

SCHOOL OF ARCHITECTURE, GEORGIA INSTITUTE OF TECHNOLOGY

SELF-STUDY

ACADEMIC PROGRAM REVIEW

2013

Bachelor of Science in Architecture

Master of Science (Major in Architecture)

Doctor of Philosophy in Architecture

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1. EXECUTIVE SUMMARY

Following upon the administrative reorganization of the College of Architecture into school-level units in 2011, the School of Architecture has embraced both the challenge and the opportunity of finding new creative synergies and forging a shared intellectual culture between once separate programs and faculties—the Architecture Program with its emphasis upon undergraduate and professional education and the Doctoral Program which had previously operated as the interdisciplinary umbrella for advanced studies for the entire College. This self-study focuses upon three of the School’s five degree programs—the undergraduate Bachelor of Science in Architecture degree, the post-professional Master of Science with a major in Architecture degree (with three concentrations), and the research-focused Doctor of Philosophy degree.¹

Doctor of Philosophy in Architecture and Master of Science (Architecture) Programs

The Ph.D. in Architecture Degree Program has benefited through the years from the faculty’s focused and robust record of externally funded research that sets a benchmark for other programs at sister universities.

Additionally, the creation of new Ph.D. degree programs in the College of Architecture (including those in Music Technology, City & Regional Planning, and Building Construction) has allowed the revision and clarification of Ph.D. in Architecture degree requirements and research areas to better reflect the themes and expectations of architecturally focused research.

Clarifying these themes, in turn, has stimulated the formation of defined concentrations in the School’s post-professional M.S.(Arch.) degree program, though the enrollment potential envisioned for this program has yet to be fully realized.

Indicators of applicant quality and time-to-degree for the Ph.D. program have been steadily improving, and student success in publication continues to be a strong factor in overall research productivity.

The combined budgetary resources and varied instructional needs of the School present in the composite greater instructional and support opportunities for Ph.D. students and candidates than existed under the previous structure.

The challenge ahead is both to expand faculty participation in funded-research activity and to recruit new faculty who can build upon current success while contributing in new ways to the multi-fold instructional needs of the whole School. Providing sufficient incentives and staff support will be key to shaping an environment that nurtures the creative tension between design and research.

¹ The Master of Science in Urban Design degree, established in Fall 2011, will undergo its first academic program review five years hence. The professional Master of Architecture degree will undergo its sixth-year National Architectural Accrediting Board review in academic year 2013-14.

Bachelor of Science in Architecture Program

The B.S.Arch. Degree is the oldest of the degree programs in architecture at Georgia Tech. It benefits from an exceptional pool of highly qualified, academically well-prepared incoming students, a hallmark of the Georgia Tech tradition in undergraduate education. Students progress well through this studio-based curriculum, and graduates are successful in securing entrance to professional degree programs, both our own and elite competitors.

The basic structure of the undergraduate curriculum has remained unaltered for more than a dozen years, however, even as the contexts of education and contents of the professional program have significantly changed. Economic factors over the past five years have called into question the value of an undergraduate degree in architecture even though the need for informed shapers of the designed and built environment has arguably never been greater. The School must be more assertive of these facts and more active in driving Georgia Tech's undergraduate recruitment strategies for the discipline.

Additionally, the recent discontinuation of the Bachelor of Science in Building Construction degree should prompt a review of the goals and viability of the Common First Year curriculum, the interdisciplinary common ground that has been the foundation of undergraduate studies in architecture, construction, and industrial design since 1999. The discontinuation of the senior year-long Paris Study Abroad Program, once a primary attraction of the undergraduate program, has likewise called into question some of the assumptions of the curricular structure.

Recent efforts to more systematically integrate courses in digital media and modeling into the undergraduate design curriculum need to be further developed in terms of assessable educational goals. Opportunities for hands-on, socially-engaged learning could be developed that take advantage of School facilities and the possibility of collaborative learning ventures across disciplines at Georgia Tech.

The question suggested by this self-study that is yet to be answered is whether undergraduate education in architecture at Georgia Tech should continue to be primarily defined as pre-professional preparation, or whether it might be conceived foremost as a general university education emphasizing technology and the liberal arts synthesized through the clarifying lens of architecture and design. Can we better draw upon our context to make this educational experience truly unique?

In Summary

What this self-study reveals is a snapshot of the School of Architecture as a work still in progress toward the goal of a unified disciplinary vision. It is a work, nonetheless, already far enough along that path to be reaping the benefits from its new academic and organizational adjacencies. While the professional Master of Architecture degree is not explicitly reviewed in this report, that program is both beneficiary of and a catalyst for success in pre-professional and post-professional education, providing a platform for fusing design and research in order to build vital partnerships with profession and industry and to contribute as a co-equal partner with engineering disciplines at Georgia Tech.

2. OVERVIEW OF THE SCHOOL

Historical Background

Architecture was established as a discipline of study at Georgia Tech in 1908 at the request of a civil engineering student who recruited fellow students for an entering class of twenty. Over the intervening 104 years, the Department of Architecture has been transformed into the multi-disciplinary College of Architecture established in 1975 comprising (in order of establishment) the disciplines of Architecture, Industrial Design, City & Regional Planning, Building Construction, and Music. A significant milestone that soon followed was the establishment in 1982 of the Doctor of Philosophy in Architecture degree and the multi-disciplinary Doctoral Program, a reflection of the increasing complexity of the designed and built environment as well as the growing emphasis upon leading-edge research at Georgia Tech. Since 1999, all undergraduate students in the College of Architecture (prior to declaring majors in architecture, construction, or industrial design) have been introduced to the broad field of design and the built environment through multi-disciplinary instruction in the Common First Year. Most recently, in 2010, the academic programs in the College were reorganized as School-level units comparable to all other academic units in the Institute with each responsible for its own discipline-specific doctoral-level degrees and cross-disciplinary research programs.

The School of Architecture at Georgia Tech encompasses five distinct degree programs, a reflection of the School's multiple missions in undergraduate education, professional education, and advanced studies & research. At the center is the professional program in architecture, an accredited degree at the graduate level, the Master of Architecture, which is one requirement to achieve licensure as a practicing architect. Feeding into that program is the undergraduate Bachelor of Science in Architecture degree through which we contribute to the general education mission of Georgia Tech. The undergraduate program provides grounding in liberal and technological knowledge through studio-based design education and emphasizes creativity and the ability to seek and solve problems related to the built and inhabited environment.

Building linkages with practice and industry, we have developed several post-professional degree programs: the newly established Master of Science in Urban Design degree, a partnership with the School of City and Regional Planning, through which we address national and global challenges related to urban growth; and the Master of Science (with a major in Architecture) degree with distinct concentrations in the areas of Digital Design & Fabrication, High Performance Building, and Health & Design. These concentrations mirror fields of study in our Ph.D. program: Design Computation, Building Technology, and Evidence Based Design each with an associated research lab and substantial funding base. We also support work in History & Culture, Organizational & Cognitive Performance, and Urban Design. Historically, the development of a culture of funded research in the field of architecture has lagged behind engineering and the sciences. Yet in the School of Architecture we strive to exploit the creative tensions between research and design that can drive innovation in the field, to imagine a better future through architecture, design, and research.

The focus of this academic review is upon the undergraduate Bachelor of Science in Architecture program, the Master of Science (with a major in Architecture) program, and the Doctor of Philosophy program. It has been determined that the Master of Science in Urban Design program, only established in 2011, will undergo its first review in the next review cycle. The Master of Architecture professional degree program will undergo its NAAB accreditation review in academic year 2013-14.

Student Population

In Fall 2012, student enrollment in the School of Architecture (not including pre-architecture enrollment in the Common First Year) totaled 346, 40% of the College's 875 students, a proportional share that has remained constant over the last five years. Of this total, 46% of the School's students are enrolled as undergraduates and 54% are enrolled as graduates (MS, MSUD, MARCH, PHD), a reversal of the situation five years ago when the proportions were 56% undergraduate and 44% graduate. This change has been the result of both strategy and circumstance.

In the first instance, this rebalancing is the result of a deliberate effort to control undergraduate enrollment after a period of rapid growth prior to 2007. At the same time, the goal of Georgia Tech as articulated by the President and Provost in 2002 has been to balance graduate and undergraduate enrollment by 2012. In our own academic unit, the creation of PhD degree programs in the other Schools explains concomitant enrollment decreases in the PhD in Architecture degree program which previously served as the umbrella program for the College.

In the second instance, circumstantially, overall enrollment decline is the result of unanticipated economic factors exerting a downward pressure on overall architecture admissions (both here and nationwide) beyond intended targets. Overall enrollment in the School of Architecture has declined 27% over the past five years as compared to 27.4% for the entire College. Undergraduate enrollment in the School has declined 35.5% compared to a 17.7% decline in graduate enrollment.

The student body is diverse in terms of gender and ethnicity. Females comprise 54% of the School population and males comprise 46%. The student body is 63% White, 22% Asian, 8% Hispanic or Latino, 5% Black or African American, and 2% other or Multi-racial. International students comprise 17.5% of the College total, slightly below the Institute's 19.8% international student enrollment. Student academic quality is high and improving as measured by scores on entry examinations. Undergraduate SAT scores averaged 1359 in 2012 as compared to 1335 in 2009. GRE scores among all graduate students in the School averaged 1200 in 2012 as compared to 1166 in 2009.

Faculty and Staff

Fulltime tenured and tenure track in the School of Architecture currently numbers 25 with 5 additional positions presently vacant due to attrition. Nine are professors, twelve are associate professors, and four are assistant professors. Twelve hold Ph.D. degrees, six are U.S. registered architects, nine are registered architects in other jurisdictions, three are engineers, five are

historians, and one is an environmental psychologist. Only two of the twenty-five are female. Additionally, two tenured/tenure-track faculty members in other Georgia Tech Colleges hold adjunct appointments in the School. Non-tenured faculty, both part-time and full-time, fluctuates in number each year but currently totals 24 individuals representing 12 full-time equivalent positions. Of these, five hold non-tenured positions as Professors of the Practice of Architecture in the School along with one other in the School of Building Construction. Thirteen of the 24 individuals are U.S. licensed architects. Additionally, there are four research faculty within the School.

The School of Architecture is supported by a staff of five. An Assistant Director for Administrative Operations serves as the office chief of staff and in close collaboration with a Senior Administrative Professional is responsible for coordinating faculty affairs, human resources, budget, travel, public relations, and outreach. Student advisement is handled by a staff of three, an Academic Advising Manager, an Academic Advisor I, and an Academic Assistant. The advising office is responsible for student records management, degree petitions, course scheduling, graduate admissions and recruitment, and student awards.

Academic and administrative structures and leadership

The School of Architecture is led by three administrators who also hold academic appointments on the Faculty: Professor George Johnston serves as School Chair, Associate Professor Michael Gamble serves as Associate Chair for Undergraduate & Professional Studies, and Professor John Peponis serves as Associate Chair for Advanced Studies & Research. This leadership team works in close collaboration and with the Faculty to set the vision and strategic direction for the School. Faculty governance is maintained through application of the School of Architecture Bylaws adopted in AY 2011-12 providing for an elected School of Architecture Faculty Advisory Committee that works with the School administration to advance and refine School policies and procedures, program and curricular design and assessment; a faculty-organized Curriculum Network to facilitate ongoing curriculum development; Chair-appointed Faculty Search Committees as required; and a Faculty Infrastructure Committee focused on instructional support. Additionally, the School elects a three-member Reappointment, Promotion, and Tenure Committee, part of the interlinked RPT Process that operates at School, College, and Institute levels.

The College of Architecture provides central support for the five schools through the offices of the Associate Dean for Research, the Assistant Dean for Academic Affairs & Outreach, and the Assistant Dean for Administration & Finance. Similarly, support for media/communications, information technology, and facilities is handled centrally.

Overview of facilities

Primary facilities accommodating students, faculty, and staff of the School of Architecture include three buildings. The College of Architecture Building is comprised of two wings (East and West) completed in 1952 and 1980 respectively. This complex houses administrative offices for the School, undergraduate architectural design studios, design jury spaces, lecture-style classrooms of various sizes and capacities, seminar rooms, computer labs, and faculty offices.

Other facilities accommodated here include a branch of the Georgia Tech Library housing the architecture-related collections, an exhibition gallery, design and model-making workshops, and digital output/printing resources. The Hinman Research Building, constructed in 1939 and renovated 2011, houses design studios for the Master of Architecture and Master of Science degree programs, jury spaces, computer lab, faculty offices, Design Computation and Building Technology research labs accommodating research scientists and Ph.D. student workspaces. The Digital Fabrication Lab supporting the School's initiatives in digital design and fabrication is located on the edge of campus and houses high-end fabrication equipment, offices, and project workspace. Additionally, the School's research initiatives in the area of Evidence Based Design, including the health and design focused SimTigrate Design Lab, are located adjacent to the Health Systems Institute in a fourth location on campus.

Notable Achievements and Unique Features of the School

- The reorganization of the College of Architecture into Schools has established a new parity at Georgia Tech between and among the School of Architecture and sister schools in the College of Engineering. This simple move has opened new avenues of collaboration in both academics and research, opportunities that the School must seize. Discussions with the Schools of Civil Engineering and Mechanical Engineering are already under way to determine how best to build on the present foundation of a small number of courses taken by students across the three Colleges.
- The acquisition and stunning renovation of the Hinman Research Building has addressed some long-standing challenges in our physical resources and stimulated new thinking about the ways in which we can organize our space and curriculum to cement bonds between design and research, between research and practice.
- Faculty in the School of Architecture are highly productive in research. Over the last three years, faculty have published at least 8 books, 25 book chapters, 52 refereed journal articles, 80 refereed conference proceedings, participated in 35 exhibitions of creative work, and have received new awards of \$6.25 million in sponsored research contracts.
- Undergraduate students in the School of Architecture are especially well-prepared, posting an average entering SAT score of 1359 and an average high school GPA of 3.86/4.00. They regularly gain recognition in prominent national competitions such as the recent first and third place finishes in the Land Art Generation Initiative in New York's Fresh Kills Park. See: <http://landartgenerator.org/winners2012.html>

Major recent events and bearing on future directions of the School

- Downward trends in School enrollment, especially in the undergraduate program, are partially a consequence of prevailing economic conditions and uncertainty about the financial promise of careers in architecture. These challenges must be considered in a strategic rather than a reactionary manner, however. Given ongoing demographic trends which suggest a continuing and growing demand for design professionals in spite of economic cycles, priority must be given to "right-sizing" our programs to ensure continuity in the face of the vicissitudes of the market. Long-term, our goal is to grow enrollment in the M.Arch., M.S. (Arch.), and MSUD degree programs while keeping enrollment in the B.S.Arch. and Ph.D. degree programs relatively flat.

- Declining investment in higher education as manifest in State budget reductions and related increases in student tuition and fees are conditions linked with the enrollment picture. In the last five years, the State budget allocation for the School of Architecture has been reduced approximately 8.5% relative to the FY 2009 baseline. Meanwhile, over the same period, undergraduate tuition costs at Georgia Tech have increased by 79%, graduate tuition by 101%, and professional program tuition by 163% (the result of a special assessment for professional students, the yield from which is returned directly to the School for support of professional education). The continual improvement of educational quality, value, and access while managing these financial conditions will be at the center of attention in coming years.
- The last five years has witnessed the gradual retirement of the generation of faculty stalwarts hired in the 1970s and 80s concomitant with the adoption of the M.Arch. and Ph.D. degrees and the establishment of the College. Over the next two to three years, the School must hire new replacement faculty members whose expertise and experience can contribute to the advancement of the School's strategic priorities in instruction, research, and service. Likewise, the transition of College leadership from Dean Alan Balfour to his successor will no doubt be a time of active development of School directions and goals.

2.1. VISION AND STRATEGIC DIRECTION OF THE SCHOOL

Imagining a Better Future through Architecture, Design, and Research

Architects can only serve society if they are as attentive to enduring needs as they are open to new possibilities. Likewise, desire for social progress ought to be at the core of architects' aspirations to derive truly progressive architectures, ones equally transformative of practice, place, and form. While advances in knowledge and technology often yield as many new questions as they do answers, the disciplinary aim of architecture is to derive the right lessons from the consequences of our progress, to extract idealism out of circumstance and opportunity out of constraint. In the face of unparalleled social and environmental challenges, architects must dedicate themselves to a common project, to imagining a better future through architecture, design, and research.

Our Vision

The School of Architecture at Georgia Tech will redefine architectural education for the 21st century by harnessing the creative tension between design and research to the service of society, to spark innovation in the field and thereby enhance the health of the people and the planet.

Multiple Missions

The School of Architecture has multiple missions in teaching, research, and service, each reflected in its distinct degree programs. The School advances Georgia Tech's general education mission at the undergraduate level through a rigorous studio-based design curriculum providing a thorough grounding in liberal and scientific knowledge. At the heart of the School is the professional program in architecture, its mission to prepare a new generation of technologically capable and socially responsible practitioners. Advanced and doctoral-level programs build linkages with practice and industry and provide leadership in architectural and urban research. All of these missions overlap, and their cross-pollination extends the impact of each.

Strategic Aims

In order to fulfill this vision and advance these missions, these strategic aims are critical to our success over the next decade:

1. **Cultivate a shared design culture** at Georgia Tech by shaping an innovative model of multi-disciplinary collaboration and exchange joining architecture, engineering, and the liberal arts.
2. **Bridge the gap between architectural research and design practice** by building partnerships with leading architectural firms to advance the state of the art of architectural practice and strive for better building performance.
3. **Build a highly motivated and distinguished faculty** that is appropriate to these aims, one as diverse as our student body, able to lead internationally, and to inspire in students a commitment to both intellectual rigor and social purpose in architecture.

4. **Prepare our students to be innovative and creative**, to command a critical understanding of principles governing the constructed world, to be appreciative of difference, and thereby able to respond flexibly to the contingencies of global and local practice and communicate with fluency in visual, verbal, and technical media.

5. **Serve the public by helping shape public discourse** about architecture and urban design, by making our research accessible and the benefits of design tangible through robust efforts to evaluate, communicate, and connect.

3. DEGREE PROGRAMS

3.1. THE DOCTOR OF PHILOSOPHY PROGRAM

3.1.1. OVERVIEW OF THE DOCTOR OF PHILOSOPHY PROGRAM

Aim of the doctoral program

The doctoral program strengthens the knowledge base that supports the profession of architecture in the design, planning, construction, management and analysis of the built environment. It responds to problems articulated by practice but also develops knowledge and education that anticipate the future needs and role of the profession. Program graduates define the cutting edge of current scholarship, research and practice, pursuing academic careers in major universities nationally and internationally or holding leadership positions in architectural firms. The aim of the program is to train future scholars and practitioners to systematically inquire about the principles that govern the design of humane, sustainable and productive environments and to translate those into policies and technologies that can better support socially responsible professional decision-making and practice; this encompasses *basic research*, *translational research*, *end-product technologies*, including intelligent building performance monitors and control systems and *enabling technologies*, including technologies of design computation and representation. The Ph.D. program also advances the directions of inquiry and scholarship that help evaluate such technologies from cultural, social and ethical points of view. The Ph.D. program engages the creative synergies and tensions between design and research, imagination and rigor, conjecture and testing.

Administrative developments since 2007 and the clarification of the mission of the program.

For the period 1983-2009 the College of Architecture had a single doctoral degree with a major in Architecture. The umbrella College-wide Doctoral Program which was associated with the degree also hosted doctoral students in City and regional Planning, Building Construction and Industrial Design, in order to help incubate doctoral level research in these disciplines. Thus, in 2009 the Ph.D. program had 87 graduates distributed as shown in Table 1. Also in 2009 a Doctor of Philosophy degree with a major in City and Regional Planning was approved by the Board of Regents of the University System of Georgia. In 2011 the Board of Regents also approved a Doctor of Philosophy Degree with a major in Building Construction. Independent of the history of the College-wide Doctoral program the Board of Regents approved the Doctoral Degree with a major in Music Technology in 2010. Thus, the Doctoral Degree with a Major in Architecture, housed in the newly formed School of Architecture after the College of Architecture re-organization of 2010, was re-authorized in the Spring of 2011, based on a structure that best serves its main mission, that is the pursuit of architectural research.

| TABLE 1: DOCTORAL PROGRAM (major in Architecture) – COLLEGE OF ARCHITECTURE GRADUATES, 1987- 2009 | |
|--|-----------|
| Architecture (all research areas) | 71 |
| Architecture (Building Technology area) | 9 |
| Architecture (Design Computing area) | 8 |
| Architecture (Environment and Behavior area) | 15 |
| Architecture (History, Theory and Criticism area) | 26 |
| Architecture (Spatial Morphology area) | 12 |
| City and Regional Planning | 11 |
| Building Construction | 6 |
| TOTAL | 87 |

3.1.2. STRATEGIC DIRECTIONS FOR THE PH.D. PROGRAM: BRINGING RESEARCH TO SUPPORT ARCHITECTURAL INNOVATION

The relationship between research and design is at the core of the identity of the School of Architecture as a whole. The School of Architecture promotes innovation in architecture, based on research and an intellectual commitment to defining and measuring the desirable performance of architecture in contemporary economy and society.

The output of research is generalizable and testable knowledge, while the output of design is a building or a place. As the outcomes of design and research rarely coincide, so their relationship is best managed and fostered as a creative tension. Given this, the doctoral program will take advantage of the foregrounding of “research and design” as the focus of the entire School of Architecture, in order to enhance its independent mission. This has intellectual, institutional, and funding implications.

1 Intellectual. Research is often structured with the expectation that the application of research findings in design is an independent task posterior to the completion of research. Our aim is to increasingly anticipate design implications in the formulation of research questions. Among other things, this implies an effort to represent research data, questions and findings in graphic, diagrammatic, modeling or pictorial languages that are inherently close to the languages of design whenever this is possible. This effort does not serve merely the purposes of visualizing knowledge, but more fundamentally the purposes of defining architectural knowledge.

2 Disciplinary. The more our research addresses questions that are intrinsically linked to architectural design, the more we consolidate the disciplinary foundations of architecture in a way that strengthens our collaborations with other disciplines, on campus and beyond. Also, as the relationship between research and design becomes more evident, so the contributions of research students to the pedagogical missions of the School complement and strengthen their research efforts rather than detract from them. Thus, the doctoral program can directly and

indirectly impact the substantive questions addressed and the methods used in Research and Design studios in the final year of studies for the M.Arch. Also, the doctoral program can directly enhance the curriculum of our M.Sc. program and directly or indirectly impact the substantive questions addressed and the capstone projects.

2 Funding. As the relationship between research and design becomes more evident so it becomes possible to guarantee student support for multiple years based on the anticipated curricular needs of the School. This complements and enhances the funding security that can be provided by large funded research grants. More particularly, this can benefit all doctoral students and not only those whose research is associated with the three core research laboratories described above.

4 Impact. Our success in better linking research to design will facilitate the employment of our graduates in either practice or academia by strengthening their credibility and extending their competence. It will also strengthen our efforts to attract applied research funds from industry. Finally it will contribute directly to the dissemination of knowledge.

5 Challenge. The challenge is to take advantage of current opportunities in the School of Architecture without in any way compromising the independent scholarly and scientific standing of research, including its specialization in depth; also without adversely affecting the productivity of students and faculty as measured by the standard measures of refereed publications, citations, ability to attract external research funding, and, above all else, ability to raise and address fundamental questions which transcend the immediate needs of practice or professional education.

Action steps:

1 Learning outcomes: Work to define the learning outcomes that will facilitate Ph.D. students relative to the broad intellectual aims outlined above. Look for the incorporation of such outcomes into the curriculum, either through a new interpretation of present requirements such as the qualifying paper, the comprehensive exam or the defense of a thesis topic, or through the development of new courses that address the relationship of research to design, including the relationship of research to design in teaching.

2 Organization of teaching in the School of Architecture: Identify the courses where the contributions of doctoral students and doctoral research are more desirable and likely to have the most direct impact. Estimate the number of GTA positions for which doctoral students will be routinely sought. Use these positions in order to estimate availability of longer term funding. As part of this, develop guidelines as to expected length of service and the relationship between renewal of GTA appointment and progress through doctoral program milestones.

3 New faculty hires: Continue to work so that new faculty hires associated with the core programs of the School of Architecture can engage research either through application in design or through independent work at advanced levels. The relationship of design to end-

product and to enabling technologies is the critical factor in this. One aim of new hires is the extension of the research base of the School, so that research efforts at all scales of funding become better distributed. This is in the interests not only of enhancing the funded research budget but also, and more important, of a broader spectrum of intellectual vibrancy and experimentation. The School of Architecture will also look to maintain its strengths in faculty whose main mission is in advanced research and whose contributions to curriculum derive from their research.

3.1.3. ACTIONS IN RESPONSE TO RECOMMENDATIONS OF PREVIOUS SELF-STUDY AND EXTERNAL REVIEW COMMITTEE REPORT

The Doctoral Program of the College of Architecture went through the Academic Review Process in the Fall of 2007. The external review team comprised: (1) Martin Fischer, Professor of Civil and Environmental Engineering, Director of the Center for Integrated Facility Engineering, Stanford University; (2) Gary Hack, Dean of the School of Design, University of Pennsylvania; (3) Steve Selkowitz, Director, Building Technologies Department, Lawrence Berkeley Laboratories. The executive summary of their report is reproduced below:

Executive Summary

The Ph.D. program in the College of Architecture, now 20 years old, has grown to accommodate over 70 students, distributed across 8 specialized areas. It has established a culture of research across the college, and the 8 distinguished faculty supported by the program have established important research areas and brought national recognition to Georgia Tech. Several of them have impressive portfolios of sponsored research, providing support for many of the Ph.D. students. Doctoral studies are also supported by several outstanding research centers, and by faculty in the professional programs who employ Ph.D. students and connect them with subjects for their research.

The Ph.D. Program has many strengths, including: the quality and collegiality of Ph.D. program faculty; promotion of an interdisciplinary mindset; providing leading edge research opportunities; offering the attention needed by Ph.D. students learning the craft of research; and offering cross-over opportunities to other areas of the university.

While the program is generally healthy, we detected several areas in need of renewed attention and improvement, including: increasing the applicant pool, particularly US applicants; better advertising of the program, especially on the web; providing better financial guarantees to students; revisiting the strategic directions of the program; considering the reduction or consolidation of specialized research areas to increase their critical mass; improvements to common spaces for the program; reducing the time to completion for students; providing better ESL assistance; reconsidering the nomenclature of the degree; and better assistance in placement in top tier universities.

We make a number of recommendations, which include:

Short Term:

- *Increase stipend levels to be more competitive*
- *Provide multi-year guarantees of financial aid, subject to satisfactory progress*
- *Improve the program and College web sites and publicity materials*
- *Re-name the degrees for city and regional planning and building construction*
- *Revisit the curriculum to shorten the time to graduation*
- *Institute a common seminar for dissertation students*

Longer Term

- *Improve space for research projects and students*
- *Create new research centers for work on healthy environments and on building process and performance*
- *Clarify the structural arrangement which separates the Ph.D. program from professional programs*
- *Consider consolidating, scaling up or eliminating PhD specializations that are below critical mass.*
- *Adjust requirements to allow completion routinely in 5 years or less.*
- *Provide better access to digital and library resources.*
- *Leverage more effectively the alums of program to secure top level placements.*

The following developments address the concerns and recommendations expressed in 2007:

1 Re-name the degrees for city and regional planning and building construction.

This has been fully addressed by the creation of new Doctoral Degrees, as reported above.

2 Improve publicity, particularly on the College web site.

The College, and indeed the School of Architecture web-sites have been fully redesigned twice in the intervening period. The doctoral programs are listed prominently and the information provided has been tailored to address prospective applicants as well as current students.

3 Revisit the curriculum and shorten time to graduation.

As part of the re-authorization of the Doctoral Degree with a major in Architecture, in 2011, the curriculum and the Doctoral Handbook of the School of Architecture have been fully revised. Analysis showed that a major cause of delay of overall student progress through program milestones was the delay in the completion of the qualifying paper. It was decided to not waive the qualifying paper requirement, because the qualifying paper ensures that doctoral students engage the challenges of publishing in refereed journals and conference proceedings relatively early in their research career. However, the expectations and rules applicable to the qualifying paper have been clarified in two consecutive editions of the Doctoral Handbook, starting in 2010. Currently enrolled students whose first semester in residence was prior to 2010 took an average 8 semesters to complete their qualifying paper (number of students = 24). Currently enrolled students whose first semester in residence was Fall 2010 or after have taken an

average of 4.333 semesters to complete the qualifying paper (number of students = 6). In conjunction with this, currently enrolled students whose first semester in residence was prior to 2010 took an average 9 semesters to complete their comprehensive examination (number of students = 25). Currently enrolled students whose first semester in residence was Fall 2010 or after have taken an average of 4 semesters to complete the qualifying paper (number of students = 3). The reduction of the time taken to complete the qualifying paper is statistically significant (ANOVA $p=0.0077$). It is too early to determine whether the success in reducing the time to qualifying paper will be reflected in future success to reduce the time to graduation. However, in the last five years one third of our graduates graduated after 5 years and more than half graduated after 6 years or less.

4 Improve space for research projects and students.

With the completion of the Hinman Research Building renovation as an extension of the School of Architecture, the problem of space for doctoral students has been resolved. Hinman provides appropriate space for students in Building Technology, Cognitive and Organizational Performance, Design Computing, History and Culture, Urban Design. In addition, it accommodates the Digital Buildings Laboratory as well as the High Performance Buildings Laboratory. Space is provided for professor Economou's GSA-funded Court Buildings Design research project. Students working in Evidence based Design are provided with ample space in the Health Systems Institute which also houses the Simtigrade Design lab.

5 Clarify the relation between the doctoral programs and the professional programs.

This has been addressed by the reorganization of the College into Schools, four of which have their own doctoral programs. In the School of architecture, current doctoral students are advised by 17 members of the faculty, all of whom also contribute to the curriculum of the professional M.Arch. and the undergraduate B.S.- Architecture programs in various ways.

6 Consider consolidating, scaling up or eliminating PhD specializations that are below critical mass

We support all research and scholarship efforts of our faculty and thus continue to admit highly qualified doctoral students for whom at least two faculty members with active research and scholarship programs wish to act as potential advisors. However, we have drawn a distinction between our core research competences, expressed in the creation of the three research laboratories mentioned above, and the larger spectrum of research and scholarship undertaken by students and faculty.

7 Create new research centers for work in healthy environments and on building process and performance.

The creation of the Simtigrade Design Laboratory and the High Performance Building Laboratory fully address this suggestion.

