

- B.Arch. (160 undergraduate credits)
 - M.Arch
 - M.Arch 2 (pre-professional degree + 54 graduate credits)
 - M.Arch 3 (non-pre-professional degree + 84 credits)
- Next accreditation visit for all programs: 2018”

II.4.2 Access to Conditions and Procedures

From this page, <http://archdesign.vt.edu/architecture/naab> the following links are provided:

NAAB 2014 Conditions for Accreditation

http://www.naab.org/wp-content/uploads/01_Final-Approved-2014-NAAB-Conditions-for-Accreditation.pdf

NAAB 2015 Procedures for Accreditation

http://www.naab.org/wp-content/uploads/2015-Procedures-Final-Approved-Edition_copyedited-052915.pdf

II.4.3 Access to Career Development Information

From this page, <http://archdesign.vt.edu/architecture/naab> the following links are provided:

<http://www.studyarchitecture.com>

https://www.ncarb.org/sites/default/files/Certification_Guidelines.pdf

<https://www.ncarb.org/sites/default/files/AXP-Guidelines.pdf>

<http://epcompanion.org/>

<http://www.naab.org/students/>

<https://www.aia.org/>

<http://www.aias.org/>

<http://www.acsa-arch.org/>

The University also provides career and professional development services: <https://career.vt.edu/>

II.4.4 Public Access to APRs and VTRs

From this page, <http://archdesign.vt.edu/architecture/naab> the following links are provided:

2014 Interim Progress Report

http://archdesign.vt.edu/images/2014_Virginia_Tech_Interim_Progress_Report-final-1.pdf

2012 Visiting Team Report

http://archdesign.vt.edu/images/2012_NAAB_VTR-final.pdf

2012 Decision Letter from the NAAB

http://archdesign.vt.edu/images/2012_NAAB_Decision_Letter.pdf

2011-12 Architecture Program Report (APR)

http://archdesign.vt.edu/NAAB/VT_APR-final-rev.pdf

II.4.5 ARE Pass Rates

From this page, <http://archdesign.vt.edu/architecture/naab> the following links are provided:

Pass rates, ARE 4.0

<https://www.ncarb.org/pass-are/are4/pass-rates>

Pass rates, ARE 5.0

<https://www.ncarb.org/pass-are/are5/pass-rates/are5-pass-rates-school>

Virginia Tech's recent ARE Pass Rates by Division:

www.ncarb.org, retrieved 9 august 2017

ARE 4.0 PASS RATES BY DIVISION		2014	2015	2016
Programming Planning & Practice	VT	73%	75%	63%
	national	62%	60%	56%
Site Planning & Design	VT	79%	76%	80%
	national	69%	66%	65%
Building Design & Construction Systems	VT	78%	71%	70%
	national	64%	64%	64%
Structural Systems	VT	77%	74%	75%
	national	68%	66%	65%
Building Systems	VT	81%	81%	68%
	national	68%	67%	64%
Construction Documents & Services	VT	74%	69%	70%
	national	62%	58%	54%
Schematic Design	VT	88%	83%	82%
	national	77%	77%	78%

All of Virginia Tech's (4.0) Pass Rates are Above the National Average.

ARE 5.0 PASS RATES BY DIVISION	(nov. 1, 2016-June 30, 2017)	2017
Practice Management	VT	67%
	national	47
Programming & Analysis	VT	100%
	national	53
Project Development & Documentation	VT	60%
	national	56
Project Management	VT	100%
	national	56
Project Planning & Design	VT	67%
	national	50
Construction & Evaluation	VT	N/A
	national	53

All of Virginia Tech's (5.0) Pass Rates are Above the National Average.

II.4.6 Admissions and Advising

Undergraduate admissions are conducted entirely by the University. Copies of [University application forms](#) for Undergraduate, Graduate, and International Undergraduate are provided as the Supplemental Materials. The School provides information and links to the University's application portal.

From this page, <http://archdesign.vt.edu/admissions/> the following links are provided:

Undergraduate Admissions

<http://archdesign.vt.edu/admissions/undergraduate>

Transfer Students

<http://archdesign.vt.edu/admissions/transfer>

Graduate Admissions

<http://archdesign.vt.edu/admissions/graduate-admissions>

Computer Requirement

<http://archdesign.vt.edu/admissions/computer-requirement>

From this page, <http://archdesign.vt.edu/students/advising> Graduate and Undergraduate students can find links to School, College, and University resources for academic advising, as well as a link to the University's Cook Counseling Center, <http://www.ucc.vt.edu/>

II.4.7 Student Financial Information

Cost Estimate for NAAB-accredited Degree Program

<http://archdesign.vt.edu/architecture/student-financial-information>

Graduate Assistantships

<http://archdesign.vt.edu/admissions/graduate-assistantships>

Scholarships and Financial Aid

<http://archdesign.vt.edu/admissions/scholarships-and-financial-aid>

III.1.1 Annual Statistical Reports

The program must submit annual statistical reports in the format required by the NAAB Procedures.

The program must certify that all statistical data it submits to NAAB has been verified by the institution and is consistent with institutional reports to national and regional agencies, including the Integrated Postsecondary Education Data System of the National Center for Education Statistics.

The annual statistical reports and a letter from Virginia Polytechnic Institute and State University certifying the [statistical data](#) are included in the Supplemental Materials.

III.1.2 Interim Progress Reports

The program must submit Interim Progress Reports to the NAAB.

The Interim Progress Reports have been uploaded yearly to NAAB. The NAAB has stated that they will provide them directly to the Visiting Team at the same time as the VTR template and other materials.

Virginia Tech did not undergo a Focused Evaluation.

Section 4. Supplemental Materials

- [Resumes of faculty](#) teaching in the accredited program
- [Faculty credentials matrices](#)
- [Plans of physical resources](#) assigned to the program
- [Descriptions of all courses](#) offered within the curriculum of the NAAB-accredited degree program
- [Studio Culture Policy](#)
- [Self-Assessment Policies and Objectives](#)
- [Policies on academic integrity for students](#) (e.g., cheating and plagiarism)
- [Information resources policies](#), including collection development
- Institution's [Policies and Procedures relative to EEO/AA](#) for faculty, staff, and students
- Institutional policies regarding [Human Resource Development Opportunities](#), such as sabbatical, research leave, and scholarly achievement
- A [list of past and projected faculty research, scholarship, creative activities](#) by full-time instructional faculty since the previous visit
- Policies, procedures, and criteria for [Faculty Appointment, Promotion, and Tenure](#)
- Response to the [Offsite Program Questionnaire](#)
- The previous [VTR \(from 2012\)](#)
- Copy of [Institutional Accreditation Letter](#)
- Letter from institutional research regarding [ARS data](#)