8 Increase stipend levels and provide multi-year guarantees of financial aid.

Consistent with Institute policy, the FY 2013 monthly stipends for doctoral students are \$1760.00 for 50% contracts and \$1320.00 for 30% contracts. These figures were \$1666.87 and \$1250.00 respectively in FY 2009. The College and the School have faced budget cuts every year

since 2008. In this context our efforts have been directed towards maintaining funding for doctoral students rather than significantly increasing their stipend. Multi-year guarantees of financial aid have been offered to a small number of exceptionally well qualified applicants on the basis of predicted external research funds. We are still working towards expanding this practice. Of the 49 currently enrolled students, 17 are funded from research contracts, 11 are funded by the School of Architecture as instructors or GTAs, 1 is funded by Fulbright, 2 hold Georgia Tech appointments as Research Scientists, 4 are funded as faculty members of other institutions, 5 are working in practice, and 9 are independently supported by their own means. Thus, external research funding supports 35% of our students and the School of Architecture supports 22%.

3.1.4. PH.D DEGREE PROGRAM AND INSTITUTIONAL EFFECTIVENESS

PROGRAM DESCRIPTION

Structure and processes

The structure and operations of the Doctoral Program are described in the Annual Doctoral Handbook (current Handbook, 2012-2013).

(http://www.arch.gatech.edu/sites/files/arch/files/PhD_Architecture_Handbook_2012_13.pdf)

This handbook is provided as Appendix 1.

Core program curriculum

The students enrolled in the doctoral program of the School of Architecture work within a variety of research paradigms. Some pursue more individual trajectories as is typical in the humanities. Others pursue specific issues within a well-organized larger framework of research, as is typical in science. Doctoral theses range from those reporting experimental work to those developing techniques for new formal models of building performance; those presenting new programming languages aimed at facilitating specific building design and evaluation tasks; and those offering historical or interpretative accounts of the evolution of architecture. As a result, the curricular task of providing courses that support the various research fields and associated research paradigms needs to be completed by the creation of an inter-paradigm core. The program is based on the premise that each student must be able to understand the principles that govern fields of architectural inquiry other than their own in order that: (1) new ideas can emerge across paradigmatic boundaries; (2) students are better prepared to advance their work in the inter-disciplinary and inter-paradigmatic settings in which they will be employed.

In the last three years new core courses to be taken by all students in the program have been created and placed in the Georgia Tech catalogue: Introduction to Architectural Research 1-3, ARCH8100, ARCH8101, ARCH8102. These cover six modules, each of which addresses a question of broader significance: 1. Causation; 2. Historiography and epistemology; 3. Interpretation; 4. Representation; 5. Simulation; 6. Theories of Design.

Fields of research

Students accepted into the doctoral program leading to the Ph.D. degree with a major in Architecture work in one of the following five fields of research:

1. Building Technology and Performance
2. Cognitive and Organizational Performance
3. Design Computation
4. Evidence Based Design
4. History and Culture
5. Urban Design

Funded research and research laboratories at the core of the Ph.D. program of the School.

The doctoral program benefits from the presence of a very strong funded research base within the School of Architecture. In the last three years contracts rose to \$6,249,089.00 and were equivalent to 29.1% of the total College of Architecture research budget as shown in Table 2.

| | 2010 | 2011 | 2012 | 2010-2012 |
|--------|-----------|-----------|-----------|------------|
| SOA | 1,582,387 | 3,258,608 | 1,408,094 | 6,249,089 |
| COA | 6,715,854 | 9,683,788 | 5,098.602 | 21,498,244 |
| %TOTAL | 23.6 | 33.7 | 27.6 | 29.1 |

Funded research is centered on three research laboratories, each of which has a clear intellectual agenda linked to a distinct part of the curriculum:

1. *The Digital Buildings Laboratory*. The Mission: the enhancement of the computational tools that facilitate: the generation of designs; the representation and evaluation of buildings and their parts; the integration of expertise within the design process; the integration of design, factory fabrication and on-site construction. The Digital Buildings Lab, directed by Professor Charles Eastman, is closely linked to doctoral research in Design Computation.
2. *The High Performance Buildings Laboratory*. The Mission: the development of better models, controls and metrics of building performance, particularly with regard to energy costs and environmental quality and sustainability. The High Performance Buildings Lab, directed by Professor Godfried Augenbroe, is closely linked to doctoral research in Building Technology.
3. *SimTigrate Design Laboratory*. The Mission: to support evidence-based design decisions by translating research findings into design guidelines, design models and design prototypes. The SimTigrate Lab uses physical and virtual simulation in order to develop and test innovative ideas, with an emphasis on health care design. The SimTigrate Lab, directed by Professor Craig Zimring is closely linked to doctoral research in Evidence Based Design.

Current students and progress

The doctoral program of the School of Architecture currently has 49, students working with 17 advisors, each of whom has been 4 years with the program on average. The profile of current students is described in Figures 1 and 2.

ASSESSMENT OF THE PH.D. PROGRAM

Applicants

In the last two years the doctoral program has reviewed 83 applications and made 21 offers resulting in 17 new students since Fall 2011. The profile of the applicants is described in Tables 3-8. While applicants typically have good GPA scores (3.5 on average) and very good quantitative GRE scores (mean above 700), verbal and analytical GRE scores are unimpressive. This is related to the fact that 70 out of the 83 applicants come from abroad and do not speak English as a first language. The profile of applicants is described in Figure 3. Our decision to accept an applicant, after screening for GPA and GRE scores, is based primarily on the statement of interest, the samples of prior work, and the fit with the research agendas actively pursued in the school.

| | No Avail. Scores | No Miss. Scores | min | 25% | mean | 75% | max |
|------|------------------|-----------------|------|-------|-------|-------|-----|
| 2011 | 32 | 8 | 2.94 | 3.343 | 3.562 | 3.768 | 4 |
| 2012 | 43 | 0 | 2.52 | 3.26 | 3.540 | 3.91 | 4 |

| | number | GPA Accept | GPA Not Accept | GPA Average |
|------|--------|------------|----------------|-------------|
| 2011 | 32 | 3.48 | 3.61 | 3.56 |
| 2012 | 43 | 3.67 | 3.5 | 3.54 |

| | No Avail. Scores | No Miss. Scores | min | 25% | mean | 75% | max |
|------|------------------|-----------------|-----|-----|--------|-------|-----|
| 2011 | 31 | 9 | 280 | 360 | 475.48 | 580 | 720 |
| 2012 | 38 | 5 | 250 | 310 | 424.47 | 502.5 | 710 |

| | No Avail. Scores | No Miss. Scores | min | 25% | mean | 75% | max |
|------|------------------|-----------------|-----|-----|--------|-------|-----|
| 2011 | 31 | 9 | 480 | 620 | 701.93 | 780 | 800 |
| 2012 | 38 | 5 | 540 | 685 | 729.47 | 792.5 | 800 |

| | No Avail. Scores | No Miss. Scores | min | 25% | mean | 75% | max |
|------|------------------|-----------------|-----|-----|------|------|-----|
| 2011 | 31 | 9 | 2.5 | 3 | 3.5 | 3.77 | 5.5 |
| 2012 | 38 | 5 | 2 | 3 | 3.5 | 3.91 | 4.5 |

| | number | GRE V Accept | GRE V Not Accept | GRE V Aver | GRE Q Accept | GRE Q Not Accept | GRE Q Aver | GRE A Accept | GRE A Not Accept | GRE A Aver |
|------|--------|--------------|------------------|------------|--------------|------------------|------------|--------------|------------------|------------|
| 2011 | 31 | 498 | 464.76 | 475.48 | 701 | 702.38 | 701.93 | 3.65 | 3.42 | 3.5 |
| 2012 | 38 | 450 | 416.55 | 424.47 | 775.55 | 715.17 | 729.47 | 3.22 | 3.12 | 3.14 |

Graduates

In the last five years (since 2008), 30 graduates have been awarded the Ph.D. with a major in Architecture having worked in one of the research fields described above for 7 years on average. The statistical profile is offered in figures 4 and 5. All but 3 graduates for whom no information of current position is available are employed. 63% percent of the graduates hold academic positions and 27% work in industry; 60% work abroad and 30% work in the US. The record of success of our graduates in finding employment remains a source of pride for the program.

Productivity – learning outcomes

Doctoral education is aimed at the production of new knowledge. Thus, learning outcomes cannot be judged by the standards that apply when education is geared to the transmission of existing knowledge. One major indicator of the success of the program in teaching students to do high level research is the number of publications in refereed journals or conference proceedings that have doctoral students as authors or coauthors.

In calendar years 2010 and 2011, 128 publications were produced at the School of Architecture. Doctoral students were authors or coauthors in 49 publications, about one publication per student in the program. For 15 publications there is no faculty member as a co-author. For 20 additional publications a Ph.D. student is first author. Additional information is provided in Figure 6.

OATS

The new structure of doctoral education in the College of Architecture, described in section 3.1.1, necessitated that the recently re-authorized Doctoral Degree with a major in Architecture re-establishes the assessments of teaching outcomes required under OATS (Online Assessment Tracking System of the Georgia Institute of Technology). OATS, offers an opportunity to look afresh and to assess the major initiatives or aims of the program. For the 2012 OATS assessment of learning outcomes, three main questions were addressed.

First, that “At the end of their fourth semester of classes, doctoral students will be able to be sole or first authors of a publishable research paper in their chosen field.” The ability of students to write publishable paper is assessed internally through the requirement of a completion of a Qualifying Paper (see Handbook). In the last three years, the aim has been to shorten the period of time needed to satisfy the Qualifying paper requirement. This aim has been achieved as described in section 3.1.3. In addition we have tracked the number of publications that have doctoral students as first authors, as described in section 3.1.1. Moving forward, the data on publications with doctoral students as first authors over the last two years provides us with a benchmark against which we will assess whether our success in shortening the length of time it takes to complete a qualifying paper has any effects on the actual publication rates – there is unavoidably a time lag between the completion of a paper and its acceptance or availability as a refereed publication. Our expectation is that the numbers and rates of refereed publications with students as first authors will stay constant and strong, even as the time taken to write qualifying papers has been shortened.

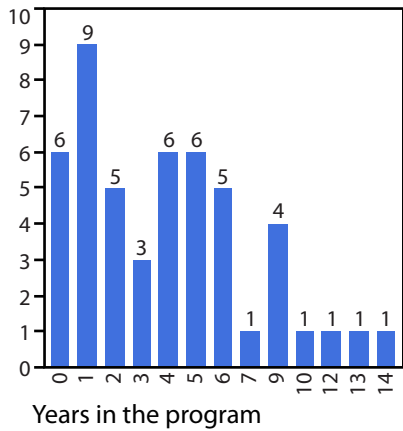
Second, that “By the end of their second semester of classes doctoral students will be able to construct arguments within a variety of paradigms of architectural research.” The emphasis on this outcome reflects our desire to support a culture of intellectual dialogue to cover all aspects of architecture, ranging from criticism from a humanities point of view, to evaluation from an environmental performance point of view; also our desire to prepare our students to contribute to the integrative studio-based cultures that are typical in most schools of architecture internationally. Based on an analysis of student grades in “introduction to architectural research” modules not associated with their own field of research (grades reflect assessments of papers), and also based on the students’ own assessment of the usefulness of the various introductory modules to their own advance towards a qualifying paper, we feel that we have succeeded in this aim. We will continue to monitor our performance.

Third, that “Students will be well prepared to advance specialized research programs.” This is supported by our curriculum of specialized research oriented courses. We assessed effectiveness by analyzing student transcripts and by organizing focus groups with the students that satisfied the requirement of a “thesis topic defense” in the last two years. Transcript analysis revealed that students take more than the minimum number of five specialization courses; indeed many of them take an equal number of courses in more than one field of specialization. Focus groups revealed that students feel well supported in their preparation of a thesis topic. In addition, reflecting on their own experience they thought that the idea mix of courses is 50% catalogue specialization courses, and 50% special topics experimental advanced courses. The latter are also offered regularly in response to evolving research agendas and interests. We will continue to track our success and any emerging issues relative to this topic.

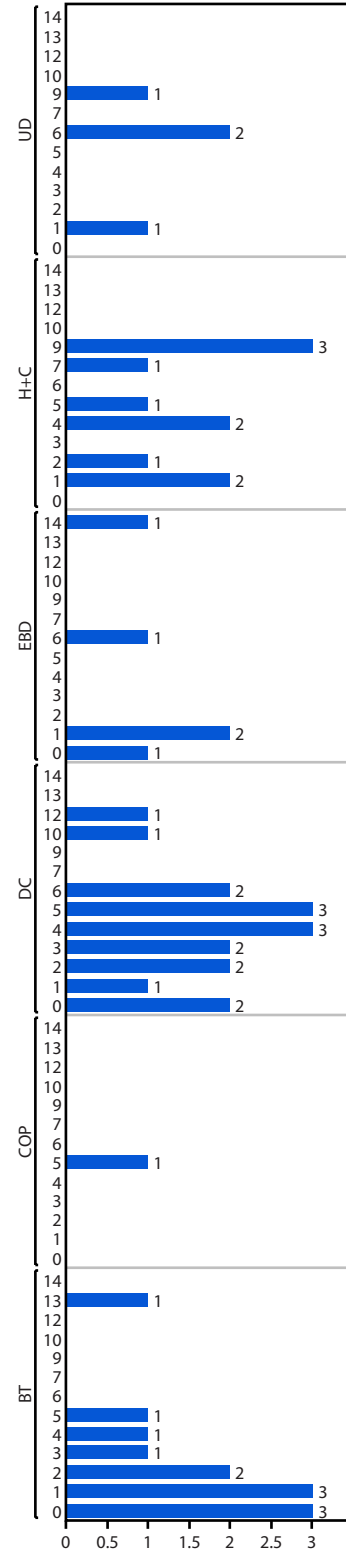
The full OATS 2012 assessment is provided as Appendix 2 to this report.

Ph.D. with a major in architecture: Current Registered Students Fall 2012: Total number = 49

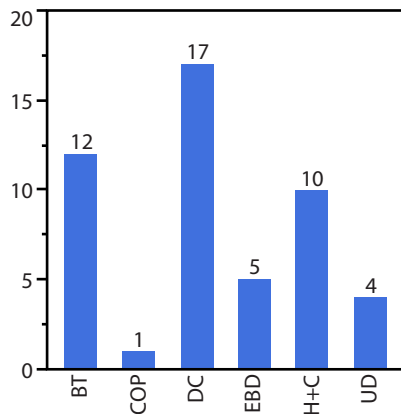
Years in program. Mean and median = 4



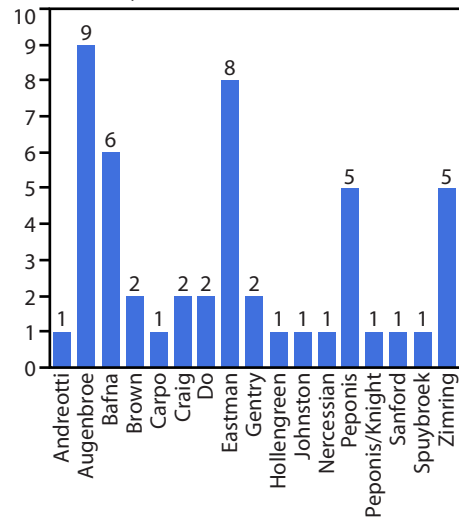
Years in program by field of research



Students by fields of research



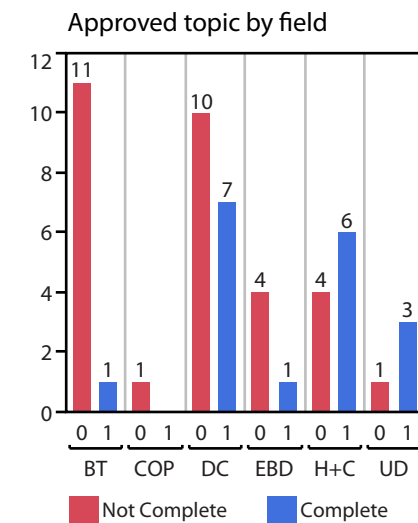
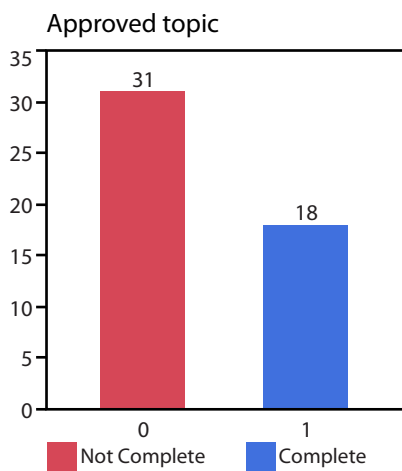
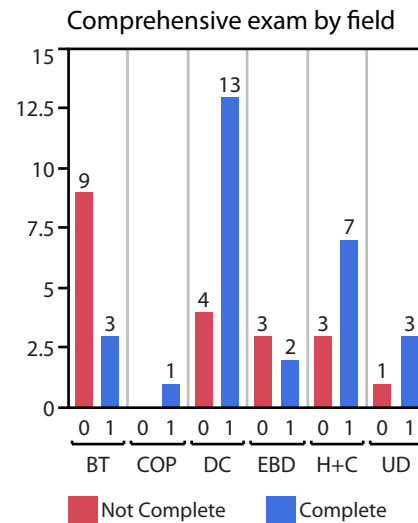
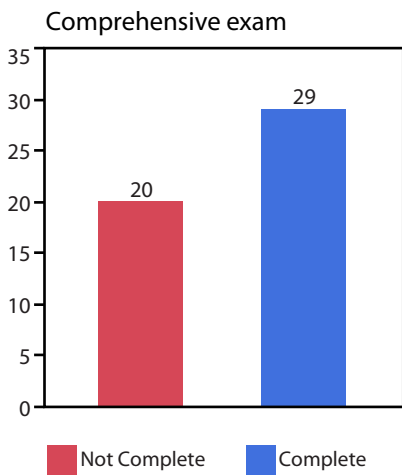
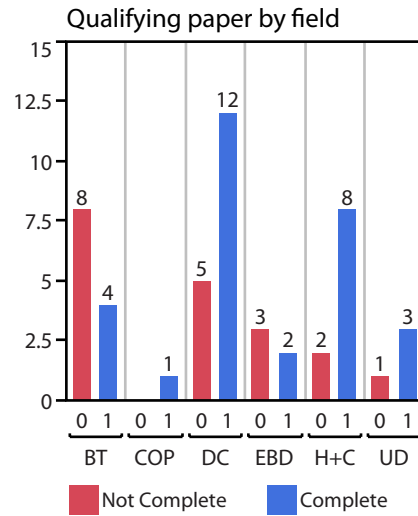
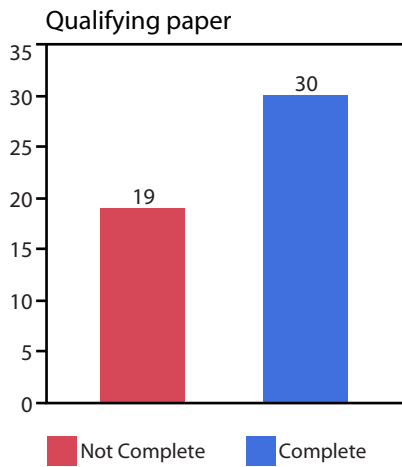
Students by advisor



BT = Building Technology
 COP = Cognitive and Org. Performance
 DC = Design Computation
 EBD = Evidence Based Design
 ID = Industrial Design
 UD = Urban Design

DOCTORAL PROGRAM FIGURE 1

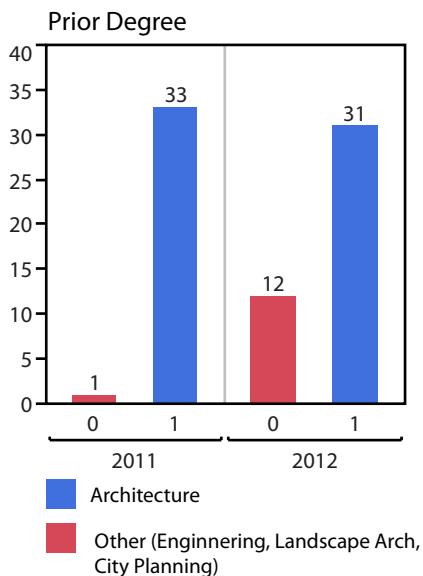
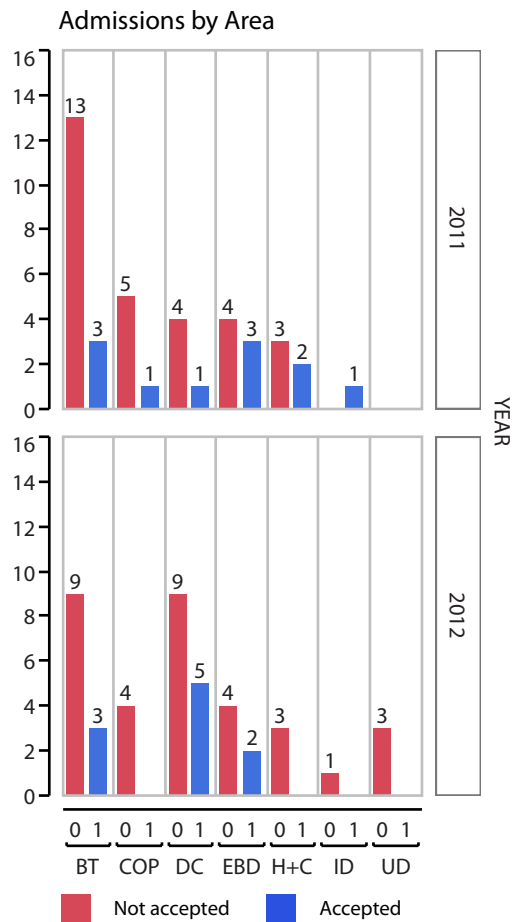
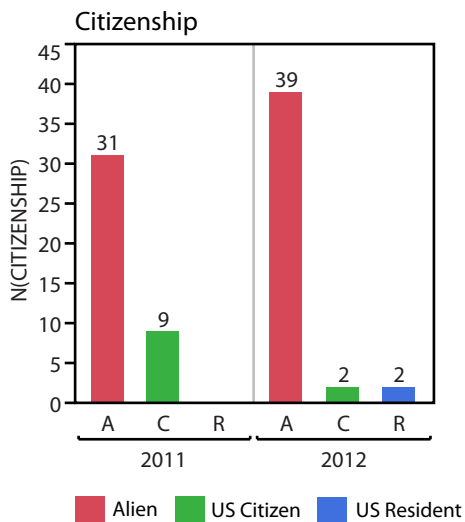
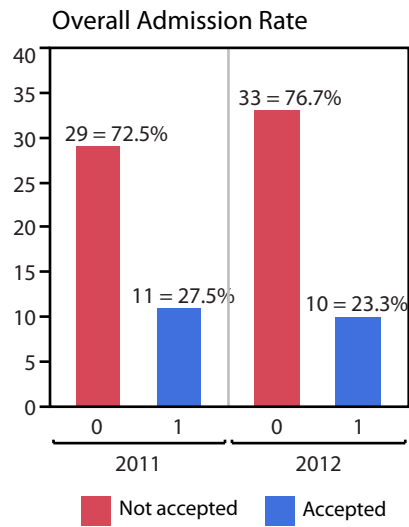
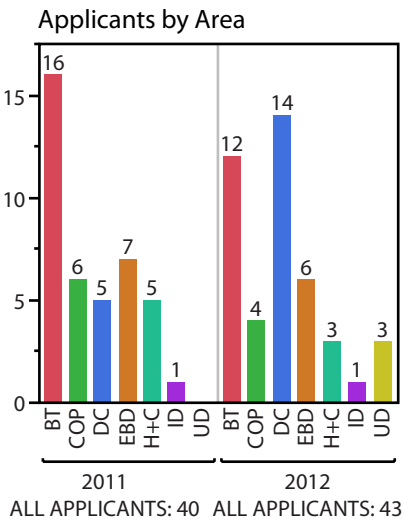
Ph.D. with a major in architecture: Current Registered Students Fall 2012: Total number = 49



BT = Building Technology
 COP = Cognitive and Org. Performance
 DC = Design Computation
 EBD = Evidence Based Design
 ID = Industrial Design
 UD = Urban Design

DOCTORAL PROGRAM FIGURE 2

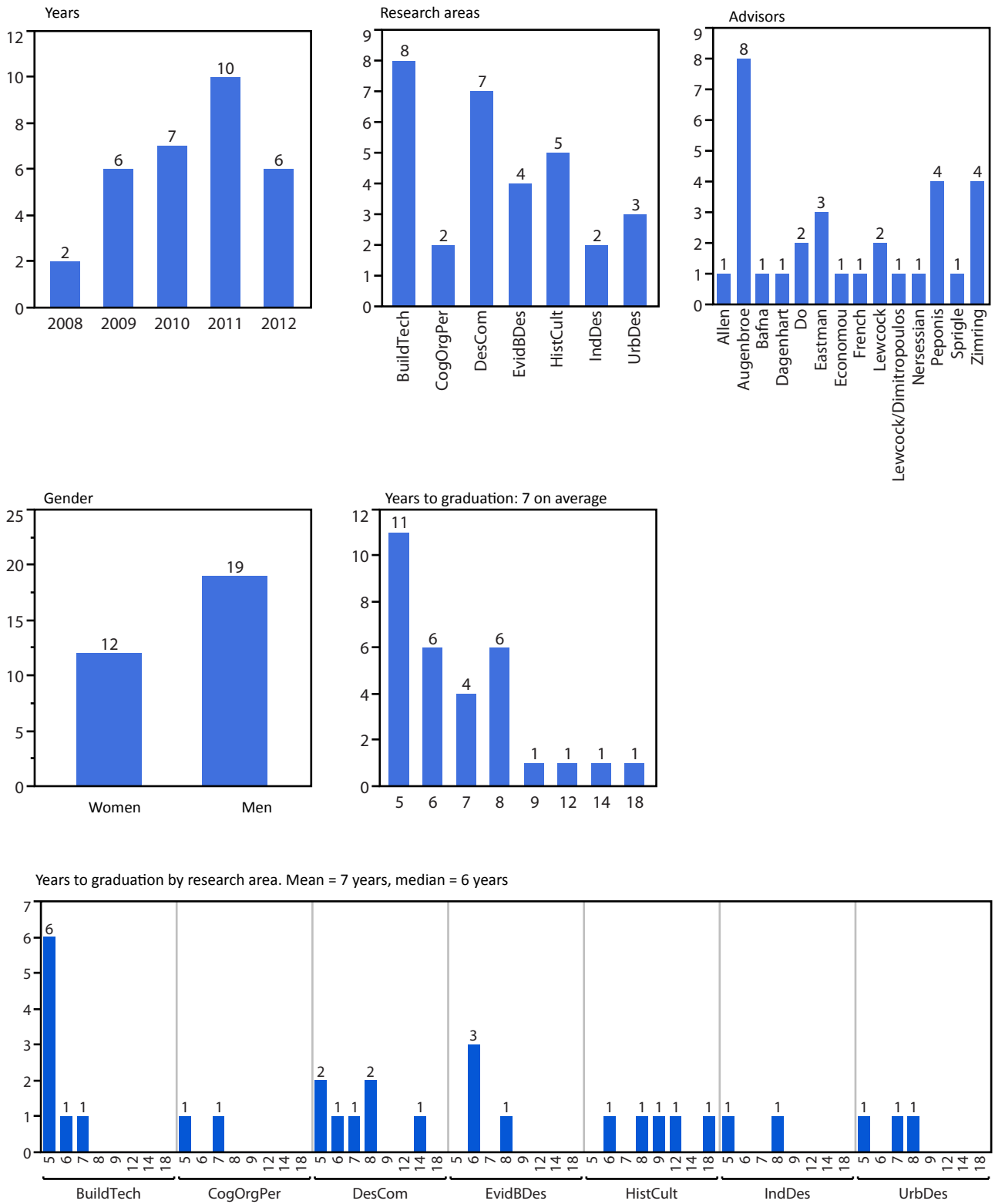
Ph.D. with a major in architecture: Applications 2011, 2012



BT= Building Technology;
 COP= Cognitive and Organizational Performance
 DC=Design Computation
 EBD=Evidence-Based Design
 ID=Industrial Design
 UD=Urban Design

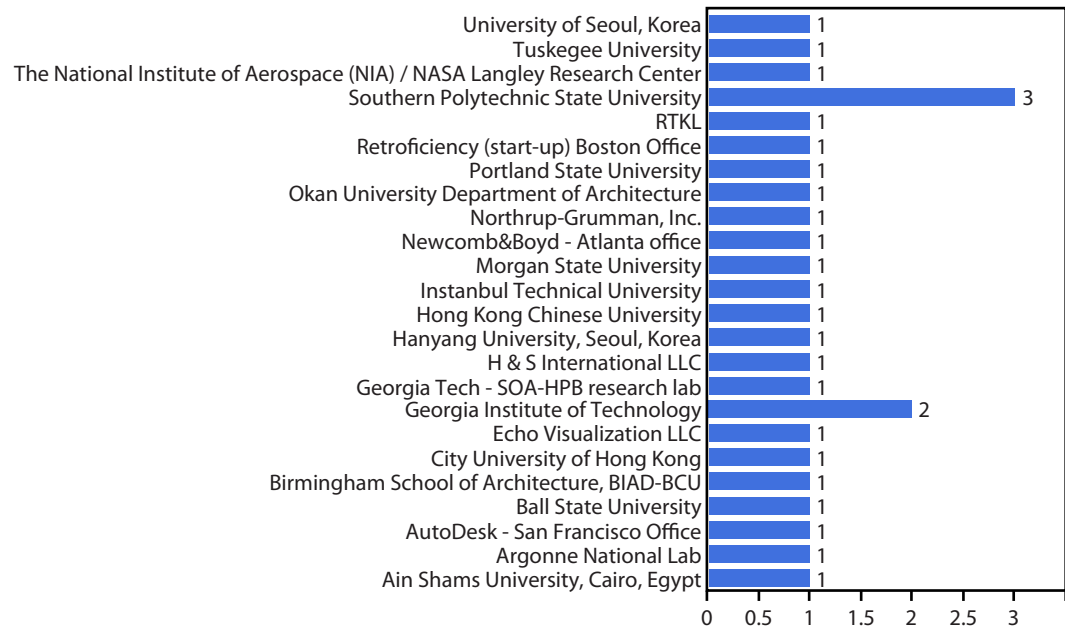
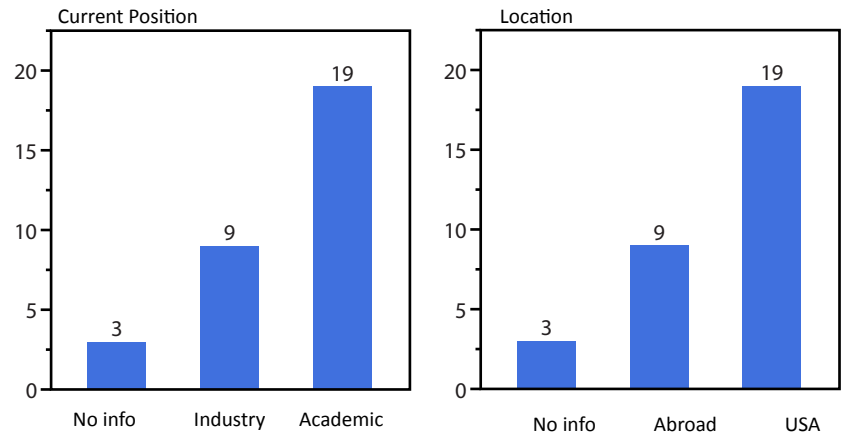
DOCTORAL PROGRAM FIGURE 3

Ph.D. with a major in architecture: 31 Graduates 2008-2012



DOCTORAL PROGRAM FIGURE 4

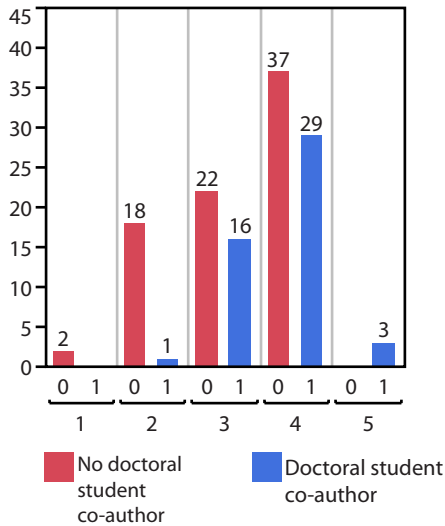
Ph.D. with a major in architecture: Present employment of those graduating 2008-2012



DOCTORAL PROGRAM FIGURE 5

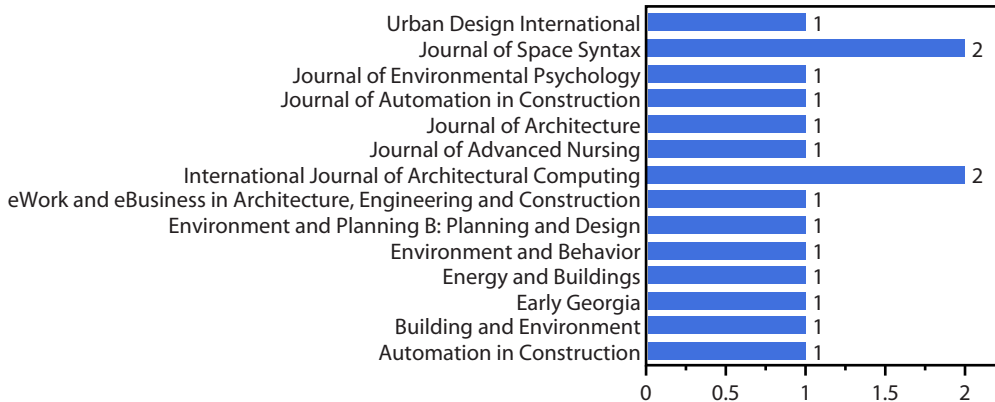
Ph.D. with a major in architecture: Publications

All publications
School of Architecture 2010 and 2011

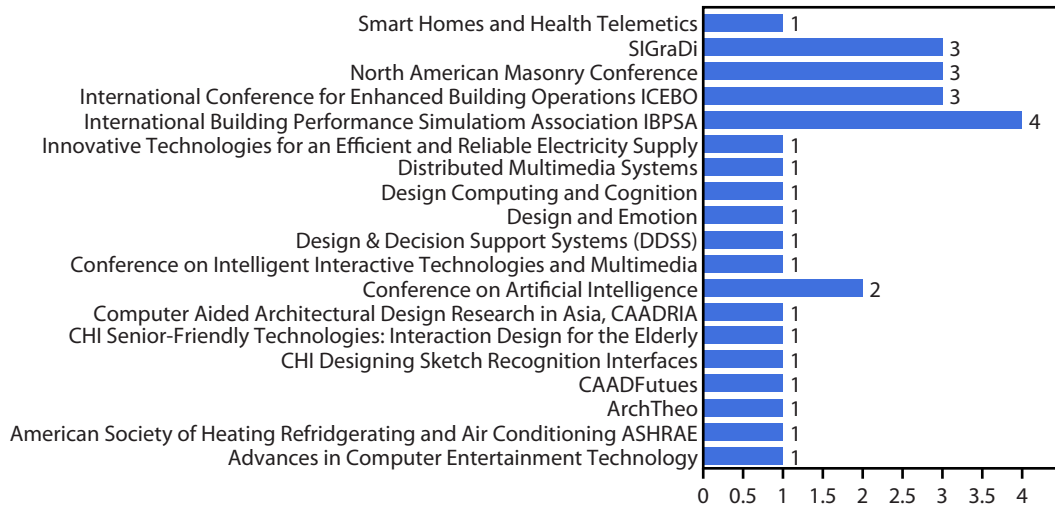


1= book
2= book chapter
3=referreed journal
4=referreed conference proceedings
5=other

16 Journal publications involving a Ph.D. student



29 Conference proceedings involving a Ph.D. student



DOCTORAL PROGRAM FIGURE 6

3.2. THE MASTER OF SCIENCE WITH A MAJOR IN ARCHITECTURE PROGRAM

3.2.1. OVERVIEW OF THE MASTER OF SCIENCE PROGRAM

Aims of the Master of Science with a Major in Architecture Program

The M.S. with a major in Architecture degree is a post-professional degree aimed at providing architects and other professionals involved with the design and planning of buildings with research-based knowledge that is applicable to the advancement of professional practice. The curriculum leverages the active research programs in the School of Architecture, including the work of doctoral students and the work of the Building Performance Lab, the Digital Buildings Lab and the Simtigrate Design Lab (see Ph.D. section of the report for greater detail). Students are admitted into the Master of Science – Architecture program to work in one of three concentrations: (1) Digital Design and Fabrication; (2) High Performance Buildings; and (3) Health and Design.

The recent restructuring of the Master of Science with a major in Architecture program.

The M.S. with a major in Architecture degree was approved and initiated in academic year 1982-1983. The original purpose was to allow individual students who wanted to pursue a particular line of research or scholarship to do so under the direction of a faculty advisor/committee. The degree required 30 credit hours of which 6 could be used towards either a master's thesis or appropriate special topics and independent studies centered on a particular research topic.

Starting in 2003-2004 the faculty of the Architecture Program under the leadership of Architecture Program director Ellen Dunham Jones and working in collaboration with faculty of the then administratively independent Doctoral program under the leadership of professor Chuck Eastman, identified certain areas of research and scholarship in which the faculty has strong concentrations of expertise.

The recent reorganization of the College of Architecture into Schools has given fresh impetus to this effort under the leadership of Dean Alan Balfour and School Chair George Johnston. We have come to recognize the M.S. degree with a major in Architecture as an opportunity to foreground the strengths of the School of Architecture in research and design. We strive to do so in a manner which appeals to young practitioners and recent graduates and assists the development of the applied knowledge-base of the profession at a time when new enabling and end-product technologies, new patterns of global organization and project delivery, and new performance requirements and expectations are transforming professional practice.

Since 2009, the M.S. curriculum has been developed and rationalized into distinct research and scholarship concentrations: Digital Design and Fabrication; Health and Design; High Performance Buildings. M.S. applicants are asked to choose a concentration when they apply. The concentration chosen will show up in the student transcript starting in academic year 2012-2013, even though the M.S. degree with a major in Architecture is otherwise undesignated.

The current structure and curriculum of the Master of Science with a major in Architecture program was approved by the Institute in Spring 2012 but was developed and tested in the preceding two years.

Also, in 2010 the Board of Regents approved the new designated Master of Science in Urban Design Degree. This explains why Urban Design, which was originally incubated as a fourth concentration in the MS program, is no longer listed. The first MSUD student graduated in 2011.

3.2.2. STRATEGIC DIRECTIONS OF THE M.S. WITH A MAJOR IN ARCHITECTURE PROGRAM

The School of Architecture sees the M.S. with a major in Architecture as a post-professional program that can make the following contributions:

- (1) Interface between research and practice by providing professionals with an opportunity to acquire state of the art expertise in a specialized area of knowledge-supported practice.
- (2) Strengthen the funding base of our research programs through tuition and fees.
- (3) Strengthen our ability to offer specialized graduate courses and enrich our research-oriented curriculum.

To achieve these aims we have to build on our reputation in the respective research areas. This will include:

- (1) A systematic advertising effort in the next two years.
- (2) Continuing support of our graduate research – oriented curricula so that our reputation grows by word of mouth, based on the standing and record of expertise of our graduates.
- (3) Continuing development of synergies between the M.Arch. and M.Sc. programs to ensure that students in both programs can work together towards major design projects with well-defined research underpinnings.
- (4) Continuing efforts to build relationships with large architectural practices and industry at large so as to attract mid-career architects and enhance the likelihood that graduates will find suitable employment and opportunities to use specialized knowledge to good effect.
- (5) Continuing efforts to use our relationships with large architectural practices and the construction industry at large to ensure that our graduate research oriented curricula remain relevant to the professional practice and are informed by the ambitions and challenges that underpin practice.

Regarding aims (4) and (5) our three research labs have set a good foundation that we will continue to build upon.

Aim (3) is made easier by the re-organization of the M.Arch. curriculum to allow for research and design studios throughout the final year. Several sections of the research and design studios are likely to have aims that are well matched to the requirements of an M.Sc. capstone project, thus enhancing synergies across the two graduate programs.

3.2.3. ACTIONS IN RESPONSE TO RECOMMENDATIONS OF PREVIOUS SELF-STUDY AND EXTERNAL REVIEW COMMITTEE REPORT

There has been no previous Academic Program Review for the M.Sc. with a major in Architecture program. The program did not exist in its present, explicit organization, during the previous Academic Program Review cycle.

3.2.4. M.S. (ARCH.) DEGREE PROGRAM AND INSTITUTIONAL EFFECTIVENESS

PROGRAM DESCRIPTION

Structure and processes

The structure, curriculum and operations of the Master of Science_Architecture Program are described in the Annual MS Handbook (current Handbook, 2012-2013).

(http://www.arch.gatech.edu/sites/files/arch/files/M_S_Handbook_2012_13.pdf)

The handbook is available as Appendix 3 of this report.

Current students

The enrolment of M.S. with a major in Architecture students in the Fall of 2012 is reported in Table 1.

| TABLE 1: NUMBER OF MS_ARCH STUDENTS ENROLLED IN FALL 2012 | | |
|---|--------|----------------------|
| AREA | NUMBER | YEAR ADMITTED |
| DDF | 1 | 2012 |
| HD | 0 | na |
| HPB | 8 | 4 in 2012, 4 in 2011 |
| TOTAL | 9 | |

DDF= Digital design and fabrication; HD = Health and design; HPB = High Performance Buildings.

Graduates and transfers to doctoral program

Recent graduation rates are reported in Table 2

| TABLE 2: NUMBER OF MS_ARCH GRADUATES AS OF AUGUST 2012 | | | |
|--|------|---------------------------|----------------------|
| | 2010 | 2011 | 2012 |
| DDF | 2 | 6 | |
| HD | | 2 | |
| HPB | 4 | 7 | |
| UD | 8 | 4 (+1 st MSUD) | No longer applicable |
| Other (old system) | 7 | 2 | 1 |
| TOTAL | 21 | 21 | 1 |

DDF= Digital design and fabrication; HD = Health and design; HPB = High Performance Buildings; UD = Urban design; Other = students pursuing independent paths who were accepted under the pre 2009 system

In 2012 two additional MS students applied and were accepted into the doctoral program transferring course credits without receiving the M.S. Architecture degree, one in Health and design and one in High performance Buildings.

There have been no systematic records to track the career progress of M.Sc. graduates in each concentration in the past. Of the 8 graduates that completed their studies in Digital Design and Fabrication in 2010-2012, two are working in industry (Sydney, Australia; UAE), and one is seeking admission to a doctoral program. No data is available on the other five. Of the 11 graduates that pursued their studies in High Performance Buildings in 2012-2012, 9 are practicing, as follows, with no date available for the remaining two.

| M.Sc. Architecture, 2010-2012 graduates, HPB concentration: employment after graduation |
|--|
| Regional Manager, Desert Aire Corp |
| Project Manager, NOAA |
| Architect, Zyscovich Architects |
| Architect, France |
| Sustainable Designer, JALRW engineering group |
| Architect, Greece |
| Structural Engineer, HDR Engineering |
| Building Energy Analyst, AHA Consulting Engineering |
| Energy Project Manager, Code Green Solutions |

No data is available for the two graduates who completed the concentration in Health and Design.

Applicants

Application data for the 2011 and 2012 incoming students are reported in table 3

| | 2011 Inquiries | 2011 Complete applications | 2011 Acceptances | Matriculations | 2012 Inquiries | 2012 Complete Applications | 2012 Acceptances | Matriculation |
|-------|-------------------|----------------------------------|---------------------|----------------|-------------------|----------------------------------|---------------------|---------------|
| DDF | 15 | 12 | 4 | 0 | 16 | 12 | 9 | 1 |
| HD | 2 | 2 | 2 | 1 | 4 | 4 | 3 | 0 |
| HPB | 15 | 12 | 9 | 4 | 14 | 13 | 12 | 4 |
| TOTAL | 32 | 26 | 15 | 5 | 34 | 29 | 24 | 5 |

Profile of applicants

| | No Avail. Scores | No Miss. Scores | min | 25% | mean | 75% | max |
|------|------------------|-----------------|--------|------|------|-------|-------|
| 2011 | 32 | 0 | 2.59 | 3.08 | 3.33 | 3.615 | 3.89 |
| 2012 | 30 | 4 | 1.7535 | 3.15 | 3.33 | 3.665 | 3.914 |

| | number | GPA Accept | GPA Not Accept | GPA Average |
|------|--------|------------|----------------|-------------|
| 2011 | 32 | 3.46 | 3.145 | 3.33 |
| 2012 | 30 | 3.35 | 3.26 | 3.33 |

| | No Avail. Scores | No Miss. Scores | min | 25% | mean | 75% | max |
|------|------------------|-----------------|-----|-----|--------|-----|-----|
| 2011 | 29 | 3 | 280 | 330 | 455.51 | 565 | 690 |
| 2012 | 32 | 2 | 270 | 375 | 458.43 | 560 | 730 |

| | No Avail. Scores | No Miss. Scores | min | 25% | mean | 75% | max |
|------|------------------|-----------------|-----|-------|--------|-------|-----|
| 2011 | 29 | 3 | 440 | 650 | 709.31 | 790 | 800 |
| 2012 | 32 | 2 | 156 | 557.5 | 648.94 | 777.5 | 800 |

| | No Avail. Scores | No Miss. Scores | min | 25% | mean | 75% | max |
|------|------------------|-----------------|-----|-----|------|-----|-----|
| 2011 | 29 | 3 | 1.5 | 3 | 3.31 | 3.5 | 5 |
| 2012 | 32 | 2 | 2.5 | 3 | 3.53 | 4 | 5.5 |

| | number | GRE V Accept | GRE V Not Accept | GRE V Aver | GRE Q Accept | GRE Q Not Accept | GRE Q Aver | GRE A Accept | GRE A Not Accept | GRE A Aver |
|------|--------|--------------|------------------|------------|--------------|------------------|------------|--------------|------------------|------------|
| 2011 | 29 | 537.14 | 375.45 | 455.51 | 741 | 43656.36 | 709.31 | 3.61 | 2.86 | 3.31 |
| 2012 | 32 | 480 | 402 | 458.43 | 702.5 | 542 | 648.94 | 3.65 | 3.2 | 3.53 |

3.2.5. INSTITUTIONAL EFFECTIVENESS

To date, the M.Sc. with a major in Architecture has not been assessed within the OATS system in parts because it is a new program with relatively small numbers of students and graduates.

As the program matures the following questions suggest themselves for OATS assessment:

(1) Nearing graduation, all M.Sc. students should be able to apply tools learned in the course of their studies to the evaluation of design proposals. This will be assessed by (1.1) reviewing student capstone projects from this particular point of view; (1.2) using questionnaires to obtain self-evaluations of this ability in the light of students' progress in the program.

(2) Nearing graduation, the majority of M.Sc. students should be aware of the issues involved in using research results to inform the generation of architectural designs. This will be assessed by (2.1) Using focus groups to determine how far M.Sc. are involved in M.Arch. or other design studio activities in any capacity specifically related to their field of expertise. (2.2) reviewing students' capstone projects from this particular point of view. (2.3) evaluating students' transcripts at the time of graduation.

3.3 THE BACHELOR OF SCIENCE IN ARCHITECTURE PROGRAM

3.3.3 OVERVIEW OF THE BACHELOR OF SCIENCE IN ARCHITECTURE PROGRAM

Aim of the Bachelor of Science in Architecture

Georgia Tech's Bachelor of Science in Architecture (B.S.Arch.) program is a four-year, pre-professional program that prepares students for professional studies in architecture at the graduate-level, for graduate study in related fields, or for a variety of career options related to architecture, the building industry, or government service. Within the overall mission of the College of Architecture, the undergraduate program in architecture has three major objectives:

- To provide a general university education within the context of Georgia Tech and within the study of architecture both as an intellectual discipline and as a profession. The objective of the program is to expose students to many different fields of study while demonstrating how they are related.
- To provide a multi-disciplinary foundation of education in architecture with a focus on the *architectural design studio as its primary setting*. In addition to design studios, the undergraduate program includes required courses in the following major subject areas: architectural history and theory; architectural technology; and visual arts / design computing.
- To provide for the development of individual student interests through a substantial number of free and required electives, which comprise almost one-third of the undergraduate curriculum. This flexibility allows a student to pursue specific interests within the discipline of architecture, within the associated programs of City Planning, Building Construction or Industrial Design, or in programs combined with other disciplines on campus.

Changes Affecting Direction

Paris Program

The decision was made to suspend indefinitely operation of the Paris Program due to under-enrollment for academic year 2011-12. The fixed overhead costs of the Paris operation, combined with the current economic downturn and State of Georgia budgetary restrictions, had made the program financially unsustainable. We have concluded discussions with our sister school in Paris, Ecole Nationale Supérieure d'Architecture Paris-La Villette, to structure a new relationship between our schools following a more streamlined and sustainable model of international exchange that accommodates the differentials of academic credits and tuition costs.

Over the course of the past 25 years, the Paris Program was a defining characteristic of our undergraduate program. Redefining the character and ambitions of undergraduate education in the School of Architecture continues to be a primary focus of faculty and administrative efforts.

3.3.3 STRATEGIC DIRECTIONS FOR THE B.S. ARCH. PROGRAM

Working within the strategic aims of the School of Architecture as a whole (Section 2.1), the B.S.Arch. program has a unique opportunity to help cultivate and contribute to a shared design culture at Georgia Tech by becoming more engaged with sister disciplines in the College (building construction, industrial design, music, planning) and Institute (especially liberal arts and engineering—civil, environmental, mechanical). Avenues for engagement include:

- Collaborating across disciplines through studio-based design instruction that fosters creativity and innovation as core values of general education
- Enhancing campus access to the visual arts by contributing instruction in manual and digital design media, modeling, and fabrication
- Sharing instructional resources and approaches across disciplines in building structures, systems, technology, and practice (cross-listed and co-instructed courses in architecture, engineering, and construction)
- Making Design-Build / Capstone / Thesis Projects focusing of multi-disciplinary collaborative learning and community outreach an option for every Georgia Tech student (Solar Decathlons for Atlanta sites)
- Enriching students' world of imagination through courses in architecture history and material culture; and making study abroad a vital part of a complete education
- Establishing an Academic Minor in Architecture that appeals to non-architecture majors
- Establishing a Dual Major between Architecture and Civil Engineering to shape a uniquely Georgia Tech approach to “architectural engineering”

3.3.3 ACTIONS IN RESPONSE TO RECOMMENDATIONS OF PREVIOUS SELF-STUDY AND EXTERNAL REVIEW COMMITTEE REPORT

In previous academic program review cycles, the National Architectural Accrediting Board (NAAB) Visiting Team reviews of the professional M.Arch. Program have been deemed sufficient for consideration of the B.S. Arch. Program inasmuch as the two are linked in a “4+2” structure of a four-year undergraduate/pre-professional education followed by a 2-year professional education. Likewise, the “3+ year” structure of the professional M.Arch. degree includes preparatory coursework within its first year curriculum that closely mirrors core requirements in the B.S. Arch. Curriculum in areas of introductory design, architectural history, technology, media and modeling. So while there was a credible rationale for interpolating certain of the NAAB assessments as relevant to the B.S. Arch. Program, not all aspects were so easily applicable. Because of this realization, and in order to better focus upon the strengths, effectiveness, and viability of the B.S. Arch. Program, the decision has been taken to henceforth review the two degree programs separately. The next NAAB self-assessment and accreditation review for the M.Arch. Program will occur during academic year 2013-14.

In the last NAAB Visiting Team Report (2008) none of the specific deficiencies cited in the areas of Student Performance Criteria for the M.Arch. Program could be directly correlated to the undergraduate B.S. Arch. curriculum. There were, however, several deficiencies cited with regard to NAAB’s broad accreditation perspectives concerning Human Resources and Financial Resources that had implications for both degree programs. Because of those deficiencies, the School of Architecture was required to submit a Special Focused Evaluation Report in 2010 with regard to those specifically cited areas of concern. The School’s Special Focused Evaluation Report and NAAB’s response certifying that those specific deficiencies had been removed are presented as Appendix 4.

3.3.4 B.S. ARCH. DEGREE PROGRAM AND INSTITUTIONAL EFFECTIVENESS

PROGRAM DESCRIPTION

- **Structure and Process**

The structure and operations of the B.S.Arch Program are described in the 2012-2013 Handbook. <http://www.arch.gatech.edu/academics/undergraduate/overview>
This is also provided as Appendix 5.

- **B.S. Arch. Degree Requirements**

The B.S.Arch. program is a four-year curriculum requiring a minimum of 129 semester hours of credit divided equally among three areas: 1) Georgia Tech core educational requirements including courses in Mathematics, Science, Humanities, Social Sciences, General Skills, Computing, and Health and Performance Sciences; 2) required courses in the major of architecture including Common First Year courses in fundamentals of design and the built environment, plus courses in architectural design, architectural history, architectural technology, and visual communications; and 3) electives in both free and restricted categories. This combination of both required and elective course work is intended to provide the general educational background necessary for the study of architecture, introduction to the particular knowledge and skills specific to the discipline of architecture, and sufficient flexibility to allow the pursuit of individual interests and the development of goals for future professional studies.

- **Georgia Tech Core Curriculum (43 semester hours total)**

| <u>MATHEMATICS</u> | CREDIT HOURS |
|-------------------------------------|--------------|
| MATH 1501 CALCULUS I | 4 |
| MATH 1502 CALCULUS II | 4 |
| <u>SCIENCE</u> | |
| PHYS 2211 INTRODUCTORY PHYSICS I | 4 |
| LAB SCIENCE (BIOL, CHEM, EAS, PHYS) | 4 |

HUMANITIES

| | |
|----------------------------------|---|
| ENGL 1101 ENGLISH COMPOSITION I | 3 |
| ENGL 1102 ENGLISH COMPOSITION II | 3 |
| ELECTIVES | 6 |

SOCIAL SCIENCES

| | |
|---|---|
| HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200 | 3 |
| APPROVED URBAN HISTORY ELECTIVE | 3 |
| ELECTIVES | 6 |

COMPUTING

| | |
|------------------------------|---|
| COMPUTER SCIENCE REQUIREMENT | 3 |
|------------------------------|---|

- **Architecture Major Requirements (43 semester hours total)**

COMMON FIRST YEAR (10 semester hours)

Common First Year courses are required of all undergraduate majors in the College of Architecture and include both lecture and design-studio courses in the field of Design & the Built Environment. Students enter as Pre-Architecture majors and spend their first year in design studio with Pre-Building Construction and Pre-Industrial Design students. In the spring of the Common First Year, students declare an official major; if they choose to continue in the B.S.Arch. program, they change their majors to Architecture.

| | |
|------------------------------------|---|
| COA 1011 FUNDAMENTALS OF DESIGN I | 3 |
| COA 1012 FUNDAMENTALS OF DESIGN II | 4 |
| COA 1060 INTRODUCTION TO DESIGN | 3 |

ARCHITECTURAL DESIGN (18 semester hours)

A major emphasis of undergraduate study in architecture at Georgia Tech is the sequence of courses in architectural design. The architectural design studio is not an independent requirement of the program of study, but rather is the *central focus* of the architecture curriculum. In the design studio, knowledge from all of the other courses is tested, integrated, and put into practice in design projects which require imagination, organization, and skill. Since the courses in architectural design are so critical to the central objectives of the program, specific expectations are established at each year-level of the curriculum. Fourth year students may continue with design studio on their senior year or elect to substitute a cluster of electives for completion of the B.S.Arch. degree.

| | |
|-----------------------------|---|
| ARCH 2011 DESIGN STUDIO I | 4 |
| ARCH 2012 DESIGN STUDIO II | 4 |
| ARCH 3011 DESIGN STUDIO III | 5 |
| ARCH 3012 DESIGN STUDIO IV | 5 |

ARCHITECTURAL HISTORY (6 semester hours)

| | |
|--------------------------------------|---|
| ARCH 2111 HISTORY OF ARCHITECTURE I | 3 |
| ARCH 2112 HISTORY OF ARCHITECTURE II | 3 |

ARCHITECTURAL TECHNOLOGY (9 semester hours)

| | |
|--|---|
| ARCH 2211 CONSTRUCTION TECHNOLOGY & DESIGN INT I | 3 |
| ARCH 3231 ENVIRONMENTAL SYS & DESIGN INTEGRATION I | 3 |
| ARCH 3241 FUNDAMENTALS OF STRUCTURES | 3 |

- **Electives** (43 semester hours total)

Electives comprise approximately one-third of the course requirements for the B.S.Arch. degree. Cluster electives are focused within a designated subject area (see previous information in this section regarding clusters and senior studio). College of Architecture electives may be chosen from among the undergraduate course offerings available within any discipline within the College of Architecture but must include one course selected from an approved list of courses in design computing or visual arts; and Free Electives may be chosen from among those non-required undergraduate courses offered by any College at Georgia Tech.

During the third and fourth years of the undergraduate program, students may choose among a variety of more advanced course offerings in the subject areas of Architectural Design; History and Theory of Architecture; Architectural Technology; Architectural Practice; and Visual Arts and Design Computing. In addition, third- and fourth-year students are able, with the advice and approval of their counselors, to enroll in professional-level courses for which they may receive advanced placement credit when they begin their professional studies for the Master of Architecture (M.Arch) degree.

- **Minors and Certificates**

Electives may also come from minor or certificate concentrations available in a number of programs at Georgia Tech. Navigate to <http://www.catalog.gatech.edu/academics/minors.php> and <http://www.catalog.gatech.edu/colleges/coa/arch/ugrad/certificates.php> to see a list of available SoA/CoA minor and certificate program.

TYPICAL B.S. ARCH. SCHEDULE

| Course Number and Name | HRS | Course Number and Name | HRS |
|---|-----------|--|-----------|
| FIRST YEAR-FALL | | FIRST YEAR-SPRING | |
| COA 1011 FUNDAMENTALS OF DESIGN I | 3 | COA 1012 FUNDAMENTALS OF DESIGN II | 4 |
| COA 1060 INTRODUCTION TO DESIGN COMPUTING REQUIREMENT | 3 | ENGL 1102 ENGLISH COMPOSITION II | 3 |
| ENGL 1101 ENGLISH COMPOSITION I | 3 | HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200 | 3 |
| MATH 1501 CALCULUS I | 4 | MATH 1502 CALCULUS II | 4 |
| | | SOCIAL SCIENCE ELECTIVE | 3 |
| | 16 | | 17 |
| SECOND YEAR-FALL | | SECOND YEAR-SPRING | |
| ARCH 2011 DESIGN STUDIO I | 4 | ARCH 2012 DESIGN STUDIO II | 4 |
| ARCH 2111 HISTORY OF ARCHITECTURE I | 3 | ARCH 2112 HISTORY OF ARCHITECTURE II | 3 |
| ARCH 2211 CONSTRUCTION TECHNOLOGY & DESIGN | 3 | LAB SCIENCE (BIOL, CHEM, EAS, PHYS) | 4 |
| PHYS 2211 INTRODUCTORY PHYSICS I | 4 | WELLNESS | 2 |
| SOCIAL SCIENCE ELECTIVE | 3 | HUMANITIES ELECTIVE | 3 |
| | 17 | | 16 |
| THIRD YEAR-FALL | | THIRD YEAR-SPRING | |
| ARCH 3011 DESIGN STUDIO III | 5 | ARCH 3012 DESIGN STUDIO IV | 5 |
| ARCH 3241 FUNDAMENTALS OF STRUCTURES | 3 | ARCH 3231 ENVIRONMENTAL SYSTEMS & DESIGN INTEGRATION I | 3 |
| COLLEGE OF ARCHITECTURE ELECTIVE | 3 | HUMANITIES ELECTIVE | 3 |
| FREE ELECTIVE | 3 | VISUAL ARTS/DESIGN-COMPUTING REQUIREMENT (ARCH 4411, 4414, 4415, 4420) | 3 |
| SOCIAL SCIENCE ELECTIVE | 3 | FREE ELECTIVE | 3 |
| | 17 | | 17 |
| FOURTH YEAR-FALL | | FOURTH YEAR-SPRING | |
| ARCH 4011 DESIGN STUDIO V or CLUSTER ELECTIVES | 5 | ARCH 4012 DESIGN STUDIO VI or CLUSTER ELECTIVES | 5 |
| COLLEGE OF ARCHITECTURE ELECTIVE | 3 | COLLEGE OF ARCHITECTURE ELECTIVE | 3 |
| FREE ELECTIVES | 9 | FREE ELECTIVES | 6 |
| | 17 | | 14 |
| TOTAL PROGRAM HOURS = 129 SEMESTER HOURS PLUS WELLNESS (2 HOURS) | | | |

- **Opportunities for International Study**

The School of Architecture strongly encourages students to study abroad and works closely with participants to ensure that they do not have to extend the time of their B.S.Arch. program to do so. Many opportunities for foreign study are available through the College of Architecture and Institute, and new options are explored on an ongoing basis. The Office of International Education (OIE) centrally administers Georgia Tech's study abroad initiatives, while individual academic units are encouraged to seek relationships with the foreign universities most appropriate to their particular disciplines. Since the termination of the Paris Study Abroad Program in 2011, significant effort has been expended to secure new opportunities for broadening students' education and perspective:

- Concluded a new exchange agreement with Ecole Nationale Supérieure d'Architecture Paris-La Villette. The first exchanges under the new agreement began in AY 2012-13.
- Initiated a new exchange agreement with UPC – Barcelona
- Activated the exchange agreement with Tongji University in Shanghai. The first exchanges under the agreement began AY 2012-13.
- Activated the exchange agreement with TU Munich. Full exchange with students from both schools will take place next year.
- Initiated discussions with leadership at UCL Bartlett School of Architecture and ETH-Zurich about possible exchange agreements.
- Initiated discussions with leadership at the Chinese University Hong Kong about possible exchange agreements.

- **Current Student Enrollment**

The B.S.Arch. Program currently has 160 students enrolled in the second, third, and fourth years of the four-year curriculum. This number does not include those currently enrolled in the Common First Year (CFY) which totaled 101 in Fall 2012. Overall undergraduate enrollment in the College has declined to 1999 levels following a period of rapid growth that peaked in 2006. Declining enrollment in the B.S.Arch. Program thus correlates with the trend of declining enrollments in the CFY over the last five years and meets strategic goals set in 2002 to balance undergraduate and graduate enrollment in the College through decreases in undergraduate enrollment and concomitant increases in graduate enrollment. While the economic uncertainty of the past five years has certainly been a factor in this change, it is our objective to stabilize enrollments at current levels.

SCHOOL OF ARCHITECTURE ENROLLMENT

| Term | Class | Asian | | Black or African American | | Hisp or Lat | | Am Indian or Alaskan Native | | Nat Hawaiian or Other Pacific Islander | | White | | Two or More Races | | Unknown | | Total | | Total |
|-----------|-----------|-------|----|---------------------------|---|-------------|----|-----------------------------|---|--|---|-------|----|-------------------|---|---------|---|-------|-----|-------|
| | | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | |
| Fall 2009 | Freshmen | | 1 | | | | | | | | | 1 | 1 | | | | | 1 | 2 | 3 |
| | Sophomore | 3 | 4 | 2 | 0 | 3 | 4 | 0 | 0 | 0 | 0 | 13 | 20 | 0 | 0 | 0 | 0 | 21 | 28 | 49 |
| | Junior | 9 | 8 | 3 | 1 | 0 | 2 | 0 | 0 | 0 | 1 | 31 | 19 | 0 | 0 | 0 | 1 | 43 | 32 | 75 |
| | Senior | 9 | 9 | 3 | 3 | 2 | 2 | 0 | 0 | 0 | 0 | 30 | 23 | 3 | 1 | 0 | 0 | 47 | 38 | 85 |
| | TOTAL | 21 | 22 | 8 | 4 | 5 | 8 | 0 | 0 | 0 | 1 | 75 | 63 | 3 | 1 | 0 | 1 | 112 | 100 | 212 |
| Fall 2010 | Freshmen | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 4 | 3 | 7 |
| | Sophomore | 4 | 9 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 16 | 19 | 0 | 0 | 0 | 0 | 20 | 33 | 53 |
| | Junior | 6 | 3 | 1 | 1 | 2 | 4 | 0 | 0 | 0 | 0 | 17 | 17 | 0 | 0 | 0 | 0 | 26 | 25 | 51 |
| | Senior | 14 | 7 | 4 | 1 | 2 | 2 | 0 | 0 | 0 | 1 | 38 | 27 | 1 | 1 | 0 | 1 | 59 | 40 | 99 |
| | TOTAL | 24 | 20 | 5 | 3 | 5 | 10 | 0 | 0 | 0 | 1 | 74 | 65 | 1 | 1 | 0 | 1 | 109 | 101 | 210 |
| Fall 2011 | Freshmen | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 5 | 5 |
| | Sophomore | 1 | 4 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 15 | 20 | 1 | 0 | 0 | 0 | 18 | 27 | 45 |
| | Junior | 2 | 8 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 19 | 12 | 0 | 0 | 0 | 0 | 21 | 25 | 46 |
| | Senior | 7 | 5 | 3 | 1 | 3 | 5 | 0 | 0 | 0 | 1 | 25 | 22 | 1 | 1 | 0 | 0 | 39 | 35 | 74 |
| | TOTAL | 10 | 18 | 4 | 3 | 3 | 12 | 0 | 0 | 0 | 1 | 59 | 56 | 2 | 2 | 0 | 0 | 78 | 92 | 170 |
| Fall 2012 | Freshmen | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 4 | 0 | 0 | 0 | 0 | 3 | 5 | 8 |
| | Sophomore | 2 | 4 | 1 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 8 | 11 | 1 | 0 | 0 | 0 | 14 | 19 | 33 |
| | Junior | 2 | 1 | 1 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 18 | 22 | 1 | 0 | 0 | 0 | 23 | 27 | 50 |
| | Senior | 6 | 12 | 2 | 2 | 2 | 5 | 0 | 0 | 0 | 0 | 23 | 15 | 1 | 1 | 0 | 0 | 34 | 35 | 69 |
| | TOTAL | 10 | 18 | 4 | 5 | 5 | 10 | 0 | 0 | 0 | 0 | 52 | 52 | 3 | 1 | 0 | 0 | 74 | 86 | 160 |

COLLEGE OF ARCHITECTURE COMMON FIRST YEAR FALL ENROLLMENTS

| Term | ARCH | BC | ID | Other | Total |
|-----------|-----------|---------|----------|----------|-------|
| Fall 2008 | 102 (53%) | 16 (8%) | 32 (16%) | 44 (23%) | 194 |
| Fall 2009 | 117 (63%) | 9 (5%) | 32 (17%) | 28 (15%) | 186 |
| Fall 2010 | 81 (61%) | 8 (6%) | 21 (16%) | 23 (17%) | 133 |
| Fall 2011 | 89 (62%) | 3 (2%) | 25 (18%) | 25 (18%) | 142 |
| Fall 2012 | 41 (41%) | 4 (3%) | 37 (36%) | 19 (18%) | 101 |

ASSESSMENT OF THE B.S. ARCH. DEGREE PROGRAM

The sections that follow organize various indicators of quality of Georgia Tech's Bachelor of Science in Architecture degree program. Statistical data compiled and tracked by Georgia

Tech’s Office of Institutional Research and Planning provide insight into undergraduate admissions in terms of applications, demography, and academic preparation as well as indicators of rates of retention and graduation of those admitted. The College’s Common First Year provides the mechanism by which students entering the College in “undeclared” status are introduced to the three undergraduate disciplines of the College before selecting specific majors. Data reflecting these historical trends are tracked internally.

- **Undergraduate Admissions**

Georgia Tech undergraduate admissions is managed centrally by the Institute. Students applying to majors in the College of Architecture indicate a preference of major (Architecture, Building Construction, or Industrial Design); however, students’ formal declaration of a major among those choices is deferred until the end of the interdisciplinary Common First Year.

Enrollment in the Common First Year is comprised of first-time admittees to Georgia Tech as well as both internal and external transfer students. Recent trends have shown total applications declining.

| First Time Freshman Data by Fall Entry Term | | | | | | | |
|---|-----------|---------|------------|----------|----------|-----------------------|------------------------|
| Major | Term | Applied | % Accepted | Accepted | Enrolled | % of Applied Enrolled | % of Accepted Enrolled |
| Pre-Architecture | Fall 2007 | 468 | 46.6 | 218 | 102 | 21.8 | 46.8 |
| | Fall 2008 | 549 | 42.6 | 234 | 93 | 16.9 | 39.7 |
| | Fall 2009 | 560 | 44.5 | 249 | 107 | 19.1 | 43 |
| | Fall 2010 | 507 | 36.1 | 183 | 72 | 14.2 | 39.3 |
| | Fall 2011 | 470 | 36.4 | 171 | 70 | 14.9 | 40.9 |
| | Fall 2012 | 448 | 39.5 | 177 | 68 | 10.8 | 38.4 |

- **First-Time Freshman Enrollment Demographics**

The demographic profile of the undergraduate architecture student body continues to evolve as we see increasing diversity of incoming classes, especially in terms of gender. The entering class of 2012, for example, was comprised of 73% female and 27% male, a trend that appears to be solidifying from previous years. The ethnic profile of the entering freshman population in 2012 was of 58% white and 42% non-white as compared to 73% white and 27% non-white in 2007. Asian, Hispanic, Black, and Multi-Racial composition of the student body entering in 2012 was 19%, 11%, 7%, and 5% respectively.

- **SAT Scores for Incoming Freshman**

SAT scores for students coming into the Common First Year and identifying Architecture as their major preference continue to compare very favorably with average scores Institute-wide. with a combined Math Verbal score average from 2009 – 2012 of 1337.

| College of Architecture SAT Scores* | | | |
|-------------------------------------|------|--------|-------|
| Freshman Cohort | Math | Verbal | Total |
| Fall 2009 | 688 | 647 | 1335 |
| Fall 2010 | 677 | 660 | 1337 |
| Fall 2011 | 685 | 649 | 1335 |
| Fall 2012 | 688 | 671 | 1359 |

| Georgia Tech SAT Scores* | | | |
|--------------------------|------|--------|-------|
| Freshman Cohort | Math | Verbal | Total |
| Fall 2009 | 730 | 600 | 1330 |
| Fall 2010 | 750 | 580 | 1330 |
| Fall 2011 | 740 | 590 | 1330 |
| Fall 2012 | 760 | 600 | 1360 |

- **Entering First-Time Freshmen Average School GPA**

The average high school grade point average of students entering the architecture major in the most recent year was 3.86 / 4.00.

- **Undergraduate Degrees Awarded**

In the last five years (since 2008), 273 undergraduates have been awarded the Bachelor of Science in Architecture degree with an average of 53 students graduating per year.

| Undergraduate Degrees Awarded | American Indian/Alaskan Native | | Asian or Pacific Islander | | Black Non-Hispanic | | Hispanic | | Native Hawaiian or Other Pacific Islander | | Two or More Races | | Unknown | | White | | Total | | Total |
|-------------------------------|--------------------------------|---|---------------------------|---|--------------------|---|----------|---|---|---|-------------------|---|---------|---|-------|----|-------|----|-------|
| | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | |
| Fall 2009 | | | 1 | 1 | 1 | 1 | | | | | | | | | 6 | 1 | 8 | 3 | 11 |
| Spring 2010 | | 3 | 3 | 6 | 2 | 2 | 2 | 2 | | | 1 | 1 | | | 16 | 11 | 24 | 22 | 46 |
| Summer 2010 | | | 3 | | | | | | | | | | | | 2 | | 5 | | 5 |
| Fall 2010 | | | 1 | 1 | 1 | | | | | | | | 1 | | 4 | 6 | 6 | 7 | 14 |
| Spring 2011 | | | 8 | 5 | 2 | 1 | | | | | | | | | 24 | 16 | 34 | 22 | 56 |
| Summer 2011 | | | 1 | 1 | | | 1 | 1 | | | | | | | 5 | 3 | 7 | 5 | 12 |
| Fall 2011 | | | | 1 | | | | 1 | | 1 | | | | | 5 | 2 | 5 | 5 | 10 |
| Spring 2012 | 1 | | 3 | 2 | 1 | 1 | 1 | 3 | | | | 1 | | | 12 | 14 | 18 | 21 | 39 |
| Summer 2012 | | | 1 | | | | | 1 | | | | | | | 2 | 3 | 4 | 4 | 8 |

- **Retention Rates (Table A15)**

There is no statistically significant difference in year-to-year retention rates for Architecture students as compared to the rest of the Institute, and these rates have been showing gradual improvement. The 2010 second year retention rate for undergraduates in architecture was 95.6% compared to 94.9% for the Institute as a whole.

- **Graduation Rates (Table A16)**

Undergraduate graduation rates in the College of Architecture continue to reflect very favorably as compared to Georgia Tech as a whole. For example, 47.3% of the 2007 cohort

of entering freshmen graduated after four years of study in 2011 as compared to 40.9% of Georgia Tech freshmen as a whole. We believe that this statistically significant difference is attributable to the sequentially structured nature of architectural design studio instruction combined with highly attentive advising that tends to keep students “on-track” for achieving their degrees within four-years. Of the 2006 entering cohort, 77.1% of COA students had achieved their degree goals as compared to 72.3% of the Institute as a whole.

- **Assessment of Curriculum**

Assessment of the efficacy of the B.S.Arch. Curriculum is achieved through several internal and external assessments, both direct and indirect.

- Core Coursework in the Architecture Major. A total of 25 semester hours of required courses in the four-year B.S.Arch. curriculum corresponds to an analogous group of courses required during the first three semesters of study of the School’s three-and-a-half year NAAB-accredited Master of Architecture curriculum. The majority of these courses are co-listed and co-instructed (with the graduate students typically fulfilling additional work requirements differentially assessed). Because these core courses if fulfilled during undergraduate study can be considered for the award of advanced placement in the M.Arch. program, they are assessed on an ongoing basis against the terms of the Student Performance Criteria promulgated by NAAB. In addition, several additional courses required in the M.Arch. curriculum may be taken on an elective basis by upper-division undergraduate students. Thus, the academic outcomes of these required and elective undergraduate courses are regularly assessed against the criteria for professional-level achievement.

While no specific deficiencies were cited in the 2008 NAAB review of the M.Arch. program that could be correlated with courses in the B.S.Arch. curriculum, the faculty has initiated curricular studies within the last two years aimed at assessing the integration of digital media into the undergraduate curriculum. These efforts have resulted in the creation of two new course requirements in the B.S.Arch. curriculum in the area of Architecture Media and Modeling (pending approval by the Institute Undergraduate Curriculum Committee). These courses have been taught in a pilot fashion in tandem with the sophomore-level architectural design studios with the intent of systematically introducing digital media skills into the design curriculum.

- Undergraduate Design Studios. In a similar fashion, the four years of undergraduate design studios in the B.S.Arch. curriculum (35 semester hours) roughly correspond to the achievement expectations applied to the first year of the three-and-a-half year M.Arch. degree. These undergraduate design studios are, however, taught entirely independently of the graduate-level design studios. The NAAB Student Performance Criteria that the School attempts to satisfy in the first three semesters of the M.Arch. curriculum nonetheless serve as the general achievement goals for the undergraduate-level studios. Work from these undergraduate studios is reviewed at the end of each semester by review panels comprised of instructional faculty and invited guest

reviewers from inside the College, from other schools, and from local architectural practices. Surveys of these participants judgment with regard to particular areas of concern are included as part of the program’s formal assessment mechanism. In addition, the School Faculty holds an annual meeting to review the goals and assess the outcomes of these design studio courses. Finally, the efficacy of the undergraduate design curriculum is again evaluated in an indirect sense in the moment in which our B.S.Arch. graduates apply to our or others’ Master of Architecture degree programs.

While no specific deficiencies were cited in the 2008 NAAB review of the M.Arch. program that can be correlated to coursework in the B.S.Arch. curriculum, efforts are ongoing to improve the efficacy of undergraduate design studios. For example, in the creation of the aforementioned courses in architectural media. Other efforts include the establishment in the spring term of vertical, topically-driven studios joining junior and senior-level students around topics emphasizing a range of concerns across the grain and scale of architectural inquiry and problem solving.

- Exit Surveys and Alumni Surveys. Exits surveys completed by graduating seniors are completed at the time of their degree petition and provide an index of satisfaction compared to expectations regarding students’ experience in the program. Alumni surveys are administered at a five-year interval after graduation and provide an indication of graduates’ opinion about the undergraduate curriculum with the advantage of five years of work experience.
- OATS (Online Assessment Tracking System). Assessment criteria tracked in bi-annual updates are framed around questions of perceived concern in the curriculum in order to track progress resulting from revisions or adjustment in curriculum or approach. The 2012 OATS assessment for the B.S.Arch. program is included in this report as Appendix 6. This system is being used to track the effectiveness of curricular changes, such as the ones cited above. The most recent version of the OATS report for the B.S.Arch. Program is appended to this report.
- **SoA Undergraduates Acceptance into Premier Graduate Programs**
Each year, graduates of the B.S.Arch. program gain admission to premier professional programs, and we actively recruit a number of top graduates into our own M.Arch. program.

| | 2008 | 2009 | 2010 | 2011 | 2012 |
|---------------------|------|------|------|------|------|
| Columbia | 5 | 3 | 4 | 4 | 2 |
| Harvard | 1 | 0 | 1 | 0 | 1 |
| MIT | 2 | 1 | 0 | 1 | 0 |
| Princeton | 1 | 0 | 0 | 0 | 0 |
| Yale | 0 | 0 | 1 | 1 | 1 |
| Georgia Tech | 20 | 18 | 19 | 17 | 22 |

- **External Recognition of Student Achievement**

School of Architecture undergraduates continue to perform well in regional, national and international competitions and contribute in meaningful ways to discourse focused on metropolitan Atlanta's growth:

- Fall 2008: Lecturer Tim Harrison's senior studio drew on evidence-based design in healthcare produced at Georgia Tech to inform their designs for a Healing Center and Community Clinic within the City of Refuge Community Service Center in Atlanta and presented to the Health Education Assessment Leadership Coalition. The clinic opened in 2011, building on many of the students' ideas and Tim now volunteers as its Facilities Director.
- Spring 2008: An airport terminal design from Georgia Institute of Technology was awarded top prize in the 2007-08 New Visions of Security: Re-life of a DFW Airport Terminal International Student Design Competition sponsored by the U.S. Department of Homeland Security's (DHS) Science and Technology Directorate and administered by Association of Collegiate School of Architecture (ACSA). Architecture students Blake Burton and Tristan Phillip Hall, with faculty advising from Harris Dimitropoulos, won top honors for their entry, "Re-life of a Terminal."
- Spring 2008: The GT NOMAS chapter's entry into the national NOMAS design competition won 4th place. The team had both undergrads and grads participating.
- Spring 2009: With sponsorship from the Reinsch-Pierce International Initiatives Endowment Fund an interdisciplinary group of six undergraduate and graduate students led by doctoral student Arief Setiawan traveled to the Kalimantan region of Borneo to observe healthcare delivery in Indonesia and study vernacular architecture and construction. They used this knowledge to produce a design for a new green hospital for Health in Harmony, <http://www.healthinharmony.org/asri/hospital/>. Their design was included in a feature on the innovative clinic on the PBS NewsHour in October, 2009 and construction of the first phase has begun.
- Spring 2009: The Atlanta City Council issued a proclamation to recognize students and faculty at the Georgia Tech College of Architecture for assistance in the master planning process for Atlanta's historic Old Fourth Ward. David Green, architecture instructor and principal at Perkins + Will, says a city's zoning ordinance is arguably the single most important factor in how cities today emerge and change. Having worked with City of Atlanta councilman Kwanza Hall on projects to revive the Old Fourth Ward district just southeast of Georgia Tech campus, Green's senior urban design studio aimed to inform the execution of actual projects as well as help shape policy regarding zoning issues in the district.

- Fall 2010: At the request of Dekalb County Commissioner Jeff Rader, Professor Ellen Dunham-Jones led a senior studio exploring redevelopment opportunities on four strip mall sites that are sandwiched between rail corridors proposed for new light rail stations and Peachtree Creek, a neglected and underused resource in Atlanta . The student teams came up with transit-oriented development proposals that face the new transit and connect in a sustainable manner to proposed new trails along the creek.
 - Fall 2011: With sponsorship from the Georgia Conservancy, Professor Ellen Dunham-Jones led a studio of undergraduate and graduate, architecture and city planning students in working with the community of Lithonia, Georgia to revitalize their downtown. One team implemented a series of tactical urbanist interventions to build momentum while other teams developed near and long-term plans for redevelopment, a new Form-Based Code, and a new urbanist development surrounding the under-appreciated asset of the old quarry. The students' work has been incorporated into the Conservancy's [Blueprints report here: http://www.georgiaconservancy.org/programs/quality-growth/blueprints/blueprints-communities.html](http://www.georgiaconservancy.org/programs/quality-growth/blueprints/blueprints-communities.html)
 - Fall 2012: A national housing competition named “Pruitt Igoe Now” announced 31 entries (out of 348) selected as finalists by the jury. The Old North St. Louis Restoration Group will exhibit the finalists of the competition, which examined the future of a 33-acre forested vacant site of a former housing project in St. Louis. Both Junior and Senior students as well as MSUD students were premiated in the first round.
 - Fall 2012: Most recently, two teams of Georgia Tech School of Architecture students were selected as the first and third prizewinners in the prominent Land Art Generator competition for public art installations in New York’s expansive Freshkills Park. “Scene-Sensor” by James Murray and Shota Vashakmadze captured first place and a handsome \$15,000 prize, while “Pivot” by Vermouth (Vee) Hu and Ben Smith (currently a graduate student at Yale University) finished third. Hundreds of entrants—professional and student design teams from around the world—submitted their designs for a site-specific public artwork that, in addition to its conceptual beauty, had to harness energy cleanly from nature and convert it to electricity for the utility grid. Organized by the Land Art Generator Initiative, the competition aimed to bring together artists, architects, scientists, landscape architects and engineers to see to the design and construction of public art installations that uniquely combine aesthetics with utility-scale clean energy generation.
- **Architecture Courses which Fulfill Georgia Tech’s General Education Requirements**
This list of courses offered in the School of Architecture are available to academic majors across the Institute and may fulfill distribution requirements of the Institute’s core curriculum in the areas of Humanities, Social Sciences, and Global Perspectives. Only three of these courses, History of Architecture 1, History of Architecture II, and History of Urban

Form are regularly assessed through the formal mechanism of NAAB review. Several of the courses offered by faculty now retired are not being regularly offered. The School plans to review this list for currency and advise the Institute Undergraduate Curriculum Committee of its findings.

HUMANITIES

| Course Number | Course Name |
|---------------|---------------------------|
| ARCH 2111 | History of Arch I |
| ARCH 2115 | Modern Arch & Art |
| ARCH 4109 | Arch and Minimalism |
| ARCH 4110 | Public Space |
| ARCH 4113 | Renaissance & Manner Arch |
| ARCH 4114 | Medieval Architecture |
| ARCH 4117 | Arts and Crafts Arch |
| ARCH 4118 | American Academic Arch |
| ARCH 4119 | Arch-Frank Lloyd Wright |
| ARCH 4120 | Atlanta Architecture |
| ARCH 4124 | Hist of Arch in the U.S. |
| ARCH 4128 | Barcelona Architecture |
| ARCH 4151 | History of Urban Form |
| ARCH 4305 | Cross-Cultural Practice |
| COA 2241 | History of Art I |
| COA 2242 | History of Art II |
| COA 3114 | Architecture in Greece |
| COA 3115 | Art & Arch in Italy I |
| COA 3116 | Art & Arch in Italy II |

SOCIAL SCIENCES

| Course Number | Course Name |
|---------------|--------------------------|
| ARCH 4107 | Intro to Historic Preser |
| ARCH 4126 | Paris Urban History |
| ARCH 4137 | Postwar Arch & Urbanism |
| ARCH 4335 | Social Practice of Arch |
| ARCH 4770 | Environmental Design |

GLOBAL PERSPECTIVES

| Course Number | Course Name |
|---------------|--------------------|
| ARCH 2112 | History of Arch II |

4. REVIEW OF SCHOOL'S DIVERSITY GOALS

Architectural education at Georgia Tech has been transformed over that last generation in its student enrollment from the proverbial “white man’s profession” to a highly pluralized context for discourse and debate about the shape and the shaping of our built environment. With an enrollment that is majority female (54%) and in which Caucasian males are a distinct minority (29%), the School of Architecture has articulated a goal of building a faculty that is as diverse as its student body. Progress toward that goal, however, has been frustratingly slow. Efforts at building faculty demographic diversity are focused in three domains:

- Tenure Track Faculty. Faculty diversity with respect to gender has suffered setbacks over the last five years due to attrition through retirement and non-retention of female faculty members. Going forward, in order to consolidate and accelerate progress, as much attention must be given to faculty retention, development, and advancement as is given to the efforts at faculty recruitment through tenure-track faculty searches. The current faculty search for two or more positions in the areas of urban design and architectural design, technology, and innovation presents a real opportunity to advance this goal.
- Part-time Instructors. While employment of part-time instructors must be balanced against the needs for full-time instructional and research faculty, this avenue does provide opportunities for under-represented groups and student exposure to points of view and role models otherwise not available.
- Visiting Lectures and Jury Critics. Likewise, conscious effort is made to shape an inclusive series of visiting lecturers and to bring a diverse group of external reviewers to Atlanta for end-of-semester reviews.

Clearly, the School needs to do more to advance its goals in this area. The calls from the student body for a more inclusive professoriate are compelling and appropriate.

5. RESEARCH, SCHOLARSHIP, CREATIVE ACTIVITY

Faculty members in the School of Architecture are highly productive in research. Over the previous three years (2009, 2010, 2011), faculty have published at least 8 books, 25 book chapters, 52 refereed journal articles, 80 refereed conference proceedings, participated in 35 exhibitions of creative work, and have received new awards of \$6.25 million in sponsored research contracts.

5.1 RESEARCH AREAS AND DIRECTIONS

As described in section 3.1.1, sponsored research activity within the School of Architecture is predominately organized within three research labs (Digital Building Laboratory, High-Performance Buildings Laboratory, and SimTigrate Design Laboratory). This sponsored activity provides substantial funding support for Ph.D. students in the School and serves as incubator for scholarly production by faculty and students of singly and jointly authored publications in academic research journals, conference proceedings, and other venues. The output of these research labs, however, is only one portion of overall Faculty productivity in research, scholarship, and creative activity. Faculty members in the School work in one or more areas across a spectrum of genres germane to the discipline and profession of architecture, each validated by external recognition in the respective fields of visual arts, humanities, social sciences, building sciences, architectural practice, and urban design.

- Design Computation

Research in the School of Architecture engages the creation and engineering of new digital technologies for the representation, evaluation and testing of building design, construction and operation. It includes the evaluation of compliance with standards, the exploration of possible design alternatives within the restrictions imposed by design guidance, and the support of collaborative and creative teamwork; the development of new representations – graphical, mathematical, linguistic and logical --that provide means to understand and act on design knowledge; the study of thinking and cognition when augmented by our new computational environments. It also considers the diverse impacts of these technologies and modes of design thinking they encourage on the structure and cultural environment of contemporary design, from the small scale of fabrication and prototyping to integrated project delivery.

Faculty with active research programs in Design Computation include:

Professors Charles Eastman, Lars Spuybroek, John Peponis; Associate Professors Thanos Economou, Russell Gentry, Sonit Bafna; Assistant Professors Tristan Al-Haddad, Daniel Baerlecken, Gernot Riether, John Haymaker; Research Scientists Matthew Swarts, Jonathan Shaw

Besides our faculty, this concentration draws upon the relations with other programs at Georgia Tech, including those within other parts of the College of Architecture as well as with the colleges and schools of Computing, Industrial Engineering, Mechanical and Civil Engineering, and the School of Literature, Communication and Culture.

- Evidence-Based Design

Architecture reflects and creates human experience. It operates at multiple scales (from object, to room, to building and site, to city), affects individual experience and behavior as well as organizational functioning, effectiveness and productivity, and supports broader cultural values. A growing multidisciplinary area of evidence-based design applies rigorous quantitative and qualitative research methods to understanding these relationships, teaching and applying results to design in order to solve important social problems and support institutional effectiveness. School of Architecture efforts in Evidence-Based Design draw on the research programs of faculty inside and outside the College of Architecture to create the critical evidence base and to apply it to emerging problems from courthouses that are secure and reflect the transparency of United States justice, to buildings and sites that promote health and physical activity, to healthcare settings that are higher quality, safer, more efficient, and more patient-centered.

Faculty with active research programs in Evidence-Based Design include:

Professors Craig Zimring, Ellen Yi-Luen Do (School of Industrial Design), John Peponis; Associate Professor Sonit Bafna, Research Associates Jennifer Dubose, Meghan Denham

- Building Technology and Performance

The building industry is one of the largest and most important in the world. In the United States, the construction of commercial and residential buildings constitutes one third of all investment and consumes roughly 40 percent of all energy. Creating high performance buildings rests on the premise that we are able to design, verify, and guarantee systems that meet the highest expectations of the client and user. In spite of advances, many significant challenges remain. The technical performance of buildings is the result of the complex interplay of highly variable boundary conditions with the physical behavior of many components operating in multiple domains such as heat and mass transfer, fluid mechanics, light, and acoustics, all orchestrated by a control system such that the performance goals of the complete system are achieved. In particular, advanced systems for optimal control, sensing, and diagnostics require our special attention as we move towards (net) zero energy buildings. The capture of this interplay at appropriate resolution and aggregation with subsequent use in design and operational decisions is the major focus of our work. Research results generate new building performance knowledge in fields such as energy, sustainability, comfort, health, daylighting, productivity and other performance aspects. Georgia Tech is pioneering the incorporation of uncertainty in models of building performance, the integration of performance models and performance monitoring and control systems. At the same time, our faculty engage the development of both robust models, that can be guide early design decisions and increasingly sophisticated models that can guide the elaboration of final designs.

Faculty with active research programs in Building Technology and Performance include:

Professors Godfried Augenbroe; Associate Professors Michael Gamble, Russell Gentry Charles Rudolph; Assistant Professor Jason Brown

- History and Culture

Georgia Tech's School of Architecture has a distinguished tradition of scholarship in the field of History, Theory, and Criticism. While still open to a large span of chronological periods, geographical areas, and methodological approaches, the newly reorganized concentration in History and Culture aims to promote studies in specific and innovative areas of research for which the College of Architecture at Georgia Tech, and the Georgia Tech community as a whole offer an unequalled pool of human and technical resources. Consequently, this concentration promotes interdisciplinary studies that may relate to research in fields such as computational design, building technologies, morphological studies, as well as to the larger domain of media studies and to the history and theory of media and communication technologies; and it encourages proposals where research in any of the areas may involve topical issues of architectural design, and where historical scholarship may inspire, derive from, or be brought to bear on, architectural practice.

Faculty with active research programs in History and Culture include:

Professors Libero Andreotti, Alan Balfour, George Johnston, Lars Spuybroek; Associate Professors Sonit Bafna, Benjamin Flowers, Laura Hollengreen.

- Urban Design

Urban design is focused on the design of urban projects, cities and urban regions, including the two and three-dimensional physical arrangements of land subdivision and land uses, infrastructure, streets, highways, landscapes and buildings, in both public and private ownerships. Ultimately, urban design aims to design and build places that are environmentally, socially, and culturally sustainable, and that evolve over time to accommodate new people, new uses and new buildings. Although it is a specialized discipline, Urban Design shares academic and professional ties with Architecture, City and Regional Planning, Landscape Architecture, and Civil and Environmental Engineering. Faculty research in this field engages problems of urban growth and sprawl in contemporary cities across the globe while treating Atlanta, the globally connected intellectual and geographic center of an expanding metropolis of almost six million, as a laboratory for debating the present and envisioning the future. Faculty in the School of Architecture and the School of City and Regional Planning are supported by The Center for Quality Growth and Regional Development and the Center for Geographic Information Systems which provide interdisciplinary platforms for urban design research.

Faculty with active research programs in Urban Design include:

Professors Ellen Dunham-Jones, Alan Balfour, John Peponis; Associate Professors Michael Gamble, Jude LeBlanc, Perry Yang; Professor Emeritus Douglas Allen.

- Cognitive and Organizational Performance

The rigorous comparative description of formal and spatial patterns, whether embedded in buildings and cities or arising from their use, is the distinctive domain knowledge underpinning interdisciplinary inquiry in the area of cognitive and organizational

performance. Recent research contributions to better understanding how office design supports knowledge work, how museums support informal learning, how street layouts support vibrant urban cultures, development and changing patterns of land use over time, or how hospital design supports effective medical processes have all grown on this foundation. Another line of inquiry has explored how architectural works are able to engage the imagination and develop specific conceptual content through organization of space and visual form. This same foundation naturally supports contributions to design practice, whether through the formulation of a design concept, or through the evaluation of design alternatives. Studies of the human performance of buildings entail an in-depth analysis of the intrinsic logic and implications of design languages, of the functions associated with particular building types, the way in which cultural codes and social norms are embedded in built form, the manner in which architecture is experienced.

Faculty with active research programs in Cognitive and Organizational Performance include: Professors John Peponis, Craig Zimring; Associate Professors Sonit Bafna, Laura Hollengreen.

- **Creative Research in Practice: Architecture, Design, and the Visual Arts**
Faculty visibility and accomplishment in creative production are key to the validation of professional education and accrue to the reputation of the entire School and its various degree programs. While ongoing and active participation in practice enhances faculty members' currency in their respective fields, Georgia Tech's standards for evaluating the impacts of professional work requires the demonstration of excellence through external exposure and review. Evidence of the external validation of the creative work of practice comes in the form of design awards, publications, installations, exhibitions, and invited lectures.

Faculty with active creative practices in architecture, design, and the visual arts include: Professors of the Practice Marc Simmons, David Green, Stuart Romm, Brian Bell, David Yocum; Professor Lars Spuybroek; Associate Professors Mark Cottle, Harris Dimitropoulos, Michael Gamble, Sabir Khan, Jude LeBlanc, Charles Rudolph, Perry Yang; Assistant Professors Tristan Al-Haddad, Daniel Baerlecken, Gernot Riether;

5.2 RESEARCH SUPPORT

Georgia Tech, the College of Architecture, and the School of Architecture each participate in different ways and at their particular levels to support faculty research activities.

- At the time of recruitment and hiring, the Office of the Provost provides "start-up" funding to address the research and equipment needs of new faculty members.
- The Georgia Tech Foundation (GTF) provides seed-funding for faculty research initiatives in development
- Faculty and PhD Student research and conference travel is supported by the School of Architecture; and international conference travel is underwritten in part by the College of Architecture with an allocation for that purpose from the Georgia Tech Research Corporation

- The School of Architecture is typically allocated 17 in-state tuition waivers to assign as Graduate Teaching Assistantships with School-funded stipends in support of instruction and research. Three of these positions are specifically reserved for the recruitment and funding of new Ph.D. students. The balance is split approximately equally to provide support for continuing Master of Architecture and Doctor of Philosophy students.
- Sponsored research in the School of Architecture currently supports an additional 10-15 Graduate Research Assistants per year.

Research Facilities

- **Hinman Research Building (Constructed 1939, Renovated 2011)**
The Hinman Research Building houses faculty offices, a conference room, and GRA workstations in support of research activity of the Digital Building Lab and the High Performance Buildings Lab.
- **SimTigrate Design Lab / Health Systems Institute**
The Georgia Tech Simtigrate Laboratory uses physical and virtual simulation to support evidence-based design decisions by: translating research findings into design guidelines, design models and design prototypes; and developing and testing innovative ideas, with an emphasis on health care design.
- **Digital Fabrication Laboratory**
The Digital Fabrication Laboratory is a component of the Digital Building Laboratory, focusing on manufacturing, fabrication, prototyping and construction – and the subsequent testing and analysis of fabricated assemblies and materials. The 20,000 square foot facility contains high-end industrial grade CNC equipment and supports the Digital Building Laboratory by demonstrating building product and process innovation growing out of new practices, such as Building Information Modeling (BIM), on-site construction automation, and lean construction methods.
- **Architecture Library**
A branch of the Georgia Tech Library, the Architecture Library is housed in the College of Architecture directly adjacent to instructional spaces. The multi-media collection includes subject areas of architecture, city and regional planning, construction, industrial design, and fine arts. Current cataloged titles number in excess of 48,000 of which 23,000+ are in the Library of Congress “NA” classification.

Support Personnel

- The Georgia Tech Research Corporation (GTRC), the Office of Sponsored Programs (OSP), and the Office of Research Compliance provide administrative and financial management support for researchers at the Institute level.
- The College of Architecture provides administrative support for research faculty through the offices of the Associate Dean for Research and the Assistant Dean for Business Administration and Finance. This support includes the preparation and coordination of proposals, budgets, expenditures, budget reconciliations, and compliance. Current plans include the addition of a technical support person to assist with proposal preparation.

- The School of Architecture provides administrative support for research faculty through the offices of the Chair and the Associate Chair for Advanced Studies and Research. The Assistant Director for Administration and a Senior Administrative Professional support research faculty needs in travel coordination, budgeting, expenditure approvals, and special events.

5.3 RESEARCH IMPACT

The quality and impact of research produced in the School of Architecture can be gauged by the caliber of venues in which the work has been disseminated and peer-reviewed, the degree to which the work has served as a reference for subsequent citation, and the accrued reputational status of the faculty members in their respective areas of expertise.

Faculty and Student Scholarship

A compiled list of faculty and their recent accomplishments in research, scholarship, and creative activity is included in this report as Appendix 7.

Leadership in Respective Fields

These senior professors, by their accomplishments and ongoing engagement with research, provide intellectual leadership for the profession, direction for their programs, and mentorship for junior colleagues and graduate students in the School of Architecture.

- **Libero Andreotti**
Recognized as an expert on theory and practice of the Situationist movement of the mid-20th century, Andreotti's research focuses upon the cultures of cities, European modernism before and after WWII, and the inter-relationships among architecture, technology, and perception.
- **Godfried Augenbroe**
Conducting research in the fields of building performance concepts and simulation, control of smart systems, e-Business, system monitoring and diagnostics, Augenbroe has also established an active research record in building process studies, construction project management, web hosted collaboration, and knowledge management, dealing with the development of software tools, their interoperability and their business integration.
- **Alan Balfour**
While the city is the ostensible subject of Balfour's writing, his underlying concern is with the cultural imagination, viewing the city as the most tangible residue of the complexity of society's desires and values.
- **Ellen Dunham-Jones**
Dunham-Jones' interest in contemporary architectural theory and in the impact of the post-industrial economy on global development patterns informs her ongoing research on suburban retrofits through examination of strategies and case studies for improving architectural design excellence in urban/suburban design.

- **Charles Eastman**
Eastman's research has been groundbreaking in the areas of Building Information Modeling, solids and parametric modeling, engineering databases, and product models and interoperability while also pursuing inquiry in design cognition and cognitive science. His work in the development of strong parametric modeling systems for design and fabrication in the construction industry is revolutionizing methods, tools and practices throughout architecture and construction.
- **George Johnston**
Johnston's scholarly research interrogates the social, historical, and cultural implications of making architecture in a globalizing professional context. His ongoing projects address questions of how the profession of architecture, through both traditional and emerging tools of practice, both perpetuates and challenges social and cultural conventions.
- **John Peponis**
Peponis has pioneered the development of computational descriptions of the spatial organization of buildings and cities as it affects their human performance. He is a leading researcher and scholar in the field of space syntax. His work addresses equally the fundamental principles and constraints that govern the generation and functions of built form and the application of research in design practice, to help set design aims and evaluate design alternatives.
- **Marc Simmons**
A leading advocate for innovative and critical practice, Simmons has produced seminal works in contemporary architecture as a founding principal of the firm Front, Inc. Front is known widely for its successful execution of original and ground-breaking work, and for its progressive approach to design integration among building disciplines. Front's work methodology embraces architectural, engineering and cultural challenges with a first-principles approach for the evolution of creative and buildable designs.
- **Lars Spuybroek**
Spuybroek is the principal of NOX, an art & architecture studio in Rotterdam. Combining architectural theory, design methodology, and research in geometry and manufacturing, Spuybroek's work investigates the relationship between art, architecture and computing. He received international recognition after building the Water Pavilion (HtwoOexpo) in 1997, the first building in the world fully incorporating new media and topological, continuous geometry.
- **Craig Zimring**
Zimring and his multidisciplinary research group of associated faculty and PhD students focus on understanding the relationships between the physical environment of healthcare and other facilities and human satisfaction, performance, and behavior. Zimring is a leader of evidence based design nationally and internationally and has worked with major organizations including the Military Health System.

6. ECONOMIC DEVELOPMENT AND COMMUNITY/PUBLIC SERVICE

Community outreach is fundamental to a public university and is essential to the strategic vision of Georgia Tech. The School of Architecture strives to be a welcoming and inclusive place for its students, faculty, staff, alumni, friends, and community. We pride ourselves on participating in meaningful projects that will make our graduates good global citizens and help the communities in which we operate. Our outreach initiatives involve curricular and extracurricular projects, alumni engagement, K-12 initiatives, and networking and professional development opportunities.

- Partnerships with the Georgia Conservancy

The Georgia Conservancy is a statewide, member-supported environmental organization. They work for clean air and water, land conservation, coastal protection and sustainable growth recognizing the connection between the environment, the economy and quality of life. Faculty in the School of Architecture regularly partner with the Georgia Conservancy in providing urban design analysis and guidance to Georgia communities and community leaders.

- For Good Urbanism 101, the School of Architecture provides faculty and the Conservancy provides space, marketing and other ancillary support. Attendees learn the history, principles and current practices of urban design and planning in America with an emphasis on ways that existing infrastructure can be refashioned into more walkable, sustainable places. The foundation of this course demonstrates the importance of design that allows for change. Accommodating change over time leads to a more sustainable, economically advantageous future. The success of this Atlanta course led to the Good Urbanism 101 Road Show, a four-hour version of Good Urbanism 101, which has allowed our partnership to provide this educational course to cities throughout the state, including Savannah, Augusta and Macon.

- In addition, the Conservancy has brought us case studies, most recently Lithonia and Augusta around which we have organized studio courses for Urban Design students within the School of Architecture. In each case, students have worked in multi-disciplinary teams (regularly including students of City and Regional Planning), with community members to assess issues and strategize on interventions that would improve traffic, safety, accessibility, and aesthetic issues within the community. In several cases students' designs have been implemented and in all cases Georgia Tech's role as a thought leader and community supporter has been amplified.

- Career Discovery in Architecture

We have several programs aimed at positioning architecture as a course of study and profession. In addition to hosting various school groups interested in the design and built environment, each summer the College offers summer enrichment programs in partnership with Georgia Tech's Center for Education Integrating Science, Mathematics, and Computing (CEISM). The Career Discovery in Architecture Program reaches out to area high school students and exposes them to design. Participants in this two-week camp work with School

of Architecture faculty and students to develop new ways of seeing, describing and designing. At the conclusion of this intensely immersive program, they have a portfolio of their own design work.

- Lectures, Exhibitions, Competitions

A regularly scheduled lecture series enables us to reach alumni and the general public in order to stimulate awareness and discourse about architecture and the built environment. We frequently team with other organizations to provide support to them and to broaden our own audience. Each year we present at least one, frequently two, lectures with The Atlanta Contemporary Art Center. Located on Marietta Street, this nexus for contemporary art is our nearest cultural neighbor, one with which we leverage our common goals.

The re-institution of a permanent, securable gallery space in the College has already instigated several public exhibitions: a “Neuro Salon” in coordination with the Georgia Tech Neuro Humanities Entanglement Conference organized by art historian Barbara Stafford; “Drawn Together,” a collaboration between College of Architecture faculty and the Open Ended Group of digital artists in the creation of an artwork in which participants interacted with artificial intelligence agents to create unforeseen and original drawings and musical responses — ones whose form was in equal parts physical and virtual; and “Fifty Years of Architecture Education,” the reprise of an exhibition first staged in 1956 and rediscovered in the College’s archives.

Faculty members have also collaborated with the Atlanta Beltline, providing sculpture and other installations. Such projects enable us to extend students structural, communications and fine arts competencies, while providing the community with art experiences and underscoring the Institute’s role as an arts leader.

In addition we encourage faculty to provide advising in competitions such as the First LEGO League Challenge, AIA Atlanta’s High School Design Competition, and Can-struction, a project for the Atlanta Food Bank.

- Outreach to the Professional Community

Another cornerstone of our outreach addresses the professional community. We have developed and continue to nurture very close ties with the Atlanta and Georgia Chapters of the American Institute of Architects. Together we have sponsored talks such as the panel discussion “Architecturally Speaking,” which featured Georgia Tech faculty as well as colleagues from Southern Polytechnic Institute, and most recently, a residency with David Adjaye, arguably the world’s most famous architect of African descent. To cultivate and optimize such programs, which are central to attracting traditionally under represented to the profession, we encourage faculty to volunteer their time with AIA. Two years ago, Dean Balfour was a board member and this past year School Chair George Johnston served as a member of the board’s executive team. Johnston has also participated with administrators from Southern Poly and Savannah College of Art and Design to discuss future trends in architectural education with members of AIA Atlanta’s Principals Roundtable.

- Support for Student Outreach

We support our student and faculty organizations in their service initiatives. AIAS, the student arm of AIA runs design in action programs; NOMAS (National Organization of Minority Architecture Students) conducts various outreach and inclusion programs during the year. It also has continued and extended the School of Architecture Mad Hatters program which designs and builds small shelters for the homeless. The Georgia Tech chapter of Women in Architecture (WIA) recently partnered with faculty and staff from ADVANCE on a clothing and gift drive for Atlanta Day Shelter for Women and Children. Together they provided materials for over 20 client holiday baskets.

7. ORGANIZATION AND FACILITIES

7.1 Space Needs Met: Hinman Research Building and Ongoing Renovations

In response to a long standing space deficit in the School of Architecture, the renovated 35,000-square-foot Hinman Research Building was completed in the spring of 2011. The building was originally designed in 1939 by Paul M. Heffernan, architect and later director of the Georgia Tech School of Architecture (1956-1976). Hinman has been artfully preserved and revitalized in collaboration between Lord Aeck & Sargent’s Historic Preservation Studio, Office dA as architects, and the Beck Group as construction manager. Based upon a flurry of awards from professional organizations and wide publication, the Hinman Research Building now serves as a strong asset and potent symbol of our aspirations to creatively catalyze relationships between design and research.

The additional space for our Master of Architecture and Ph.D. programs provided by Hinman has dramatically decreased previously experienced overcrowding and has allowed judicious reprogramming of space within the College of Architecture East and West wings. Common First Year offices and studios are housed adjacent to the first floor atrium in COA West. Undergraduate architectural design studios (sophomore, junior, and senior years) are now well-accommodated in the open studio bays of the third floor of COA East and COA West. These rearrangements have also allowed more commodious accommodations for the School of Industrial Design which now occupies office and studio space on the second floor of COA West. The School of City and Regional Planning continues to occupy the second floor of COA East. The School of Architecture administrative offices, located on the third floor of COA West in close proximity to undergraduate studios, have been modestly renovated and refreshed to house the new administrative structure and to present an appropriate appearance for the College’s flagship School.

Furthermore, spaces in COA East previously devoted to instruction and research (activities now relocated to Hinman) have been vacated and repurposed for uses more appropriate to the original intents of the 1952 design. This has allowed the re-establishment of the 2500 square foot gallery space as originally designed but not utilized for that purpose for over thirty years. The original library has been reopened to view and use as a much-needed meeting and conference space. Recognizing the intrinsic value of this vintage modernist building (also designed by Paul M. Heffernan of the firm Bush-Brown, Gailey, and Heffernan), Dean Balfour has respectfully restored the design integrity of the Reinsch-Pierce Family Auditorium and the office suite that he himself occupies.

These renovations and adaptive reuse are living examples of the commitment to design integrity and innovation – messages well received by alumni, faculty and students, and prospective students.

7.2. Organizational Challenges

The organizational transformation of the College of Architecture from a collection of subordinate academic units under one administrative umbrella to a College with five co-equal

Schools has elevated the standing of the respective disciplines setting them, virtually overnight, on par with sister Schools elsewhere in the Institute. At the same time, the change in status has led to new internal challenges with regard to the way in which the centralized support functions of the College are managed with respect to the differing needs of the Schools issuing from their variations in size and academic emphasis. More specifically, what mix of centralized versus decentralized support functions could best optimize the use of available resources while enabling inflections of strategies and messages most appropriate to the specific School? Areas where these questions are most pressing include:

- Information Technology / 2D and 3D Output / Shops
Is this complex operation, one that is so key to the instructional and research missions of the School, adequately staffed to meet either normal or peak demands?
- Communications
Given the heterogeneity of disciplinary orientations under the College umbrella, how can we develop a unified communications strategy that is responsive to the particular needs and audiences of each unit.
- Undergraduate Recruitment / Common First Year
Has the centralization of undergraduate efforts for the College's three undergraduate disciplines (Architecture, Building Construction, Industrial Design) been effective? Does the Common First Year still serve the goals for which it was founded?
- Human Resources
How can the accuracy and effectiveness of the College's Human Resources Office be improved to better support and serve the needs of the Schools?
- Research Support
What level and kind of research support is appropriate to sustain continued growth in funded research activity in the College?
- Development
School Chairs in other Colleges play a much greater role in the area of development than has been the case in the College of Architecture where the Dean has taken the lead. At what point should the Schools initiate fund-raising activity on behalf of their own units?

8. FUTURE OPPORTUNITIES

The School of Architecture’s vision—to imagine a better future through architecture, design, and research—sets forth the terms for an ambitious project, re-envisioning architectural education for the 21st century. Such contributions as we can make are empowered and enabled by the School’s unique setting within a premier research institution, one that has declared its own aspirations for “designing the future.” As suggested by the overall strategic directions of the School and in more detail with regard to what is doable under the auspices of each of the degree programs here under review, progress toward these aspiration will depend upon our efforts to:

- Develop new endowments and endowed chair positions with the sort of transformative potential that the Ventulett Distinguished Chair in Architectural Design has had for the Master of Architecture Program
- Support and make full use of the Digital Fabrication Lab and the Digital Building Laboratory as physical infrastructure and organizational framework for interdisciplinary instruction and research in architecture, engineering, and construction.
- Forge productive partnerships between the discipline and adjacent professional practices and the construction industry in order to stimulate opportunities for research collaboration and to generate new seed moneys for research support
- Build stronger bridges between architecture and the engineering-related disciplines in order to define a truly unique context for and approach to architecture and the building arts at Georgia Tech
- Fill vacant positions to build a truly diverse and exceptionally capable faculty appropriate to these aims.

By seizing these opportunities, we believe that the School—its students, faculty, and future graduates—can help move the profession toward laudable goals, by exploiting the creative tension that accrues in the reciprocal exchange between architectural design and research.

APPENDIX 1: School of Architecture, Doctoral Program handbook

School of Architecture
College of Architecture
Georgia Institute of Technology

Ph.D. WITH A MAJOR IN ARCHITECTURE

Handbook, 2012-2013

1. Program mission

The Ph.D. degree program with a major in Architecture was approved and initiated in 1982. The program strengthens the knowledge base that supports the profession of architecture in the design, planning, construction, management and analysis of the built environment. It responds to problems articulated by practice but also develops knowledge and education that anticipate the future needs and role of the profession. Program graduates define the cutting edge of current scholarship, research and practice, pursuing academic careers in major universities nationally and internationally or holding leadership positions in architectural firms. The aim of the program is to train future scholars and practitioners to systematically inquire about the principles that govern the design of humane, sustainable and productive environments and to translate those into policies and technologies that can better support socially responsible professional decision-making and practice; this encompasses both *end-product technologies*, including intelligent building performance monitors and control systems and *enabling technologies*, including technologies of design computation and representation. The Ph.D. program also advances the directions of inquiry and scholarship that help evaluate such technologies from cultural, social and ethical points of view. The Ph.D. program engages the creative synergies and tensions between design and research, imagination and rigor, conjecture and testing.

2. Applications

The applications and application materials are submitted electronically through: <http://www.gradadmiss.gatech.edu/> . Frequently asked questions are answered in the program website: http://www.arch.gatech.edu/graduate/phd_faq . Application deadlines are also provided on the program website.

Consistent with Institute requirements, applications are judged based on Grade Point Average (GPA) scores, Graduate Record of Examination (GRE) scores, and Test of English as a Foreign Language (TOEFL) scores (where applicable). The minimum TOEFL score required for acceptance by Georgia Institute of Technology is 550 paper-based or 79 internet-based; however, the Ph.D. program typically does not accept a student with a score lower than 600 paper-based or 100 internet-based. The program looks for GRE scores of 600 (about 160 in new system) or better on each of verbal and quantitative reasoning tests and for a minimum of a 4.00 score on analytical writing, unless a student's record documents substantial professional or scholarly achievement as evidence of exceptional ability. In addition, full consideration is given to: 1) The personal

statement of interest, research intentions and reasons for applying to the program; 2) the sample(s) of written work, published or unpublished, a main indicator of scholarly or research ability; 3) the letters of recommendation; 4) the portfolio of other creative and design work as a supplementary indicator of depth of understanding of architecture, in all or some of its various aspects. The portfolio also serves as a primary indicator of potential ability to work as a Graduate Teaching Assistant associated with undergraduate or graduate studios.

3. Administration

The Ph.D. program and degree offering resides in the School of Architecture and is under the purview of the Chair of the School of Architecture, who has final administrative responsibility on all matters. The Associate Chair for Advanced Studies and Research acts as Ph.D. program coordinator and is responsible for all aspects of the normal operations of the program. Academic advisement is offered at the School of Architecture office by the Graduate Advisor (Robin Tucker: robin.tucker@coa.gatech.edu) for all matters pertaining to program requirements, course registration, student records and petitions. For advisement regarding research and scholarship read section 6 below. All members of the faculty involved with advising Ph.D. students meet at least once every semester to review matters pertaining to the Ph.D. program, including the progress of individual students. These meetings can result in specific recommendations regarding students whose record of achievement does not conform to all the program requirements described in this handbook. A student who wishes to raise a question regarding his or her progress or performance in the Ph.D. program, outside formal Institute procedures, should first talk to his or her advisor. If the question is not fully resolved they should bring it to the program coordinator, who may then suggest that it be brought to the faculty meeting of advisors.

4. Rules and regulations

Ph.D. students and Ph.D. candidates are subject to the Institute-wide rules and regulations, as these are described in the web-page of the registrar: <http://www.catalog.gatech.edu/students/grad/index.php>

Ph.D. students and Ph.D. candidates should be aware of the following rules, among others:

1. General description of the Ph.D. degree:
<http://www.catalog.gatech.edu/students/grad/doctoral/general.php>
2. Comprehensive examinations for doctoral students:
<http://www.catalog.gatech.edu/students/grad/doctoral/exam.php>
3. Thesis Topic specification:
<http://www.catalog.gatech.edu/students/grad/doctoral/thesis.php>
4. Time limit for completion of doctoral thesis:
<http://www.catalog.gatech.edu/students/grad/doctoral/time.php>
5. Minor field of study:
<http://www.catalog.gatech.edu/students/grad/doctoral/minor.php>

6. Residency requirements:

<http://www.catalog.gatech.edu/students/grad/doctoral/enrollment.php>

7. Student honor code:

<http://www.catalog.gatech.edu/rules/18b.php>

8. Student code of conduct:

<http://www.catalog.gatech.edu/rules/19a.php>

9. Format of Ph.D. dissertation:

<http://www.gradadmiss.gatech.edu/thesis.php>

In addition, students studying for the Ph.D. degree in Architecture are subject to the stipulations of this handbook as it stands the year of their first registration with the program. The handbook is updated at the beginning of every academic year. An up-to-date copy of the handbook is available at our website: http://www.arch.gatech.edu/graduate/phd_overview . When handbook changes are significant, students already enrolled with the program will be offered appropriate options as to whether to continue under the provisions applicable at the time of their first registration, or to transition to the new handbook.

5. Minimum program requirements and key milestones

This section provides an overview of the structure of the program. Subsequent sections add appropriate detail as needed.

5.1: Course work associated with the major.

In their first two years students take a minimum of 36 credits in the School of Architecture, as follows:

1. ARCH 8100: *Introduction to Architectural Research 1*; ARCH 8101: *Introduction to Architectural Research 2*; ARCH8102: *Introduction to Architectural Research 3* (9 credits)
3. Five 3-credit courses in an area of specialization within the School (15 credits)
4. An additional 12 credits at the 6000 level and above chosen in consultation with the advisor.

In addition to satisfying the requirements of the major in architecture, students must also satisfy the requirements of a minor field of studies as described below. The requirements of the minor, however, do not have to be satisfied within the first two years.

5.2 Qualifying paper.

In the second year of their studies students also complete a qualifying paper.

The completion of the qualifying paper often requires students to register for 3-6 credits COA8996.

5.3 Comprehensive examination in the architecture major.

At the end of the second year of their studies students take a comprehensive examination covering both the core curriculum and their area of specialization. Preparation for the comprehensive examinations will often involve the student taking a 3 credits "readings" independent study guided by his or her advisor.

5.4 Thesis topic proposal

In their third year of studies students are expected to defend a Ph.D. topic proposal. Upon successful defense of the proposal they are admitted to candidacy and proceed to work on their doctoral theses.

The development of a thesis topic normally requires students to register for at least 6 credits of COA8999.

5.5 Minor field of studies

In order to graduate students must also satisfy minimum Institute requirements regarding the minor field of study, as described in the relevant link provided in section 2 above. At this time (2010) students satisfy the minor by taking nine credit hours in related courses 6000 level and above, in a field of studies outside the School of Architecture to be determined in consultation with their advisor. This means that the minimum total number of course credits necessary in order to complete the program is 45: 36 for the major and 9 for the minor.

5.6 Doctoral thesis

The preparation of a Doctoral thesis normally requires a minimum of 12 credits COA9000.

The defense of the doctoral thesis, within the time frame allowed by Institute rules cited in section 2, above, is the final step in the program. A successful defense results in the student being recommended for the award of the Ph.D. degree.

5.7 Time to completion of degree

The minimum requirement to complete the Ph.D. with a major in Architecture is 72 credits, which is equivalent to 6 semesters or 3 years of full time study. The average time for completion since the program started is 6 years, given that many of our students work in teaching, research or practice during a portion of their studies. We encourage students to complete degree requirements faster than the previous average and we seek to establish 4 years as the average duration of studies towards the Ph.D. degree.

As described in subsequent sections, students are expected to keep to a very strict schedule until they have completed their comprehensive examination. The pacing of subsequent work towards the doctoral thesis is adjusted according to individual requirements and ambitions.

5.8 Example of schedule of work satisfying minimum program requirements

Fall semester first year

1. ARCH8100: Introduction to architectural research 1 (3 credits)
 2. ARCH8102: Introduction to architectural research 3 (3 credits)
 3. Specialization course 1 (3 credits)
 4. Elective course 1 (3 credits)
- TOTAL: 12 credits

Spring semester first year

1. ARCH8101: Introduction to architectural research 2 (3 credits)
 2. Specialization course 2 (3 credits)
 3. Specialization course 3 (3 credits)
 4. Specialization course 4 (3 credits)
- TOTAL: 12 credits

Fall semester second year

1. COA8996: Qualifying paper (6 credits)
 2. Specialization course 5 (3 credits)
 3. Minor field, course 1 (3 credits)
- TOTAL: 12 credits

Spring semester second year

1. ARCHxxx independent study to prepare for the comprehensive exams (3 credits)
 2. Elective course 2 (3 credits)
 3. Elective course 3 (3 credits)
 4. Minor field, course 2 (3 credits)
- TOTAL: 12 credits

Fall semester third year

1. COA8999 thesis topic development (6 credits)
 2. Elective course 4 (3 credits)
 3. Minor field course (3 credits)
- TOTAL: 12 credits

Spring semester third year

1. COA9000 doctoral dissertation (12 credits)
- TOTAL: 12 credits

GRAND TOTAL: 72 credits

6. Advisement

The relationship between a Ph.D. student, or Ph.D. candidate, and an advisor is central to the Ph.D. degree and at the core of the pursuit of new knowledge that extends beyond the shared knowledge base of the profession, or the course-based curriculum for which faculty are collectively responsible.

Upon entering the program students are assigned to an advisor who will help them develop a work plan, select courses, and start thinking about possible qualifying paper and doctoral thesis topics. The assignment of an advisor is intended to provide incoming students with appropriate mentorship and does not represent an obligatory long term commitment on either side, although advisors are assigned based on the student's application and with the expectation that long-term common research interests are likely.

At the end of the first year an advising relationship is confirmed or changed in the light of the student's interaction with multiple faculty members over the course of the year. At this stage, students are expected to meet with the program coordinator to discuss their plan of work and progress as well as their selection of an advisor. To confirm the advising relationship, the student and the advisor send separate e-mails to the program coordinator by the end of the second semester of the student's progress through the program. The advisor guides the student through the completion of the qualifying paper and the preparation for the comprehensive examinations.

After the comprehensive examinations a student must confirm a thesis advisor (who will usually be the same as the advisor who guided previous steps) as well as a thesis advisory committee with at least three members, all three of whom will normally be faculty at the Georgia Institute of Technology and at least two of whom will normally be faculty in the School of Architecture. The thesis advisor acts as chair of the advising committee. The formal confirmation of the advising relationship for the thesis is the signing of the thesis topic form after the topic has been defended. However, the student is expected to discuss the intended advising relationship with his/her thesis advisor and the program coordinator well in advance of the thesis topic defense and preferably soon after completion of the comprehensive examination.

Faculty eligible to advise Ph.D. theses or become members of Ph.D. thesis advising committees must have an active program of scholarship and research documented by a current record of publications and contributions to the field. Normally, they will also hold Ph.D. degrees.

Faculty with funded research projects are likely to employ as Graduate Research Assistants students working in their research area who are familiar with their previous work and up-to-date with relevant research technologies and methodologies. However, the role of Principal Investigator for a research project and the role of Advisor for a qualifying paper or thesis project are independent, even when the projects themselves are linked. It is possible and frequently the case that a student be advised by one faculty member and work in the research projects of another. In this regard, the expectation of the program is that each role be fulfilled to the highest standard.

A student working on a qualifying paper, thesis topic proposal or doctoral dissertation is normally not expected or allowed to change his or her advisory arrangements while the task in hand is incomplete. Where exceptional circumstances require a change in the advising arrangement the student, or the advisor, should make a case in writing to the program director who will suggest further steps.

If the advisor and advising committee chair leaves the faculty of the Georgia Institute of Technology after the thesis topic is approved, and both the advisor and the student wish to continue in the advising relationship, there will be no change of advisor. The advisor may be appointed as adjunct faculty in the School, in order to recognize his or her continuing role, with approval of the School Chair. Where the continuation of the advising relationship is not possible, the committee will be reconstituted and one of its members will assume the advising role. The program coordinator will facilitate the process.

If a member of the advisory committee other than the advisor is unable to continue in this role, for any reason, the advisor will work with the student to identify a new member for the committee. In accepting to serve in this role, the new member of the committee will often sign on the thesis topic and thesis proposal documents as they were previously approved. However, they may also request that the proposal be modified in some of its details. If modifications are acceptable to the other members of the committee, no formal new defense of the proposal will be necessary. In the event that a change in the constitution of the advisory committee leads to a significant change in the thesis topic proposal, the proposal will be defended anew.

7. Core courses

Core courses are intended to provide students with common foundations regarding a variety of approaches to architectural research. All students must take the following in their first year:

ARCH 8100 Introduction to Architectural Research 1 (Causation; Simulation)
ARCH 8101 Introduction to Architectural Research 2 (Representation; Interpretation)
ARCH 8102 Introduction to Architectural Research 3 (Historiography-Epistemology; Theories of Design)

8. Courses by currently available area of specialization

The following are the currently approved courses by area of specialization. Courses that can count as part of the area of specialization can vary from this list if the advisor submits an alternative plan to the program coordinator and if the alternative plan is approved by the committee of advisors of the Ph.D. degree program.

6a: Building Technology and Performance

ARCH 6226: *Green Construction*
COA 8676: *Design and Engineering Databases*
COA 8680: *Performance Aspects*
COA 8685: *Building Simulation*
ARCH 6242: *Building Physics Modeling*
ARCH 6731: *Zero Energy House*
ARCH 6241: *Building Simulation in Design Practice*
ARCH 7252: *Computational Building Simulation*

6b: Cognitive and organizational performance

COA 8625: *Theories of Inquiry*
COA 8630: *Architecture, Space and Culture*
ARCH 6228: *Analytical Investigations in Urban Design*
ARCH 6171: *Formulation of Conceptual Intention in Architecture*
ARCH 6143: *Museums: History, Theory, Design*
ARCH 7471: *Cognitive Function of Visual Design in Architecture*

6c. Design Computation

ARCH 6210: *Architectonics*
ARCH 6501: *Analogue Digital Design Computation*
ARCH 6503: *BIM Applications*
ARCH 6507: *Parametric Design*
ARCH 6508: *Shape Grammars*
ARCH 6509: *Computation, Creativity and Design Cognition*
COA 6763: *Design of Design Environments*
COA 8672: *Design Computation*
COA 8676: *Design and Engineering Databases*
COA 8690: *Building Models*

6d: Evidence-based Design

ARCH 6268: *Advanced Architecture, Culture and Behavior*
ARCH 6243: *Evidence Based Design*
ARCH 6271: *Health Design of the Future*
COA 8630: *Architecture, Space and Culture*
COA 8625: *Theories of Inquiry*
COA8635: *Architecture and Policy*

6e: History and culture

ARCH 6107: *Introduction to Historic Preservation*
ARCH 6109: *Architecture and Minimalism*
ARCH 6110: *Public Space*
ARCH 6112: *Islamic Architecture and Urbanism*
ARCH 6113: *Renaissance and Mannerism*
ARCH 6114: *Architecture and the Discourse of the Everyday*
ARCH 6117: *Arts and Crafts Movement*
ARCH 6119: *Frank Lloyd Wright and his Influence*
ARCH 6120: *History of Atlanta Architecture*
ARCH 6129: *Form and Narrative*
ARCH 6131: *Theory and Criticism 1*
ARCH 6132: *Theory and Criticism 2*
ARCH 6135: *Architectural Representation*
ARCH 6136: *Architecture and Ideology*
ARCH 6137: *Postwar Architecture and Urbanism*
ARCH 6151: *Theories of Urban Design*
ARCH 6152: *Landscape Architecture*
ARCH 6155: *Contemporary Architecture in Europe*
ARCH 6160: *Race and Space*
ARCH 6210: *Architectonics*
ARCH 6428: *Formal Systems, Design Art and Architecture*
ARCH 6501: *Analogue and Digital Design Computation*
ARCH 6509: *Computation, Creativity and Design Cognition*
ARCH 6143: *Museums: History, theory, design*
ARCH 6142: *Dwelling: Histories and Theories of Environmental Behavior*
COA 6151: *History of Urban Form*

COA 8600: *Genesis of Architecture*
COA 8610: *Thought from Hellenic – 1830*
COA 8612: *Thought from 1830s to 20th Century*
COA 8620: *Design of American Space*
COA 8630: *Architecture, Space and Culture*
COA 8635: *Architecture and Policy*

6f: Urban design

ARCH 6151: *Theories of Urban Design*
ARCH 6137: *Post-war Architecture and Urbanism*
ARCH 6153: *History and Theories of the Modern City*
ARCH 6228: *Analytical Investigations in Urban Design*
ARCH 6447: *Urban Ecological Design*
COA 6120: *Retrofitting Suburbia*
COA 6151: *History of Urban Form*

9. Qualifying paper

The qualifying paper is expected to contribute to knowledge on a chosen topic and to meet the standards of relevant refereed conference proceedings and journals. The paper is evaluated by the advisor and at least one additional faculty member. Approval implies that the paper is deemed to meet the standards associated with publication – actual publication is desirable but is not a prerequisite for approval of the paper given the time lag often associated with refereed conference proceedings and refereed research journals. Normally, publication and associated revisions occurs after the internal approval of the qualifying paper. The decision as to whether the name(s) of the advisor(s) is/are added to the name of the student, who will always be first author, is left to the advisor(s) and should reflect the extent to which the student’s contribution benefitted from an intellectual and methodological research framework previously developed by the advisor. A qualifying paper should not be submitted for publication without the advisors’ approval.

Students are normally expected to have finished their qualifying paper by the end of their 3rd semester of study. There are several paths that can lead to this.

1. A paper prepared for one of the courses taken by the student also meets the standards of the qualifying paper – not a very frequent option.
2. A student registers for 3 credits of COA8996 in his or her third semester, in order to work towards extending one of the papers previously developed for a course taken in the first or second semester.
3. A student registers for 3 credits of COA8996 in his or her third semester to do extra work in conjunction with a course taken in the third semester.

Other paths can be explicitly planned with the student’s advisor and submitted to the Graduate Advisor.

If COA8996 is taken in the third semester, a “Satisfactory” will indicate either that the paper was completed and approved, or that very good progress was made.

All students who have not completed their qualifying papers by the end of their third semester MUST register under COA8996 for at least 3 credits in their fourth semester. If at the end of the fourth semester, the qualifying paper is not approved, the grade for COA8996 has to be an U (unsatisfactory), with the consequences that this carries for a student's academic standing at Georgia Tech. Advisors cannot grade students as having satisfied the requirements of those credit hours if the Qualifying paper has not been completed and approved. Exceptions to the rules expressed in this paragraph will be granted only on documented medical grounds, or if exceptional financial, family or personal circumstances have arisen, and only after a formal request addressed, in writing, to the program coordinator, not later than exam week. Where such allowance is granted, the student will receive an "Incomplete" allowing the work to be finished during the following semester.

The successful completion of the qualifying paper is documented by an e-mail of the advisor which includes: 1) The title of the paper; 2) an abstract; 3) the name of the second reader; 4) the date of approval; 5) an electronic copy of the paper in pdf format. The e-mail is sent to the program coordinator and the academic adviser at the School of Architecture office and a copy is placed in the student's file.

10. Comprehensive examination

The comprehensive examination is administered after mid-semester break and not later than exam week of the fourth semester. Students are typically asked to answer *two* questions out of three or more in the "core" section of the exam and *three* questions out of four or more in the "specialization" section of the exam. If examiners wish they can create sub-sections, for example in order to express "principles", "methods" and "case studies" in the area of specialization. Answers often take the form of a fully referenced short essay between 1500 and 2000 words with accompanying tables and illustrations where appropriate. However, appropriate answers can take a variety of other forms, including the outline of a computer program to solve a problem. The answers are judged for clarity, consistency and rigor, for the critical statement of assumptions, for the manner in which they review literature, and for the manner in which they engage research methodology as appropriate. The comprehensive examination is completed in one week, starting Monday morning at 9.00am and ending Friday afternoon at 5.00pm. Students are expected to freely consult appropriate sources during the examination and to cite them properly, as would be required for any scholarly endeavor.

For each student, the examination is administered by the advisor working with one additional faculty member. The questions are sent out electronically, and the answers are returned, in pdf format, electronically. Students are advised to agree on a bibliography with their advisor by the beginning of their fourth semester. Where necessary they can choose to take a readings special topics course to facilitate their preparation.

In order to pass the comprehensive examination a student must give satisfactory answers to each question. Where some of the answers are not entirely satisfactory but

could meet standards with minor revisions, the advisor may provide the student with feedback and allow no more than two additional days for further work. The advisor is free to ask the student to present his or her answers in an oral exam, in addition to the written examination, with the purpose of clarifying the student's command over a given topic. The oral examination, if required, should be scheduled by the last day of exam week and should be attended by the second examiner also.

Successful completion of the examination is documented by an e-mail of the advisor which includes: 1) The examination questions as an attachment; 2) the student's answers as an attachment; 3) the area of specialization; 4) the name of the second faculty member acting as examiner. The e-mail is sent to the program coordinator and the academic adviser at the School of Architecture office and a copy is placed in the student's file.

If a student does not pass the comprehensive examination, he or she may take it again no later than mid semester break in the fifth semester of registration. Failure to pass the comprehensive examination will result in the program coordinator requesting that the student not be allowed to continue his or her studies towards a Ph.D. degree at the Georgia Institute of Technology. At this point the student may petition to graduate with an MS degree, using the credits that he or she has accumulated.

11. Doctoral thesis topic proposal and thesis topic defense

The thesis topic proposal should include at least the following: 1) A research question and, where appropriate, a testable hypothesis; 2) a review of literature; 3) the identification of relevant data, documentation, bibliography, computational specifications or other content as appropriate; 4) a methodology including any analytical techniques, the discussion of standards of evidence and principles of interpretation, and an experimental test of hypotheses as appropriate; 5) a description of expected outcomes; 6) a discussion of the relevance of expected outcomes. These should be described in a document of about 3000 words, with appendices (for example papers reporting pilot studies, or relevant previous studies by the student), as appropriate. In addition the student should prepare an oral presentation using appropriate supporting media. In some cases, the thesis topic will be defended after a significant amount of work towards the thesis has been completed. The oral examination of the thesis topic proposal will only be scheduled with advisors' approval. One purpose of the oral examination is to allow anyone with an interest in the subject to suggest refinements of the question or methodology as well as to make appropriate comments for the student, and the committee, to take into account.

A typical outcome of the thesis topic proposal and defense is approval associated with specific recommendations and proposal modifications for the future development of the work. Where serious problems are identified, the student will be offered the opportunity to defend a topic again, after completing a pilot or partial study clearly demonstrating the resolution of all major problems identified in the first defense.

The thesis topic defense will normally occur within the third year of studies. The announcement of the oral examination occurs at least two weeks in advance. In order that the announcement be made, the program coordinator and School of Architecture academic adviser must receive an e-mail from the student's advisor with the following: 1) Date and place of the event; 2) title; 3) abstract; 4) committee members.

Upon the successful presentation and defense of the thesis topic, and after all committee members and the program coordinator have signed the relevant Institute form, the student is formally admitted to candidacy.

Work towards the preparation of a thesis topic proposal and the thesis topic defense will be completed under 3-12 credits of COA8999. In some circumstances additional hours will become necessary and can be taken.

12. Minor area of studies

The minimum of 9 credits in a particular area of studies outside the School of Architecture may be completed at any time during the progress of the student prior to the completion of the thesis, but can most usefully be taken as the student is preparing the thesis topic proposal or to assist the development of the thesis, by strengthening the student's competence in a relevant area of studies. Minors that students have found useful in the past include the following: geographic information science, city and regional planning, statistics, medical systems and technologies, history of technology, human/computer interaction, databases, geometric modeling, gaming technologies.

13. Doctoral thesis and doctoral thesis defense

The doctoral thesis presents a significant and original contribution to knowledge in a particular area of inquiry. Usually Ph.D. theses lead to the publication of papers in refereed journals or to the publication of a book.

After admission to candidacy, work towards the Ph.D. thesis is undertaken under COA9000. Students are normally expected to take a minimum of 12 CREDITS COA9000 towards the completion of the thesis.

The process of examination of a doctoral thesis is initiated by the advisor, with agreement of each member of the advisory committee, sending an e-mail to the program coordinator, that the thesis is ready to be defended. This e-mail is copied to the academic advisor and placed on file. At this stage, any committee member who has reservations about the thesis can outline these reservations in writing as part of the e-mail. The program coordinator will then review the situation with the committee to determine the appropriate way forward.

When the advisor and the majority of the members of the advisory committee agree that a thesis is ready to be defended, the advisor, usually after consultation with the student, recommends to the program coordinator two additional examiners. In most

cases the advisor approaches the potential examiners informally and determines whether they are willing to serve in this capacity. The program coordinator formally invites the examiners and coordinates arrangements for the examination. The candidate should not interact with the external examiners in the period leading to the thesis defense. The selection of examiners is critical to maintaining high standards and to the reputation of the program. The composition of the examination committee is approved by the Institute office of Graduate studies.

The thesis defense is announced publicly at least two weeks in advance. In order that the announcement be made, the following must be submitted to the School of Architecture academic adviser: 1) Date and place of the event; 2) title; 3) abstract; 4) committee members; 5) additional examiners; 6) biographical summaries of the examiners if they are not faculty at Georgia Tech.

The meeting is open to all faculty and students until its last stage.

The process for the defense and the possible outcomes are as follows:

1. The candidate is given 20-45 minutes (at the advisor's discretion) to present the thesis in outline.
2. At the advisor's discretion, all people in the room may be allowed to raise purely factual questions during the candidate's presentation.
3. Each examiner is given time to raise questions, make comments and offer criticisms. There is no specific limit. It is customary for external examiners to go first. Usually, internal examiners have fewer remarks and questions as they have already commented on the work in previous stages of its development and have approved it for presentation.
4. At the conclusion of the examiners' questions, comments and criticisms the audience may be invited to offer comments or pose questions at the advisors' discretion.
5. Everyone but the members of the examining committee is asked to leave the room. The examining committee discusses and determines the outcome of the examination in closed session. The decision is taken by majority, with the members of the internal advisory committee taking into full consideration the views of external examiners.
6. The candidate is invited back into the room and the advisor/chair of the examination process announces the result. Individual examiners are invited to add final comments as they wish.

The possible outcomes of the examination are:

1. The thesis is acceptable as it stands. Everyone signs on the approval forms.
2. The thesis needs minor editing for grammatical or other small errors. Everyone signs the approval forms except the advisor who withholds his or her signature until the corrections are implemented.
3. The thesis needs substantive but limited improvements that can be implemented subject to the advisor's supervision and final approval. Everyone signs the approval forms except the advisor who withholds the signature until all improvements are completed. The candidate is offered an explicit and precise statement regarding the required changes. The statement is agreed upon by the majority of examiners.

4. The thesis needs major revision and should be submitted anew for full examination by the whole committee. The approval document is not signed. The candidate is offered a written evaluation of the work with recommendation for its development and revision. The evaluation and recommendations are agreed upon by the majority of examiners.
5. The thesis is unsatisfactory and the committee recommends that the student be discouraged from further work on the subject.

At the end of the examination the examiners provide a joint written report. The chair of the advisory committee has responsibility to coordinate the production of the report. Individual examiners can choose to append their own written evaluations to the joint report.

The recommendation for the award of the degree is forwarded to the Institute when: 1) the thesis approval form is signed by all members of the examination committee and the program coordinator; 2) the final and approved thesis document is submitted to the Institute in the required format (see <http://www.gradadmiss.gatech.edu/thesis.php>)

14. Funding

Some students come with fellowships, scholarships or grants that include appropriate tuition as well as stipends.

The following sources of funding are provided within the School of Architecture.

Graduate Research Assistant positions are offered based on externally funded faculty research. The decision to offer a GRA position is made by the Principal Investigator directing a research program, for any duration that the PI sees as appropriate, whether renewable or not.

In addition, the program distributes a very small number of 1-year (2-semester) Graduate Teaching Assistant positions, usually to incoming first year students. Ph.D. program GTAs are assigned to faculty by the School Chair or the program coordinator.

Finally, a number of Graduate Teaching Assistant positions are funded by the undergraduate and graduate (professional) programs in the School of Architecture. These are determined based on the needs of those programs and offered at the discretion of the School Chair or the coordinators of the programs on a per-semester basis.

Information and conditions regarding Graduate Research Assistantships is offered at: <http://www.catalog.gatech.edu/financial/fin/grad/research.php>

Information and conditions regarding Graduate Teaching Assistantships is offered at: <http://www.catalog.gatech.edu/financial/fin/grad/teaching.php>

END

APPENDIX 2: Doctoral program OATS assessment

2010-2012 Assessment Update for: *School of Architecture: Doctor of Philosophy*

Program Purpose

Doctoral degree with a major in Architecture: aims of the program

The doctoral program of the School of Architecture strengthens the knowledge base that supports the profession of architecture in the design, planning, construction, management and analysis of the built environment. It responds to problems articulated by practice but also develops knowledge and education that anticipate the future needs and role of the profession. Program graduates define the cutting edge of current scholarship, research and practice, pursuing academic careers in major universities nationally and internationally or holding leadership positions in architectural firms. The aim of the program is to train future scholars and practitioners to systematically inquire about the principles that govern the design of humane, sustainable and productive environments and to translate those into policies and technologies that can better support socially responsible professional decision-making and practice; this encompasses **basic research**, **translational research**, **end-product technologies**, including intelligent building performance monitors and control systems and **enabling technologies**, including technologies of design computation and representation. The Ph.D. program also advances the directions of inquiry and scholarship that help evaluate such technologies from cultural, social and ethical points of view. The Ph.D. program engages the creative synergies and tensions between design and research, imagination and rigor, conjecture and testing. At present (Fall 2012) the program has 49 students. They work in one of the following areas of research:

1. Building Technology and Performance

(Associated with the High Performance Buildings Research Lab

<http://www.arch.gatech.edu/research/high-performance-building-lab>)

2. Cognitive and Organizational Performance

3. Design Computation

(Associated with the Digital Buildings Lab

<http://www.dbl.gatech.edu/>)

4. Evidence Based Design

(Associated with the Simtigrade Design Lab

<http://www.simtigrade.gatech.edu/>)

4. History and Culture

5. Urban Design

Recent administrative developments and the clarification of the mission of the program; reauthorization of the doctoral degree with a major in Architecture.

For the period 1983-2009 the College of Architecture had a single doctoral degree with a major in Architecture. The umbrella College-wide Doctoral Program which was associated with the degree also hosted doctoral students in City and Regional Planning, Building Construction and Industrial Design, in order to help incubate doctoral level research in these disciplines. Thus, in 2009 the Ph.D. program had

87 graduates of whom 71 were in Architecture, 11 in City and Regional Planning and 6 in Building Construction. Also in 2009 a Doctor of Philosophy degree with a major in City and Regional Planning was approved by the Board of Regents of the University System of Georgia. In 2011 the Board of Regents approved a Doctor of Philosophy Degree with a major in Building Construction. Independent of the history of the College-wide Doctoral program the Board of Regents approved the Doctoral Degree with a major in Music Technology in 2009. Thus, the Doctoral Degree with a Major in Architecture, housed in the newly formed School of Architecture after the College of Architecture re-organization of 2010, was re-authorized in the Spring of 2011, based on a structure that best serves its main mission, that is the pursuit of architectural research.

At present there are 49 students enrolled in the doctoral program in the School of Architecture. In 2009 there were 100 students enrolled in the College wide doctoral program, of whom 66 worked in architecture-related research topics. We have deliberately tried to reduce the number of students in proportion to our ability to fund them in various ways (as GRAs or GTAs) and we have done this by accepting only exceptionally well qualified applicants and also by accelerating the progress of students who have been in the program long. Since 2008, 31 students have graduated from the program, or 6 per year, as compared to the rate of graduation of 4 students per year that was typical in the period 1987 (when the program had its first graduate) and 2008.

Responsibility and Implementation Process

The responsibility for developing and accessing pedagogical objectives relative to doctoral studies in the School of Architecture lies with the Associate Chair of Advanced studies and Research.

The Associate Chair works with the following groups, as necessary:

1. The School of Architecture faculty are involved in decisions regarding curriculum and learning objectives. They also approve the annual updates or radical reforms of the Doctoral Handbook which presents the structure of the Doctoral Program and the regulations and processes that apply to Doctoral students, within the framework set by relevant Institute regulations.
2. The group of faculty that act as doctoral student advisors at any point in time. This group is convened each semester in order to track the implementation of the Handbook and the progress of individual students. The group of advisors also discusses the specific learning objectives that should be assessed within the OATS process.
3. Doctoral students enrolled in the program. The students meet annually with the Associate Chair as a single group and also as research-area-based groups in order to discuss issues related to the program. Students provide information relevant to OATS and meet in groups to evaluate specific learning outcomes as appropriate (see below).

Operational Objectives

The doctoral program of the School of Architecture has several key objectives as discussed in its mission statement. The main objective is to promote architectural research. An additional objective is to prepare its graduates for top jobs in universities or industry. Given the nature of architecture as a discipline based on the synthesis of multiple requirements into a design that has logical, functional and aesthetic integrity the program also seeks to train students so that they can think within different disciplinary frameworks or research paradigms.

These general objectives lead to the operational objectives discussed below: (1) Getting students to write research papers whose quality and contribution warrants publication in refereed journals or conference proceedings; (2) Creating a concise curricular core that gets students to appreciate different frameworks for research, so that they can draw appropriate concepts or methods for their own work; (3) Creating and

maintaining a curriculum which enables in-depth specialization in a variety of areas.

In the last two years the curriculum and handbook of the doctoral program were revised giving primary consideration to these objectives. Hence the more detailed assessment that follows.

Objective 1: Publishable Papers Authored by Students

At the end of their fourth semester of classes, doctoral students will be able to be sole or first authors of a publishable research paper in their chosen field.

Method 1: Approval of Qualifying Paper

The ability of students to write a publishable paper is assessed by having students complete a qualifying paper examined by their advisor and one additional member of faculty. The requirements for the qualifying paper and the process leading to it are described in the Doctoral Handbook of the School of Architecture.

In the past students took too long to finish their qualifying paper. Thus the Doctoral Handbook was modified to implement a more explicit process and more rigorous rules intended to maintain high standards but also to ensure that the qualifying paper is completed in the fourth semester of residence. The new Handbook became effective in Fall 2010.

Results of Approval of Qualifying Paper:

The new handbook appears to have been successful. Currently enrolled students whose first semester in residence was prior to 2010 took an average 8 semesters to complete their qualifying paper (number of students = 24). Currently enrolled students whose first semester in residence was Fall 2010 or after have taken an average of 4.333 semesters to complete the qualifying paper (number of students = 6). The reduction of the time taken to complete the qualifying paper is statistically significant (ANOVA $F = 8.2473$, $p = 0.0077$)

Method 2: Journal or Conference Publications/Presentations

In order to double check the ability of our students to produce publishable research papers in their chosen fields, we track the publication of papers in refereed journals or refereed conference proceedings for which students are first authors.

Results of Journal or Conference Publications/Presentations:

For calendar years 2010 and 2011, doctoral students were authors or coauthors in 49 publications, about one publication per student in the program. For 15 publications no faculty member is a co-author. For 20 additional publications a Ph.D. student is first author. The 35 papers for which doctoral students are first authors are listed below. In all 22 students published at least one paper as first author in the last two years. They are listed separately after the list of papers. Thus, for the period 2010-2011 there were 0.71 student initiated papers per enrolled student; 45% of the enrolled students were first authors of at least one paper.

List of papers

- 1) A. Cavieres, R. Gentry, T. Al-Haddad. 2011. Knowledge-Based Parametric Tools for Concrete Masonry Walls: Conceptual Design and Preliminary Structural Analysis. *Journal of Automation and Construction* 20(6), 716-728
- 2) Fei Zhao, Jianhui Wang, Vladimir Koritarov, Godfried Augenbroe (2010). Agent-based Modeling of Interaction between Commercial Building Stocks and Power Grid. IEEE conference

- on Innovative Technologies for an Efficient and Reliable Electricity Supply (CITR
- 3) Huafen Hu, Godfried Augenbroe. A stochastic model based energy management system for off-grid houses. *Building and Environment* Volume 50, Pages 1-230 (April 2012)
 - 4) Heo, Y., Choudhary, R., and Augenbroe, G. (2012). Calibration of building energy models for retrofit analysis under uncertainty. *Energy and Buildings*, 47:550-560, April 2012
 - 5) Yeonsook Heo, Godfried Augenbroe, Ruchi Choudhary. Analysis Methodology for Large Organizations' Investments in Energy Retrofit of Buildings. Proceedings ICEBO conference, New York, October 2011
 - 6) Zhengwei Li and Godfried Augenbroe. Database Supported Bacnet Data Acquisition System for Building Energy Diagnostics, Proceedings ICEBO conference, New York, October 2011
 - 7) Zhengwei Li and Godfried Augenbroe (2012). Using CUSUM method to diagnose faults in secondary HVAC system. Proceedings ASHRAE conference, Chicago, February 2012
 - 8) Heo, Y., Augenbroe, G., and Choudhary, R. (2011). Risk analysis of energy-efficiency projects based on Bayesian calibration of building energy models. Proceedings of the IBPSA Conference, Sydney, Australia
 - 9) Sun, Y., Heo, Y., Xie, H., Tan, M., Wu, J., and Augenbroe, G. (2011). Uncertainty quantification of microclimate variables in building energy simulation. Proceedings of the IBPSA Conference, Sydney, Australia
 - 10) Heo, Y., Augenbroe, G., and Choudhary, R. (2011). Analysis methodology for large organizations' investment in energy retrofit of buildings. Proceedings of the ICEBO Conference, New York, USA
 - 11) Zhao, F., Martinez-Moyano, I., Augenbroe, G. (2011, November). Agent-Based Modeling of Commercial Building Stocks for Policy Support. Proceedings of the Twelfth International IBPSA Conference, Sydney, Australia
 - 12) Lee, S., Zhao, F., Augenbroe, G (2011, November). The use of normative energy calculation beyond building performance rating systems. Proceedings of the Twelfth International IBPSA Conference, Sydney, Australia
 - 13) Lee JK, Eastman C, Lee JM, Kannalaõ M, Jeong YS, (2010) Computing walking distances within buildings using the universal circulation network, *Environment and Planning B: Planning and Design* 2010, volume 37, pages 628 - 645
 - 14) Din E., Economou, A., 2011. "Surface Symmetries: The Smith House Revisited" *International Journal of Architectural Computing*, Issue 04, Vol. 08, pp. 485-506
 - 15) Din, Edouard, and Economou, Athanassios, 2011, "Surface Symmetries: The Smith House Revisited", *The International Journal of Architectural Computing*, 8, 4, 485-506
 - 16) Zamani P, Peponis J, 2010, "Co-visibility and pedagogy: innovation and challenge at the High Museum of Art" *Journal of Architecture* 15 6 853-879
 - 17) Carpenter A, Peponis J, 2010, "Poverty and connectivity: crossing the tracks" *Journal of Space Syntax* 1 108-120
 - 18) Ozbil A, Peponis J, Stone B (2011). "Understanding the link between street connectivity, land use and pedestrian flows" *Urban Design International* 16 125-141 <http://www.palgrave-journals.com/udi/journal/v16/n2/abs/udi20112a.html>
 - 19) Porter, Zachary, 2010, *Interfacing Architecture: Collapsing the Distance Between Design and Experience* (Co-authored with Eric Sauda and Nicholas Ault) 98th ACSA Annual Meeting
 - 20) Porter, Zachary, 2011, *Architectural Fractures: Computation and Form in the Work of Le Corbusier and John Hejduk* 98th ACSA Annual Meeting
 - 21) Kim, H., Swarts, M., Lee, S. and Do, E., "Get UP! Promoting Physical Activity through Spatial Interaction in the Workplace," in *Advances in Medicine and Biology*, (L. V. Berhardt, Ed.), Nova Science Publishers (2011)
 - 22) Seo, H.-B., Choi, Y.-S., & Zimring, C. (In press). Impact of Hospital Unit Design for Patient-Centered Care on Nurses' Behavior. *Environment and Behavior*
 - 23) Bernal, Marcelo (2011) Analysis model for incremental precision along design stages , Proceedings of the 16th International Conference on Computer Aided Architectural Design Research in Asia. New Castle, Australia, 19-18
 - 24) Bernal, Marcelo; Eastman Charles (2011). Top-down Approach for Interaction of Knowledge-Based Parametric Objects and Preliminary Massing Studies for Decision Making in Early Design Stages. Proceedings of the 14th International Conference on Computer Aided Architectural Design Futures. Liege, Belgium, 149-164.

- 25) Kasali, A., & Dogan, F. (2010). Fifth-, sixth-, and seventh- grade students' use of non-classroom spaces during recess: The case of three private schools in Izmir, Turkey. *Journal of Environmental Psychology*, 30(4), 518-532.
- 26) Choi, Y., Lawler, E., Boenecke, C., Ponatoski, E., & Zimring, C. (2011). Developing a multi-systematic fall prevention model, incorporating the physical environment, the care process and culture, and technology: a systematic review. *Journal of Advanced Nursing*.
- 27) Gomez Zamora, P., (2010) "Generative Diagrams: Embedding Spatial Information to Generate Architectural Designs" SIGraDi 2010, Bogota, Colombia.
- 28) Gomez Zamora, P., (2011) "Non-Geometric Information Visualization in BIM: An Approach to Improve Project Team Communication" SIGraDi 2011, Santa Fe, Argentina
- 29) Gomez Zamora, P., Bernal, M., (2010) "Influence of Technology on Architectural Design Evolution." SiGraDi 2010 (poster), Bogota, Colombia.
- 30) Cavieres A., Joshi P., Bhatia U., & Ram A., (2010) "CBArch: A Case-Based Reasoning System for Conceptual Architectural Design" Design & Decision Support Systems (DDSS) Conference, Eindhoven, The Netherlands, P-62.
- 31) Cavieres A., Preetam J., Bhatia U., Zhao F., Ram A, (2011). "CBArch: A Case-Based Reasoning Framework for Conceptual Design of Commercial Buildings", 2011 AAAI Spring Symposium: Artificial Intelligence and Sustainable Design. March 2011, Stanford, CA, United States. Technical Report SS-11-02, p.19-25.
- 32) Cavieres, A., Yannas, E. "Aviva Stadium Case Study", in Eastman, C., Teicholz, P., Sacks, R. and Liston, K., (2011) "BIM Handbook: A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers and Contractors". Chapter 9, Section 1. Wiley, 2 Edition. April, 2011, p. 397-415.
- 33) Hyun, M. S. (2011). "How We See Time in Architecture and Architectural Photographs: On the Photographs of the Whitney Museum of American Art by Ezra Stoller," ArchTheo 2011 Conference Proceedings, Istanbul: DAKAM Publishing.
- 34) Shelby T, 2011, "The Cobbs Swamp Phase and the Middle Woodland Period of East-Central Alabama: The View from Catoma Creek" *Early Georgia* 39(2), Fall 2011, pp. 145-168
- 35) Magruder C, 2011, Lessons of the Past: Colin Rowe, Between History and Design. *European Art History Network (EAHN) Newsletter* 2011, #1. (now a journal)

List of students who were first authors

- 1) Bernal
- 2) Carpenter
- 3) Cavieres
- 4) Choi
- 5) Din
- 6) Gomez
- 7) Heo
- 8) Hu
- 9) Hyun
- 10) Kasali
- 11) Kim
- 12) Lee JK

- 13) Lee S
- 14) Li
- 15) Magruder
- 16) Ozbil
- 17) Porter
- 18) Seo
- 19) Shelby
- 20) Sun
- 21) Zamani
- 22) Zhao

Action Summary for Learning Objective Publishable Papers Authored by Students:

There is always a delay between the completion of a publishable paper and the actual publication. This can be as short as six months, if the paper is published in refereed conference proceedings, and as long as two years or more if the paper is published in a refereed journal. Thus, we will continue to track both the completion of qualifying papers and the actual publication of papers for which doctoral students are first authors. We hope that we will be able to maintain or exceed the current rate of student-led publications even as we keep the duration of studies up to the qualifying paper to four semesters in residence, as per the stipulations of Handbooks published in Fall 2010 and after.

Objective 2: Multiple research paradigms engaged

By the end of their second semester of classes doctoral students will be able to construct arguments within a variety of paradigms of architectural research.

Method 1: Module Grades

The students enrolled in the doctoral program of the School of Architecture work within a variety of research paradigms. Some pursue more individual trajectories as is typical in the humanities. Others pursue specific issues within a well-organized larger framework of research, as is typical in science. As a result, the curricular task of providing courses that support the various research fields and associated research paradigms needs to be completed by the creation of an inter-paradigm core. In the last three years new core courses to be taken by all students in the program have been created and placed in the Georgia Tech catalogue: Introduction to Architectural Research 1-3, ARCH8100, ARCH8101, ARCH8102. These cover six modules, each of which addresses a question of broader significance: 1. Causation; 2. Historiography and epistemology; 3. Interpretation; 4. Representation; 5. Simulation; 6. Theories of Design.

Grades for individual modules, which assess the quality of submitted work, were analyzed for each semester when the new courses have been taught, in order to determine whether students do well only in the modules best associated with their area of research, or for all modules.

Results of Module Grades:

During academic year 2011-2012 two introductory courses were taught, comprising four modules. Five students took one course and 9 the other. Thus 28 module-based grades were given. Based on the students affiliation to one of the research areas of the program, 7 grades correspondent to modules covering a student's "own research area" and 21 grades corresponded to modules that covered areas of research other than the student's own. ANOVA

shows that the difference in module grades was not significant ($F=0.0766$, $p=0.7842$). Thus, students did well regardless of whether modules addressed their own research area or not. This indicates that the courses successfully familiarized students with a variety of research paradigms to a comparable level of introductory competence. Of course, the results are influenced by the fact that grades given were overall quite high with 3=B the lowest. Also, while some instructors used precise numerical grades with decimals before translating the average numerical grade into a letter grade, other instructors operated with letter grades only. In the future, instructors will be asked to grade modules as precisely as possible using numerical grades in order to allow for better testing of student performance across modules.

Method 2: Survey of Graduating Students

A survey was run to ask the students who took the Introduction to Architectural Research courses that were offered in the last two years (ARCH8100 and ARCH8102, 4 modules) two questions: (1) what was the level of their interest in the subject covered by each module when they came into the program; (2) how useful each module was to their developing their qualifying paper. The modules in question were: Causation, Interpretation, Representation, Simulation.

Results of Survey of Graduating Students:

Eleven out of the fourteen students involved answered the survey. Each module was of interest to more than 80% of the respondents and useful to more than 80% of the respondents; Causation and Simulation were of interest to all respondents and of use to 90% of the respondents.

Respondents were also asked to grade interest and usefulness on a scale of 0-5. The aggregate scores for interest were: Causation: 31; Interpretation: 37; Representation: 37; Simulation: 26. The aggregate scores for usefulness were: Causation: 26; Interpretation: 27; Representation: 28; Simulation: 20. Thus, modules scored higher on interest than on usefulness.

The number of respondents who found each module to be somehow useful (usefulness score 3, 4 or 5) was as follows: Causation: 8; Interpretation: 9; Representations: 9; Simulation 5.

Action Summary for Learning Objective Multiple research paradigms engaged:

The modular organization and variety of research paradigms covered by the Introduction to Architectural Research sequence are well received by students who find multiple modules interesting and useful and succeed in doing well in modules that are not readily associated with their particular area of research. The success of the courses will continue to be monitored, particularly as the third course in the sequence will come into play.

Objective 3: Curriculum supports in-depth specialized research

The curriculum should allow students to develop in depth research proposals in a variety of areas of specialization. Thus, each research area covered by our program is expected to link to at least five catalogue courses at 6000 level or higher. In the last two years new courses have been placed in the catalogue to express topics and syllabi that were previously developed as special topics.

Method 1: Transcript check

The transcripts of all 7 students who successfully defended a thesis topic in the last twenty four months were reviewed, in order to establish which courses students took within their area of research specialization. One aim is to determine whether students have taken an appropriate number of relevant courses (the current handbook specified five) and what the balance is between catalogue courses, special topics and independent studies. As these students went through their first couple of years of their studies prior to the creation of new catalogue courses in 2011 and 2012, the exercise sets a benchmark to evaluate transcripts in the future.

Results of Transcript check:

All 6 students took considerably more than the required number of credit hours before

successfully defending their thesis topic. While the minimum requirement would be 60CR they took 82CR on average, with 72CR as the minimum. Catalogue courses constituted 60% of the credit hours associated with a specific subject that is specified in the transcript. The remainder consisted of special topics courses. However, there was variation, with at least one student having taken no catalogue courses as part of their specialization curriculum, while another student had taken three times more catalogue courses than special topics.

The above reflects two separate issues. First, it is natural that an advanced research program relies to a considerable extent upon courses which reflect the evolving interests of faculty and students as well as relevant trends in external research funding. Catalogue courses are more likely to serve as foundations, rather than as the sole input in the development of research agendas and the training of researchers in specialized fields. Second, the above reflects a relative neglect whereby the old College-wide doctoral program was sometimes not diligent in ensuring that special topics courses taught successfully over a number of years translated into catalogue courses according to Institute guidelines. This was addressed in 2011 and 2012, with more than 10 graduate courses aimed at doctoral students studying in the School of Architecture added to the catalogue. Tracking student progress in the future will help us fine tune how to balance catalogue courses and more exploratory special topics courses as part of the curriculum of doctoral students.

Results of Transcript check:

The analysis of transcripts also shows that 5 out of six students took specialization courses not only in their main area of specialization but also in another among those offered with the program. For example two students whose main specialization is Design Computing also took a substantial number of courses in Building Technology; a third student took five courses in design computing and five in History and Culture; a fourth student took five courses in Evidence Based Design and additional courses in Design Computing. Thus, while each student satisfied the program requirement of having taken at least five courses in one area of specialization, the majority of students have extended their knowledge base across areas of specialization. This is a question that was further pursued in the focused discussion groups.

Method 2: Focus Group

Focus groups were held with the students who have successfully defended a thesis topic in the last two years in order to better understand which parts of the curriculum they found most useful in shaping their thesis research topic, and what the perceived usefulness of catalogue courses is compared to special topics or independent studies. The focus groups also discussed the usefulness of catalogue courses that are considered to be fundamental to program areas of research specialization, compared to catalogue courses generally available in the School, the College or the Institute.

Results of Focus Group:

All six students participated in focused discussions. Assessments of the usefulness of individual courses taken relative to the development of a successfully defended doctoral thesis topic varied tremendously between 1 and 100 on a scale of 1-100. By and large, however, students feel that the curriculum supported them relative to the defense of a thesis topic. There was a surprising consensus regarding the relative usefulness of catalogue courses as compared to special topics courses. Reflecting on their own experience individual students indicated either a 50%-50% split or a 60%-40% split, with catalogue courses contributing the greater share. As the discussions went on, they agreed on a 50%-50% split. Interestingly, they arrived at the same split whether reflecting on their own experience or proposing a desirable split for the future. As discussions went on, and as students became more aware of the new catalogue courses available to newer students, the working definition of a catalogue course became "a course that addresses foundations and general principles" and the working definition of a special topics course became "a course that addresses a developing research question or research focus".

All students agreed that the overall split of 50%-50% involves a time dynamic. Catalogue courses should make up the majority of credit hours at first, with a 80%-20% split. Special topics or independent studies should assume a greater share later on leading to a reverse 20%-80% split as one progresses to the development of a thesis topic.

Confronted with the new handbook (2011 and 2012) and its recommended "minimum path", they agreed that the new handbook encapsulates the approach to curriculum that they though is best, on the assumption that the "elective courses" listed in the handbook will be used for "special topics advanced courses".

Results of Focus Group:

In the focused discussions with the doctoral students who have defended a thesis topic in the last 24 months, a clear difference emerged between two groups of specializations: Design Computing and Building Technology on the one hand, and Evidence-Based Design or Cognitive and Organizational Performance on the other (it must be noted that no students in History and Culture or Urban Design were involved in these particular discussions). The foundations curriculum of the former group is rich, clearly established, regularly taught and clearly organized. The foundations curriculum of the latter appeared subject to changing priorities and research interests, and less rich at any given point in time. All students felt well supported by the curriculum. The difference described here became apparent as the students reflected on the ideal future of the program taking into account the desirable 50%-50% split between catalogue courses and special topics reported above.

The issues raised in the course of the discussions and reported here intersect with logistic and strategic considerations that are not immediately apparent to the students. One consideration is the degree of integration between doctoral level curricula and M.Arch. level curricula; this impacts the subscription to and thus the viability of courses. Another consideration is faculty strength in each area of research specialization.

Results of Focus Group:

All students agreed that courses offered in other Schools and Colleges were important, and in one case absolutely indispensable to their being able to formulate an exciting research topic. At present, the strongest connections are with the College of Computing. In one case, the cognitive science offerings in the College of Computing were fundamental to progress in architectural research.

Action Summary for Learning Objective Curriculum supports in-depth specialized research:

Students trajectories through the program meet program requirements and often exceed them, with many students developing strengths in several areas of research specialization. Interdisciplinarity is fostered by students taking courses outside the School and quite often in the College of Computing.

Students are happy with the way in which the doctoral curriculum supports the development of thesis topics, the most critical milestone in their progress through the program. The recent strengthening of our offerings of catalogue courses meets their desires based on their experience.

The richness and viability of the curriculum actually offered each year in each area of research specialization must be monitored to ensure that students in all areas are equally well supported over the period of two years of fundamental course work. At present support is more solid in the areas of Design Computation and Building Technology.

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APPENDIX 3: M.S. with a major in Architecture handbook

M.S. WITH A MAJOR IN ARCHITECTURE

Handbook, 2012-2013

Master of Science with a Major in Architecture

1. Program Mission

The School of Architecture's Master of Science (MS) requires a minimum of 30 semester hours of advanced study and is oriented toward research, scholarship and the enhancement of the knowledge-base that supports the professional practice of architecture. Applicants may have previous professional degrees in architecture or other related fields. The program accepts students with a professional degree in a design or design-related field, as well as students with a baccalaureate degree in a non-design field who wish to pursue a concentration of study offered in the Master of Science degree. The M.S. degree curriculum takes advantage of the active research programs in the School of Architecture, including the work of doctoral students, in order to offer specialized knowledge of principles as well as specialized knowledge of application in the following three concentrations of research and practice: Digital Design and Fabrication; High Performance Buildings; Health and Design. These concentrations are described below.

2. Administration

The M.S. program and degree offering resides in the School of Architecture and is under the purview of the Chair of the School of Architecture, who has final administrative responsibility on all matters. The Associate Chair for Advanced Studies and Research acts as the M.S. Program Coordinator and is responsible for all aspects of the normal operations of the program. Academic advisement is offered at the School of Architecture office by the Graduate Advisor for all matters pertaining to program requirements, course registration, student records and petitions. All members of the faculty involved with advising M.S. students meet at least once every semester to review matters pertaining to the M.S. program, including the progress of individual students. These meetings can result in specific recommendations regarding students whose record of achievement does not conform to all the program requirements described in this handbook. A student who wishes to raise a question regarding his or her progress or performance in the M.S. program, outside formal Institute procedures, should first talk to his or her advisor. If the question is not fully resolved they should bring it to the program coordinator, who may then suggest that it be brought to the faculty meeting of advisors.

3. Applications

The applications and application materials are submitted electronically through: <http://www.gradadmiss.gatech.edu/>. Application deadlines are also provided on the program website. Consistent with Institute requirements, applications are judged based on Grade Point Average (GPA) scores, Graduate Record of Examination (GRE) scores, and Test of English as a Foreign Language (TOEFL) scores (where applicable). The minimum TOEFL score required for acceptance by the Georgia Institute of Technology is 550 paper-based or 79 internet-based;

however, the M.S. program typically does not accept a student with a score lower than 600 paper-based or 100 internet-based. The School of Architecture requires GRE scores of 600 or better on each of verbal and quantitative reasoning tests and for a minimum of a 4.00 score on analytical writing, unless a student's record documents substantial professional or scholarly achievement as evidence of exceptional ability. In addition, full consideration is given to: 1) The personal statement of interest, research intentions and reasons for applying to the program; 2) the sample(s) of written work, published or unpublished, a main indicator of scholarly or research ability; 3) the letters of recommendation; 4) the portfolio of other creative and design work as a supplementary indicator of depth of understanding of architecture, in all or some of its various aspects.

4. Concentrations

4.1. Digital Design and Fabrication Concentration

Parametric models, controlled by scripts and spreadsheet parameters are changing our conception of buildings and how they are designed and constructed. Form generated without embedded fabrication expertise or design-for-fabrication methods usually cannot be realized. Form without a conceptual logic is likely to be meaningless. The Digital Design and Fabrication concentration focuses on generative design systems and parametric modeling to develop new building forms and close the gap between conception and realization. The curriculum addresses material properties and selection; product performance; machining processes; numerical control production processes; and design-for-fabrication criteria.

Recommended Digital Design and Fabrication Concentration Curriculum:

Fall:

ARCH6502: Design Scripting (concentration core) 3CR

ARCH6505: Geometric Constructs (concentration core) 3CR

ARCH6506: Materials/Fabrications (concentration core) 3 CR

ARCH6506: Shape Grammars (recommended elective) 3CR

Free elective: 3CR

(Other electives can be substituted to the recommended electives, subject to advisor's approval)

Spring:

ARCH6501: Analogue Digital Design Computation (recommended elective) 3C

ARCH6503: BIM applications (recommended elective) 3CR

ARCH6504: Fabrication Workshop (concentration core) 6CR

ARCH6507: Parametric Design (concentration core) 3CR

(Other electives can be substituted to the recommended electives, subject to advisor's approval)

TOTAL 30 Credit Hours

Note: "ARCH6504: Fabrication Workshop" may be co-taught with a "design and research studio" (6 credit hours) under the M.Arch. curriculum (ARCH6051, ARCH6052, ARCH6053), subject to School Chair approval.

4.2. High Performance Buildings Concentration

The concentration in High Performance Buildings promotes sustainable architectural design through a better understanding of building physics and building technologies. The emphasis is on

energy performance and environmental impacts of buildings, as well as on the integration of measures of performance and impacts in the development of innovative architecture. The program is founded on a first-principles approach to building physics, envelope design, modeling and analysis, life-cycle assessment, applied simulation, AEC Integration, and critical ecological thinking.

Recommended High Performance Buildings Concentration Curriculum:

Fall:

ARCH6226: Green Construction (concentration core) 3CR

ARCH6242: Building Physics Modeling (concentration core) 3CR

ARCH4231: Environmental Systems II (concentration core) 3 CR

COA8676: Design and Engineering Databases (recommended elective) 3 CR

(Other electives can be substituted to the recommended electives, subject to advisor's approval).

Spring:

ARCH6209: Building Enclosure (concentration core) 3CR

ARCH6731: Zero Energy House (concentration core) 3CR

ARCH6241: Building Simulation in Design Practice (concentration core) 3CR

ARCH8833 (Special Topics in Architectural Technology) 3CR

Summer:

ARCH7000: Master's Thesis 6CR

TOTAL 30 Credit Hours

Note: As an alternative to the Master's Thesis students may, with advisor's approval, take an appropriate (oriented to High Performance Design) "design and research studio" (6 credit hours) under the M.Arch. curriculum (ARCH6051, ARCH6052, ARCH6053).

4.3. Health and Design Concentration

The health and design concentration supports better design of health care environments and healthy environments by systematically assessing the impact of designs on measurable indicators of health care outcomes and healthy living. Evidence based design decisions are set in the context of a broader understanding of strategic design and policy choices and the evolution of health care and health enhancement systems.

Recommended Health and Design Concentration Curriculum:

Fall:

ARCH6271: Healthcare Design of the Future (concentration core) 3CR

ID4210: Universal Design (concentration core) 3CR

CP6025: Advanced Planning Methods (concentration core) 3CR

Free Elective 3CR

Spring:

COA8630: Architecture, Space and Culture (concentration core) 3CR

ARCH6243: Evidence Based Design (concentration core) 3CR

ARCH6268: Advanced Architecture and Behavior (concentration core) 3CR

Free Elective 3CR

Summer:
ARCH7000: Master's Thesis

TOTAL 30 Credit Hours

Note: As an alternative to the Master's Thesis students may, with advisor's approval, take an appropriate (oriented to Health Care Design) "design and research studio" (6 credit hours) under the M.Arch. curriculum (ARCH6051, ARCH6052, ARCH6053).

5. Rules and regulations

M.S. students are subject to the Institute-wide rules and regulations, as these are described in the web-page of the registrar:

<http://www.catalog.gatech.edu/students/grad/index.php>

M.S. students and M.S. candidates should be aware of the following rules, among others:

1. General description of the M.S. degree:

<http://www.catalog.gatech.edu/colleges/coa/arch/grad/master/ms.php>

2. Thesis for M.S. students: <http://www.catalog.gatech.edu/students/grad/masters/thesis.php>

3. Residency requirements: <http://www.catalog.gatech.edu/students/grad/masters/enrollment.php>

4. Student honor code: <http://www.catalog.gatech.edu/rules/18b.php>

5. Student code of conduct: <http://www.catalog.gatech.edu/rules/19a.php>

In addition, students studying for the M.S. degree in Architecture are subject to the stipulations of this handbook as it stands the year of their first registration with the program. The handbook is updated at the beginning of every academic year. An up-to-date copy of the handbook is available at the School of Architecture website. When handbook changes are significant, students already enrolled with the program will be offered appropriate options as to whether to continue under the provisions applicable at the time of their first registration, or to transition to the new handbook.

6. Minimum program requirements and key milestones

Upon admission to the M.S. Program, the student and faculty advisor responsible for the concentration will review an appropriate plan of study, specifying the courses required for degree completion if these are different from those listed above. Submission of a number of forms is required throughout the program and those forms can be found at <http://www.gradadmiss.gatech.edu/thesis.php>.

6.1. Thesis topic proposal: In the semester prior to graduation, students are expected to submit a thesis Topic Approval Form signed by their concentration advisor and two more faculty members whose area of work is linked to the topic. Together, the advisor and two faculty members constitute a thesis committee. After the approval of the topic students proceed to work on their theses.

6.2 Thesis Approval: The thesis is approved by the thesis committee that signs the Thesis Approval Form. The committee will decide the appropriate mode of thesis presentation/defense. The submission and approval dates must be timed according to the institute's calendar.

7. Requirements for Award of the Master of Science with a Major in Architecture Degree

- 7.1. Degree Awarded: The diploma will read "Master of Science." The transcript is used to designate that the master's degree awarded is with a major in Architecture with the applicable concentration noted.
- 7.2. Petition to Graduate: To apply for the master's degree, the student must submit to the registrar, during the semester prior to the anticipated final semester of work, the petition for a degree with the Approved Program of Study. The diploma of a candidate for a degree shall bear the date of the latest commencement ceremony for the term in which the degree is awarded.
- 7.3. Approved Program of Study (listed on Graduate Petition for Degree): The student's Approved Program of Study must show that course requirements for the master's degree will be satisfied before or during the final semester. The Approved Program of Study must be successfully completed within a period of no more than six consecutive calendar years. These and other applicable Institute rules will be enforced at graduation.

All requirements for the degree must be completed and certified by the Registrar's Office no later than forty-eight hours after final grades for the term are due. If a candidate for a degree is not certified by the appropriate deadline, the degree will not be awarded. It is the responsibility of the student to reactivate the degree petition for the following semester.

The student must have an overall grade point average of at least 2.70 and satisfy all school academic requirements. All courses are taken on a letter-grade basis.

APPENDIX 4: Special focused evaluation and NAAB report

SPECIAL FOCUSED EVALUATION REPORT

PREPARED FOR THE

NATIONAL ARCHITECTURAL ACCREDITING BOARD

REGARDING THE

MASTER OF ARCHITECTURE PROFESSIONAL DEGREE PROGRAM

**SCHOOL OF ARCHITECTURE
GEORGIA INSTITUTE OF TECHNOLOGY**

SUBMITTED BY

**GEORGE B. JOHNSTON, PH.D.
PROFESSOR + INTERIM CHAIR**

JUNE 1, 2010

PROGRAM RESPONSES TO ISSUES OF CONCERN

As outlined in the accreditation decision letter from the National Architectural Accrediting Board (NAAB) dated July 22, 2008, Georgia Tech is required to prepare a Special Program Focused Evaluation Report due June 1, 2010 in the areas of **Human Resources** and **Financial Resources**.

The Visiting Team's concerns with regard to these two areas—Human Resources and Financial Resources—are particularly intertwined and inter-connected. The 2008 VTR found that increased enrollments combined with reduced revenues had led to a sacrifice in quality of instruction through the employment of increasing numbers of part-time instructors. As detailed below, the School of Architecture has moved aggressively in a short time to control enrollments, enhance revenues (even during a period of economic downturn), and rebalance and build quality in the mix of full-time/tenure-track and part-time instructors in the pre-professional and professional degree programs.

Condition 6: HUMAN RESOURCES

While the VTR finds Condition 6 “Met,” the report notes:

An area of growing concern is the enlargement of the undergraduate program. Full-time faculty hires have not kept up with this increase; the added students since the past visit have largely been handled by part-time instructors. Concern was expressed by faculty that some students can now move through the entire undergraduate program and not have a full-time faculty member in studio. (VTR p.10).

In addition, the Summary of Team Findings cites the following among its Causes for Concern:

The Team is concerned that, beyond the studio and faculty office space deficiencies, the significant relative loss of funding to the Program from the Institution with a concurrent increase in enrollment has caused the Program administration to hire less qualified part-time studio instructors than a professional degree program of the quality at Georgia Tech should provide to students. With an increasing number of current hires being either relatively recent graduates or unlicensed professionals, the lack of technical experience and expertise is evidenced in student work in the Comprehensive Design studios. The Program needs to redress this deficiency immediately. (VTR p. 4).

Program Response:

In response to the 2008 VTR concerns, Georgia Tech has moved to stabilize undergraduate enrollment at a more sustainable level and to fill vacant positions in the full-time corps of instruction with highly qualified tenure-track faculty members.

Enrollment. The spike in undergraduate enrollment cited as a Visiting Team concern in 2008 has been brought under control through adjustments in Georgia Tech’s centralized admissions process for entering undergraduate students. Management of the number of internal transfers into the College of Architecture from the Institute-at-large remains a challenge, however, as Georgia Tech students in good standing with less than sixty credit hours are automatically given the prerogative of electing one change of major without penalty.

Whether entering as freshmen or as internal/external transfer students, all undergraduate majors in the College of Architecture—including Architecture, Building Construction, and Industrial Design—must first matriculate through the Common First Year (CFY) before declaring a major in one of the three respective fields. Freshman enrollment in the College of Architecture reached a peak of 223 students in 2004 with CFY enrollment totaling 280. By Fall 2009 freshman enrollment in the COA was 134 while combined freshman and transfer students enrolled in the CFY totaled 186.

Freshman & Sophomore Enrollment 2002-2010

| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010* |
|--------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| COA Freshmen | 149 | 161 | 223 | 196 | 201 | 192 | 155 | 134 | 105* |
| COA Common 1st Yr. | 206 | 202 | 280 | 228 | 243 | 215 | 193 | 186 | 150* |
| B.S.Arch. Sophomores | 61 | 89 | 83 | 121 | 116 | 98 | 80 | 56 | 83* |

* = projected enrollments

Undergraduate enrollment in the School of Architecture (not to be confused with the *College of Architecture*) is comprised of the total of those sophomores who—following the CFY—elect Architecture as their major plus all continuing junior- and senior-level students in the major. (In the chart above, for example CFY enrollment of 186 in Fall 2009 is yielding an enrollment of 83 Sophomores with a major in architecture in Fall 2010.) The peak freshman enrollment period of 2004-2007 has thus resulted in increased enrollment at the other levels in the undergraduate curriculum in subsequent years. Projections show undergraduate student enrollment in the School of Architecture stabilizing at about 200 students by Fall 2010. Over the last three years, graduate student enrollment, including both Master of Architecture and post-professional Master of Science students, has remained steady between 130 and 140 students. Thus, from a peak enrollment of 380 students in 2007, pre-professional and professional program enrollment in the School of Architecture will be approximately 322 students in Fall 2010.

School of Architecture Enrollment 2002-2010

| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010* |
|---------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| SOA B.S.Arch. Enrollment | 180 | 195 | 211 | 248 | 246 | 244 | 235 | 209 | 190* |
| SOA M.Arch. Enrollment | 146 | 116 | 105 | 109 | 125 | 136 | 137 | 138 | 132* |
| TOTAL | 326 | 311 | 316 | 357 | 371 | 380 | 372 | 347 | 322* |

* = projected enrollments

Maintenance of enrollment at these levels is sustainable within current staffing and resource levels allowing an optimal mix of full-time/tenure-track and part-time instruction in architectural design studios as described below.

Faculty Composition and Credentials.

As noted in the 2008 VTR, increases in student enrollment were largely being accommodated mid-decade through the employment of an increased number of part-time instructors in both undergraduate and graduate level architectural design studios. Control of undergraduate enrollment has been a key factor in re-establishing a more proper balance between full-time/tenure-track and part-time instruction in architectural design studios. While 56% of undergraduate and graduate studio sections were taught by part-time instructors in AY 2008-2009, the proportion of part-time studio instruction was slightly reduced to 53% in AY 2009-2010.

B.S.Arch./M.Arch. Studio Sections Taught

| | FT/TT | PT | TOTAL |
|-------------------|--------------|-----------|--------------|
| 2008-2009 | 24 | 30 | 54 |
| 2009-2010 | 23 | 26 | 49 |
| 2010-2011* | 31 | 17 | 48 |

FT/TT = Full-Time / Tenure-Track Faculty

PT = Part-Time Faculty

* = Projected May 2010

Next year, AY 2010-2011, we project that only 35% of the studio sections will be taught by part-time instructors. This more dramatic reduction in part-time studio instruction is being achieved through the hiring of four new tenure-track faculty members, three of whom are well-qualified to teach both pre-professional and professional level architectural design studios and each with prior years of experience in architectural practice and education and well-considered research agendas. The fourth individual, a mechanical engineer by discipline, will contribute as a collaborator in the professional program's agenda of sustainable design and technical integration as well as in the advanced studies programs in the area of high performance buildings. A fifth individual newly hired in Spring 2009, an architectural historian, represents a new faculty position made available through the Georgia Tech Provost's Office as a "target of opportunity" hire. Thus, two of these five hires are females, and another proposal has been submitted to the Provost for an additional or sixth "target of opportunity" hire as we continue to pursue a strategy of building diversity in terms of gender and ethnic representation on the

faculty. A decision from the Office of the Provost on this latter proposal had not been reached at the time of this special report.

With these additions, the full-time corps of instruction across all programs in the School of Architecture—including B.S.Arch., M.Arch., M.S., and Ph.D. will be comprised of 32 individuals, 20 of whom are licensed architects (including 8 licensed in non-US jurisdictions) and 16 of whom hold the Doctor of Philosophy degree. Another four faculty members hold professional degrees in architecture, though they are not currently licensed. Additionally, the full-time faculty includes one licensed landscape architect and three engineers. One of the new hires holds both architecture and engineering degrees at both graduate and undergraduate levels. Of the 18 full-time faculty who regularly teach design studios in the pre-professional and professional programs, 15 are licensed architects, one is in the process of obtaining licensure, and two others hold professional degrees in architecture though they are not licensed.

The part-time faculty participating in design studio instruction during AY 2009-2010 included 19 individuals, 15 of whom were licensed architects. Our staffing projection for AY 2010-2011 design studios includes 12 part-time instructors, 10 of whom are licensed architects (three in non-US jurisdictions) and two of whom are in the process obtaining licensure. Eight of these individuals are principals or partners in architectural firms. This group brings a broad range of prior experience in both national and international architectural firms including: Perkins+Will Architects, Zaha Hadid Architects, Peter Eisenman Architects, Kohn Pedersen and Fox, Mack Scogin Merrill Elam Architects, John Portman & Associates, Swanke Hayden Connell Architects, Venturi Scott Brown & Associates, and Lord Aeck Sargent Architects.

Additions and replacements of full-time/tenure-track positions are allowing us to reduce the program's dependency upon part-time design studio instructors, and the part-time instructors we are hiring are being carefully considered in terms of the professional experiences they bring to our overall instructional profile. Several Professors of the Practice of Architecture drawn from the ranks of local firms now serve as members of our corps of instruction; and new funding has now been requested from the Institute to hire two additional Professors of Practice in the areas of Architectural Design and Building Technology and Architectural Design and Global Practice in order to further leverage Georgia Tech's proximity to the expertise available in Atlanta's broad and deep array of cutting-edge, global architectural practices.

Condition 10: FINANCIAL RESOURCES

The 2008 VTR found Condition 10 “Not Met” and commented:

Relative to the number of students taught, the Program’s financial resources have eroded since the 2002 Visit. Both the faculty and the administration of the Program express general concern that the quality of specific aspects of the Program is currently declining. This is most evidenced in the students’ studio work, most likely the consequence of inexperience in technical mentoring, the result of less experienced, unlicensed faculty. As studio is the central element of architectural education, it is of considerable concern. Impacts on educational quality also may affect faculty morale and retention. (VTR, p. 12).

Some aspects of this result from widespread conditions at the Institute and are largely beyond the College's or Department's control. Program faculty raises have been very modest over this period (approximately 11%). The Program's dedicated budget has only increased by approximately 16% since the prior visit (some of this increase results from the recent establishment of an endowed chair).

In the context of the large enrollment increases that the Program has faced, such relatively static budgetary allocation proves problematic. Student growth has been much higher than faculty growth. The Program is currently holding at least one faculty line open in order to use the funds to pay part-time instructors. Part-time instructors' compensation is below both national norms of architecture programs in major cities and of competing regional programs as well. Faculty discussed recent erosions of general funds for expenditures in the department for a dedicated lecture series for the department, for the full funding of trips to professional conferences, and for exhibitions.

The President informed the Team that the financial resources coming to every College were proportional to the actual enrollment from two years prior to the current year. This suggests that the "bulge" which so stressed the physical and financial resources of the Program during the past two years should be substantially alleviated by next year assuming the dean assigns the architecture program its share of the increase. Between 2002 and 2008 , the state's allocation increased 41.6%. The college of architecture's allocation increased only 36.6%, and the architecture program's allocation increased 17.8%, while enrollment increased 40% in 2004. As it significantly impacts this Program, adequate financial resources requires confirmation in the coming two years.

The Program has hired a Development Officer to develop a fundraising strategy and implement it as soon as possible. Coming from the world of non-profit arts programs, she appears confident in the potential to expand contributions to the Program.

Program Response:

The global economic downturn has significantly affected tax revenues in the State of Georgia during the last two fiscal years. This has in turn led to revenue reductions within the University System of Georgia, including Georgia Tech. During fiscal year 2009, the net reduction to the College of Architecture Budget was 4.6%, and in the current fiscal year, 2010, the reduction totaled 3%. Additionally, faculty and staff were required to observe six mandatory unpaid furlough days during the most recent academic year.

Despite this setback, however, several factors have mitigated the reductions creating a sense of optimism about the long-term budgetary prospects for the Master of Architecture program and the School of Architecture as a whole. The allocation of enrollment impact funds (FY 2009), the adoption of a differential tuition assessment, the initiation of a summer tuition incentive, and the addition of one full-time faculty line through a target of opportunity hire have cumulatively contributed to the achievement of positive growth in the School of Architecture’s “bottom-line” funding during a period of State budget recisions. Our projection (below) illustrates the anticipated budgetary situation for FY 2011 assuming another 3% across-the-board budget cut next year. Indeed, positive growth in the operating funds of the pre-professional and professional programs can be maintained with cuts as high as 8% based upon the supplemental revenue streams, the particular aspects of which are described below.

School of Architecture Budget 2009-2011

| | FY 2009 | FY 2010 | FY 2011* |
|------------------------------------|--------------------|--------------------|--------------------|
| Full-time Faculty and Staff | \$2,417,770 | \$2,492,770 | \$2,492,770 |
| Other Personal Services | \$409,887 | \$389,887 | \$329,887 |
| Non-Personal Services | \$92,134 | \$92,134 | \$65,434 |
| TOTAL | \$2,919,791 | \$2,974,791 | \$2,888,091 |
| | | | |
| FY Budget Cut | -\$104,780 | -\$86,700 | -\$86,643 |
| Enrollment Impact | \$97,000 | \$0 | \$0 |
| Differential Tuition | \$0 | \$125,540 | \$350,000 |
| Summer Salary Incentive | \$0 | \$33,400 | \$65,000 |
| GRAND TOTAL | \$2,912,011 | \$3,047,031 | \$3,216,448 |

* = Budget Projection, assuming a 3% cut in State Allocations

Enrollment Impact

In order to help the School of Architecture cope with the impact of the undergraduate enrollment spike mid-decade, the Institute provided a budgetary supplement to the program of approximately \$100,000 a year for three years, in Fiscal Years 2007-2009. Since this funding was not a permanent allocation, it could not be used to support new full-time/tenure-track hires; rather, the funding was used in a tactical manner to support the hiring of part-time faculty for design studio instruction. It is this practice that the 2008 VTR criticized. While this approach filled a short-term need, more sustainable supplementary funding sources are again allowing a more strategic approach to long-term staffing needs.

Differential Tuition

With an argument significantly bolstered by NAAB’s findings about the eroding financial integrity of Georgia Tech’s professional program in architecture, the School of Architecture proposed, Georgia Tech’s administration strongly supported, and the Board of Regents of the State of Georgia approved a plan to assess an additional “differential” tuition for all students matriculating into the Master of Architecture Program. This differential tuition assessment has created a significant new revenue stream earmarked specifically for support of and enhancements to the professional program. Beginning with Fall semester 2009, each new student entering the M.Arch. Program is being assessed an additional \$1995 per semester, the sum of which is being returned directly to the School. After the new tuition rate is phased in over the next three years, this assessment will produce a new income stream to the M.Arch. Program of approximately \$500,000 per year. This places the Master of Architecture Program tuition at the mid-point of its public peer institutions.

Estimated Differential Tuition 2009-2012

| | Enrolled Summer | Enrolled 1st Year | Enrolled 2nd Year | Enrolled 3rd Year | Enrolled Total | Differential Tuition |
|------------------|-----------------|-------------------|-------------------|-------------------|----------------|----------------------|
| 2009-2010 (FY10) | | | 31 | | 31 | \$125,540 |
| 2010-2011 (FY11) | 18 | 24 | 32 | 32 | 106 | \$375,024 |
| 2011-2012 (FY12) | 18 | 24 | 48 | 48 | 138 | \$502,704 |

Summer Incentive Funding

Recent State-mandated budget recisions put summer instruction at risk because funding set aside by each academic unit for summer salaries from its fiscal year allocations was vulnerable to the mid-year cuts. In order to incentivize summer instruction, the Institute agreed to return to academic units any tuition income from summer enrollment above and beyond an assigned base line number of credit hours. This approach has yielded a modest yet significant new revenue stream for the School of Architecture, and demand from students for summer instruction options is growing. In FY 2010, over \$33,000 was returned to the School of Architecture based upon this new policy, and it is estimated that net revenue from the current summer sessions, to be credited in FY 2011, will exceed \$65,000.

New Endowment Funding

As described in our 2009 NAAB Annual Report, an endowment established by the T. Gordon Little Foundation has made possible the award of approximately six fellowships per year to be used in the recruitment of the most qualified applicants into the Master of Architecture Program. Supplemental returns from that endowment also supported a prominent lecture series in the preceding academic year. Additionally, an annual lecture by a prominent practitioner of landscape architecture has been endowed by alumni and friends in the name of Architecture faculty member and Senior Associate Dean Douglas C. Allen.

CHANGES IN OUR ACCREDITED PROGRAM SINCE 2008

Changes in Administration and Administrative Structure

- July 2008: Professor Alan Balfour, Dean of the School of Architecture at Rensselaer Polytechnic Institute appointed Dean of the College of Architecture at Georgia Tech
- June 2009: Professor Ellen Dunham-Jones steps down as Director of the Architecture Program in order to return to full-time teaching and research
- July 2009: Professor George B. Johnston is appointed Director of the Master of Architecture Program
- July 2009: Associate Dean Sabir Khan serves as Director of the Bachelor of Science in Architecture Program
- January 2010: The College of Architecture is administratively reorganized from academic “programs” into five schools with autonomous budgets. These are the Schools of Architecture, Building Construction, City & Regional Planning, Industrial Design, and Music. The School of Architecture includes four degree programs: Bachelor of Science in Architecture, Master of Architecture, Master of Science, and Doctor of Philosophy.
- January 2010: Professor George B. Johnston is appointed Interim Chair of the School of Architecture. A search committee is formed to seek candidates for the position of Chair of the School of Architecture.

Changes in Faculty: Departures

- 2008: Assistant Professor Ruchi Choudhary accepts a position at the University of Cambridge in the United Kingdom
- 2009: Assistant Professor Franca Trubiano accepts a position at the University of Pennsylvania
- 2009: Associate Professor Christopher Jarrett is appointed Chair of the School of Architecture at the University of North Carolina at Charlotte
- 2010: Professor Elizabeth Dowling retires from Georgia Tech after almost forty years of service; named Professor Emeritus May 2010.

Changes in Faculty: Arrivals

- 2009: Dr. Mario Carpo of Ecole Nationale Supérieure d'Architecture Paris-La Villette is appointed Professor of Architecture at Georgia Tech
- 2009: Dr. Laura Hollengreen of University of Arizona is appointed Associate Professor of Architecture at Georgia Tech
- 2010: Tristan Al-Haddad, holding the Master of Architecture degree from Georgia Tech, is appointed Assistant Professor of Architecture at Georgia Tech
- 2010: Minjung Maing, holding a Master of Architecture from MIT and a Master of Civil Engineering from Stanford, is appointed Assistant Professor of Architecture at Georgia Tech
- 2010: Daniel Baerlecken, holding degrees from RWTH Aachen University, is appointed Assistant Professor of Architecture at Georgia Tech

- 2011: Jason Brown, holding the Master of Science in Mechanical Engineering and the Ph.D (ABD) in Architecture from Georgia Tech will be appointed Assistant Professor of Architecture effective January 2011.

Changes in Curriculum

- The Administration and Faculty are addressing the deficiencies cited in the 2008 VTR with regard to Student Performance Criteria pertaining to Comprehensive Design by implementing stronger linkages between graduate-level architectural design studios and co-requisite coursework in construction technology, site planning, and detailing. Outcomes of these efforts are currently being evaluated. Some specific revisions in curriculum structure will be considered in the next academic year with regard to these issues.

Changes in Facilities

- January 2010: 75 M.Arch. students are relocated to a satellite space three blocks away from the College of Architecture
- January 2010: A \$9.0 million renovation and adaptive reuse commences of the Hinman Research Building. The renovation will add 16,000 square feet of studio and instructional space for the Master of Architecture program (which includes 142 design studio work stations), five designated pin-up areas with 200 linear foot of display, 2,000 square feet of faculty office space, and 4,500 square feet of research space. Architects for the exterior renovation and preservation are Lord Aeck Sargent of Atlanta; architects for the interior renovation are Office dA of Boston. The facility will be operational in January 2011.

SUMMARY

As is evident, the College and School of Architecture have been undergoing significant organizational, leadership, and personnel changes over the past two years. Added to these, substantial budget cuts during this period and extended enrollment spikes were yielding unfavorable consequences in areas of faculty composition and academic quality. The convergence of these circumstances together with the concerns articulated in NAAB's 2008 Visiting Team Report created a climate of urgency within which new opportunities have been explored and pursued over the intervening two years. Among these, new revenue sources exceeding the amounts of cuts in public funding, the hiring of new tenure-track faculty, the improved management of undergraduate enrollment, and the imminent and significant addition of new facilities bode well, we believe, for the future trajectory of the School. As we continue to focus upon the achievement of demonstrable improvements in our teaching and learning outcomes, we are also challenging ourselves to innovate and renew our approaches to professional education through more meaningful contacts between practice and research; and to yield a higher dividend in the equation linking performance and design.

National Architectural Accrediting Board, Inc.

October 22, 2010

Dr. G. P. Peterson, President
Office of the President
Georgia Institute of Technology
225 North Avenue, NW
Atlanta, GA 30332-0325



Dear President Peterson:

After reviewing the *Focused Evaluation Program Report* submitted by Georgia Institute of Technology College of Architecture as part of the focused evaluation of its Master of Architecture program, in conjunction with the *Focused Evaluation Team Report*, the National Architectural Accrediting Board (NAAB) has found that the changes made or planned by the program to remove the identified deficiencies are satisfactory.

The program also will not be required to report on these deficiencies as part of its Annual Report (AR) to the NAAB; however, the program should continue to provide a response to any other deficiencies listed in the most recent *Visiting Team Report* and report on any modifications made in the program that may change its adherence to the conditions for accreditation.

The next comprehensive visit for Georgia Institute of Technology Master of Architecture program is scheduled for 2014 and will be subject to the *2009 Conditions for Accreditation* and the most current *Procedures*.

If you have any questions regarding this matter, please contact the NAAB office.

Sincerely,

A handwritten signature in black ink that reads "Wendy Ornelas".

Wendy Ornelas, FAIA
President

cc: George B. Johnston, Director
Michael Broshar, FAIA, Lead Reviewer
Randall Ott, RA, Secondary Reviewer

enc.



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Georgia Institute of Technology
College of Architecture

Focus Evaluation Team Report

Master of Architecture

Track I (non-preprofessional undergraduate degree + 108 graduate credit hours)

Track II (preprofessional undergraduate degree plus 60 graduate credit hours)

The National Architectural Accrediting Board
September 2010

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

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I. Summary of Team Findings

1. Team Comments

This Focused Evaluation of the Georgia Institute of Technology College of Architecture Programs concerned two conditions: Condition 6 – Human Resources and Condition 10 – Financial Resources. We wish to thank Professor George Johnston, PhD. for providing a thorough FE report, and for providing timely and useful clarifying responses to our questions.

The College of Architecture has undertaken significant actions during the two years since their accrediting team visit to respond to the Conditions Not Met and Causes of Concern.

- A net of five additional Full Time/Tenure Track Staff have been assigned to teach studio courses since the team visit, with corresponding reduction of 11 part time faculty studio assignments. There has been a reduction in admissions to achieve a balance between the number of studios and the staff available to teach them.
- In spite of budget rescissions in FY2009 and FY2010 of -4.6% and -3% respectively, the College has been able to supplement their budget through differential tuition assessment, a summer tuition incentive and a target of opportunity hire, resulting in a net increase in budget of 4.6% from FY2009 to 2010 and a projected increase of 5.6% in FY2011 over 2010.
- The VTR noted the high quality of the program and attributed much of the program's success to the dedicated and supportive faculty and administration.

II. Compliance with the Conditions for Accreditation

Program Response to the NAAB Focused Criteria

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

6. Human Resources

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

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

The primary concern of the Visiting Team in 2008 was the number of design studios taught by part time faculty, and the limited experience of those part time faculty. Increases in enrollment were being accommodated through the employment of an increased number of part-time instructors in design studios. 56% of studio sections were being taught by part-time instructors in AY 2008-09.

A number of actions taken in the interim have resolved this condition. A net of four full time/tenure track faculty have been hired or assigned to studio coursework. In 2008-09, there were 24 FT/TT faculty studio sections taught and 30 PT. In 2010-11, there are 29 FT/TT faculty sections taught and 19 PT. The total is a reduction from 54 to 48 studio sections taught, due to a restriction in the number of students enrolled.

The full time/tenure track faculty numbers 32, of which 20 are licensed architects and 16 hold Doctor of Philosophy degrees. The staffing projection for 2010-2011 design studios includes 12 part time instructors, of which 10 are licensed architects.

Responding to concerns raised in the 2008 VTR, undergraduate enrollment has been stabilized by changes in the institution's centralized admissions process. Freshman enrollment in the College of Architecture peaked at 223 students in 2004. In the Fall of 2009, the freshman enrollment was 134. Common First Year enrollment in the College of Architecture dropped from 280 students to 186 in the same period. Graduate student enrollment has remained steady between 130 and 140 students. Total enrollment in the School of Architecture peaked at 380 in 2007 and is projected at 322 for the Fall of 2010.

10. Financial Resources

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

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

Concerns in the 2008 VTR noted that relative to the number of students enrolled, the Program's financial resources had eroded since the 2002 visit.

The economy during the past two years has been difficult for architecture programs across the country, and Georgia Tech has not been spared. During FY2009 the net reduction to the College of Architecture budget was 4.6%, with a subsequent 3% reduction in FY2010. Faculty and staff were also required to take six furlough days during the most recent academic year.

- Despite these conditions, a number of actions have been taken by the institution in response to the 2008 Accreditation decision, improving the financial resources outlook. In FY 2009, enrollment impact funds of \$97,000 were provided to offset the cost of the increased (but declining) enrollment.
- In addition, a differential tuition assessment of \$1,995 per semester was initiated in the Fall of 2009 for all students in the Master of Architecture Program. As the new tuition rate is phased in with incoming students over the next three years, the assessment will provide an income stream of approximately \$500,000.
- Summer Incentive Funding has provided a new revenue stream for the School. \$33,000 was provided to the school in FY2010 and it is estimated net revenue for FY2011 will exceed \$65,000.
- New endowment funding has been provided to provide approximately six fellowships per year and to restore the College's annual lecture series.
- The net result of these additional revenue sources has been an increase in revenue of 4.6% from 2009 to 2010, with a projected increase of 5.6% from 2010 to 2011.

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III. Appendices

Appendix A: The Visiting Team

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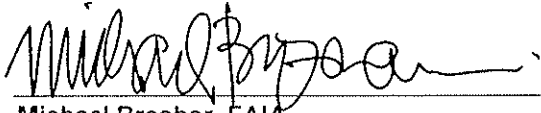
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Appendix B: The Visit Agenda

No visit required.

IV. Report Signatures

Respectfully submitted,



Michael Broshar, FAIA
Review Chair

Representing the Profession



Randall Ott, RA
Secondary Reviewer

Representing the Academy

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APPENDIX 5: B.Sc. Architecture handbook

**School of Architecture
Georgia Institute of Technology**

Bachelor of Science in Architecture (B.S.Arch.)

**Handbook
2012-2013**

School of Architecture

George B. Johnston, Ph.D., Chair

John Peponis, Ph.D., Associate Chair of M.S. and Ph.D.

Michael Gamble, Architect, Associate Chair of Undergraduate and Professional Studies

Lucie André, Assistant Director of Administrative Operations

Brenda Pereira, Academic Advising Manager

Robin Tucker, Academic Advisor

Samantha King, Senior Administrative Professional

Shaunitra Wisdom, Academic Assistant

| | |
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Introduction 00

This handbook is provided to undergraduate students in architecture for two primary purposes:

- 1) to act as a guide to the resources and opportunities available to students in the Bachelor of Science in Architecture program (B.S.Arch.) and
- 2) to make known the minimum level of expectations for the award of the B.S.Arch. degree in both academic and non-academic terms.

This handbook is a supplement to the bi-annual Georgia Tech General Catalog and the Student Rules and Regulations, *and in no way supersedes either*. The handbook will be updated on an as-needed basis with the most recent edition governing. Check with your Academic Advisor in the School of Architecture Office if you have questions or need clarification about any material you see in this handbook.

Undergraduate Studies in Architecture

The Bachelor of Science in Architecture (B.S.Arch.) program is a four-year, pre-professional program that prepares students for graduate-level studies in architecture, for graduate study in related fields, or for a variety of career options related to architecture, the building industry, or government service.

Current laws governing the practice of architecture in the State of Georgia require completion of a professional degree in architecture in order to qualify to sit for the Architect Registration Exam (A.R.E.) and to become a licensed architect in the state, along with a period of practical training or internship in the employ of a registered architect (approximately three years).

At Georgia Tech's School of Architecture, a "professional degree" means the Master of Architecture (M.Arch.), which is part of what is commonly known as a "4+2" structure, in which a four-year pre-professional bachelor's degree in architecture is followed by a two-year M.Arch. degree. Approximately sixty per cent of architecture schools in the United States follow the 4+2 model. Other schools offer professional five-year Bachelor of Architecture (BArch) programs, and a lesser number offer five-year master's programs. One school, the University of Hawaii at Manoa, offers the relatively new Doctor of Architecture (D.Arch.) degree, a professional credential different in nature from Ph.D. programs in architecture, such as those offered at Georgia Tech.

Accreditation **01**

Current Accreditation Status

The School of Architecture at Georgia Tech is fully accredited by the National Architectural Accrediting Board (NAAB). The current term of accreditation is for years 2008-2013. The program was re-accredited in spring 2008.

Accredited Degrees and Terms of Accreditation

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

Guide to Student Performance Criteria

To assure broad familiarity with the skills and knowledge that must be demonstrated by graduates of professional degree programs and to encourage dialogue about the goals of architecture education, the NAAB (National Architectural Accrediting Board) publishes a guide to the student performance criteria. As one of the conditions of accreditation, programs are required to distribute copies of the guide to all faculty and incoming students. The NAAB also provides copies of the guide to the collateral organizations for distribution within their constituencies. In addition to a brief overview of accreditation and directions on how to obtain additional information about the process, the *2008 Guide to Student Performance Criteria* lists and defines the thirty-seven criteria that comprise a professional education in architecture.

The Faculty of the School of Architecture endeavors both to meet and to exceed these minimum expectations through its curriculum and to shape a unique and diversified educational experience which

fulfills the high academic standards of Georgia Tech. Copies of the Guide to Student Performance Criteria are available at:

http://www.naab.org/accreditation/2009_Conditions.aspx

Program Description

02

Program Objectives

Within the overall mission of the College of Architecture, the undergraduate program in architecture has three major objectives:

- To provide a general university education within the context of Georgia Tech and within the study of architecture both as an intellectual discipline and as a profession. The objective of the program is to expose students to many different fields of study while demonstrating how they are related.
- To provide a multi-disciplinary foundation of education in architecture with a focus on the architectural design studio as its primary setting. In addition to design studios, the undergraduate program includes required courses in the following major subject areas: architectural history and theory; architectural technology; and visual arts / design computing.
- To provide for the development of individual student interests through a substantial number of free and required electives, which comprise almost one-third of the undergraduate curriculum. This flexibility allows a student to pursue specific interests within the discipline of architecture, within the associated programs of City Planning, Building Construction or Industrial Design, or in programs combined with other disciplines on campus.

B.S.Arch. Degree Requirements and Curricular Objectives

The four-year undergraduate program in architecture at Georgia Tech is a pre-professional program in the discipline of architecture. This means that the four-year B.S.Arch. degree fulfills the preparatory requirements for admission to most two-year professional architecture programs which lead to the Master of Architecture as the first professional degree. Most states require a professional degree in architecture as one of the several qualifications for the architectural license. At Georgia Tech, the Master of Architecture (March) is the only degree that fulfills this requirement.

General Curriculum Structure

Professional master's degree programs may consist of a pre-professional undergraduate degree plus a professional degree (the "4+2" structure mentioned in Section 00 above) that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree (B.S.Arch. at Tech) is not, by itself, recognized as an accredited degree.

The four-year undergraduate program, on the other hand, is organized in order to comprehensively address the educational, preparatory, and pre-professional objectives of the M.Arch. program. The B.S.Arch. program is comprised of general Georgia Tech requirements in Math, Science, Humanities, Social Sciences, General Skills, Computing, and Health and Performance Sciences; architecture core courses in design, history, technology, and visual communications; architecture electives; cluster electives; and free electives.

This combination of both required and elective course work is intended to provide the general educational background necessary for the study of architecture, introduction to the particular

knowledge and skills specific to the discipline of architecture, and sufficient flexibility to allow the pursuit of individual interests and the development of goals for future professional studies.

Bachelor of Science in Architecture (B.S.Arch.) Requirements by Year

For current B.S.Arch. degree requirements, navigate to the current *Georgia Tech General Catalog* at

| B.S.Arch by Area (131 Hours) | | | |
|---|----------------|--|----------------|
| GEORGIA TECH Core Requirements | Credits | ARCHITECTURE Major Requirements | Credits |
| Area A1 – English (8 semester hours) | | Introductory Courses (10 semester hours) | |
| ENGL 1101 – English I | 3 | COA 1011 – Fundamentals of Design I | 3 |
| ENGL 1102 – English II | 3 | COA 1012 – Fundamentals of Design II | 4 |
| Area A2 – Mathematics (8 semester hours) | | COA 1060 – Introduction to Design | 3 |
| MATH 1501 – Calculus I | 4 | | |
| MATH 1502 – Calculus II | 4 | Architectural History | |
| Area B | | ARCH 2111 – History of Architecture I | 3 |
| CS 1301 or higher level | 3 | ARCH 2112 – History of Architecture II | 3 |
| Area C – Humanities (6 semester hours) | | Architectural Technology (9 semester hours) | |
| Humanities Elective | 3 | ARCH 2211 – Construction Tech I | 3 |
| Humanities Elective | 3 | ARCH 3231 – Environmental Systems | 3 |
| Area D – Science (8 semester hours) | | ARCH 3241 - Fundamentals of | 3 |
| PHS 2211 – Physics I | 4 | Architectural Design (18 semester hours) | |
| Science Elective (EAS 1601) | 4 | ARCH 2011 (or 4105) Studio I | 4 |
| Area E – Social Sciences (12 semester hours) | | ARCH 2012 (or 4106) Studio II | 4 |
| HIST 2111, 2112, POL 1101, | 3 | ARCH 3011 – Architectural Design | 5 |
| INTA 1200, or PUBP 3000 required | | ARCH 3012 – Architectural Design Studio IV | 5 |
| HTS 3011 or ARCH 4151 | 3 | ARCH 4011 and 4012 or Cluster Electives* | |
| Social Science Elective | 3 | Students pursuing the professional track must complete either the 10 semester hour senior level sequence in architectural design (ARCH 4011 & 4012) or an approved cluster of courses. | |
| Social Science Elective | 3 | | |
| Wellness | | | |
| HPS 1040 | 2 | | |
| Free Electives (21 semester hours) Students may select any combination of approved courses to fulfill the 21 semester hour requirement | | | |
| | | College of Architecture Electives (12 semester hours) | |
| | | Visual Arts Requirement | |
| | | Media & Modeling III | |
| | | Elective (SoA, CS, C&RP, or ID) | |
| | | Elective (SoA, CS, C&RP, or ID) | |
| | | Minor (Optional): Cannot double count courses for core requirements or major requirements; Free electives can double count for minor. | |
| Visual Arts/Computing, Theory and Crit I & II, Construction Tech II, Environmental Systems II, Structures I & II, Practice of Arch I & II | | | |

<http://www.catalog.gatech.edu/colleges/coa/arch/ugrad/B.S.Arch./grade.php>. Expanded information about area requirements is provided below.

Common First Year Requirements

Common First Year courses are required of all undergraduate majors in the College of Architecture and include both lecture and design-studio courses in the field of Design & the Built Environment. Students enter as Pre-Architecture majors and spend their first year in design studio with Pre-Building Construction and Pre-Industrial Design students. In the spring of the Common First Year, students declare an official major; if they choose to continue in the B.S.Arch. program, they change their majors to Architecture.

Design Studio

A major emphasis of undergraduate study in architecture at Georgia Tech is the sequence of courses in architectural design. The architectural design studio is not an independent requirement of the program of study, but rather is the *central focus* of the architecture curriculum. In the design studio, knowledge from all of the other courses is tested, integrated, and put into practice in design projects which require imagination, organization, and skill.

Design is a creative problem-solving process which combines analysis with analogy-making in the pursuit of appropriate forms. Architectural design applies this process to the challenges of envisioning the future and of constructing cities, buildings, and environments that are at once livable, sustainable, and beautiful.

Since the courses in architectural design are so critical to the central objectives of the program, specific expectations are established at each year-level of the curriculum. During the third and fourth years of the undergraduate program, students may choose among a variety of more advanced course offerings in the subject areas of Architectural Design; History and Theory of Architecture; Architectural Technology; Architecture, Culture, and Behavior; Architectural Practice; and Visual Communications. In addition, third- and fourth-year students are able, with the advice and approval of their counselors, to enroll in professional-level courses for which they may receive advanced placement credit when they begin their professional studies for the Master of Architecture (M.Arch.) degree.

Much of the course work in the third and fourth years of the curriculum is elective in nature, however, allowing students to pursue individual interests, both within the College of Architecture/School of Architecture and across Georgia Tech through the choice of electives. Fourth year students may continue with design studio on their senior year or elect to substitute a cluster of electives for completion of the B.S.Arch. degree.

Substituting a ten-hour cluster for senior studio sometimes is appropriate for students who have transferred to Georgia Tech with significant credit from other schools. Students who elect the cluster option, however, may expect their professional master's program to be three years in length rather than two, as a year of preparatory studio usually will be required to make up for senior studio. Students who are considering a cluster should work closely with their academic advisor.

For students who complete their senior studio year of studio, the pre-professional program culminates in the fourth year design studio that provides the context within which design skills and potentials of the student may mature in preparation for entry into a graduate professional program in architecture.

| B.S.Arch by Year (131 Hours) | | | |
|--|----------------|---|----------------|
| FIRST YEAR – FALL | Credits | FIRST YEAR - SPRING | Credits |
| COA 1101 Fundamentals of Design I | 3 | COA 1012 Fundamentals of Design II | 4 |
| COA 1060 Introduction to Design | 3 | ENGL 1102 English Composition II | 3 |
| Computing Requirement: CS 1301 or higher level | 3 | Social Science Elective: HIST 2111, 2112, POL 1101, PUBP 3000, or INTA 1200 | 3 |
| ENGL 1101 English Composition I | 3 | MATH 1502 Calculus II | 4 |
| MATH 1501 Calculus I | 4 | Social Science Elective | 3 |
| <i>Total Fall Semester Hours</i> | <i>16</i> | <i>Total Spring Semester Hours</i> | <i>17</i> |
| SECOND YEAR – FALL | Credits | SECOND YEAR - SPRING | Credits |
| ARCH 2011 Design Studio I | 4 | ARCH 2012 Design Studio II | 4 |
| ARCH 2111 History of Arch I | 3 | ARCH 2112 History of Arch II | 3 |
| ARCH 2211 Construction Tech | 3 | Approved Science Elective (EAS 1601) | 4 |
| PHYS 2211 Physics I required | 4 | Humanities Elective | 3 |
| Social Science Elective | 3 | Media & Modeling for Sophomores (required COA elective) | 3 |
| Visual Arts/Computing Elective | 3 | | |
| <i>Total Fall Semester Hours</i> | <i>20</i> | <i>Total Spring Semester Hours</i> | <i>17</i> |
| THIRD YEAR – FALL | Credits | THIRD YEAR - SPRING | Credits |
| ARCH 3011 Design Studio III | 5 | ARCH 3012 Design Studio IV | 5 |
| ARCH 3241 Fund of Structures | 3 | ARCH 3231 Environmental Systems I | 3 |
| *Social Science Elective: HTS 3011 or ARCH 4151 required | 3 | Humanities Elective | 3 |
| Free Elective | 3 | HPS 1040 Wellness | 2 |
| Free Elective | 3 | Free Elective | 3 |
| <i>Total Fall Semester Hours</i> | <i>17</i> | <i>Total Spring Semester Hours</i> | <i>16</i> |
| FOURTH YEAR – FALL | Credits | FOURTH YEAR – SPRING | Credits |
| ***ARCH 4011, Design Studio V or Cluster Electives | 5 | ***ARCH 4012, Design Studio VI or Cluster Electives | 5 |
| **College of Architecture Elective | 3 | **College of Architecture Elective | 3 |
| Free Elective | 3 | Free Elective | 3 |
| Free Elective | 3 | Free Elective | 3 |
| <i>Total Fall Semester Hours</i> | <i>14</i> | <i>Total Spring Semester Hours</i> | <i>14</i> |

Electives

Electives comprise approximately one-third of the course requirements for the B.S.Arch. degree. Cluster electives are focused within a designated subject area (see previous information in this section regarding clusters and senior studio). College of Architecture electives may be chosen from among the undergraduate course offerings available within the College; and Free Electives may be chosen from among those non-required undergraduate courses offered by any College at Georgia Tech.

Minors and Certificates

Electives may also come from minor or certificate concentrations available in a number of programs at Georgia Tech. Navigate to <http://www.catalog.gatech.edu/academics/minors.php> and <http://www.catalog.gatech.edu/colleges/coa/arch/ugrad/certificates.php> to see a list of available SoA/CoA minor and certificate programs. For additional information on minors and certificates, see Section 03.

Required undergraduate courses in the Architecture Program form the core of undergraduate architectural education at Georgia Tech. These courses are based on a carefully designed sequence that should be followed as closely as possible for the following reasons:

- Courses are designed to coordinate with other courses in that year sequence, and in particular with the architectural design studio. Therefore, to get maximum benefit from a course or course sequence it is prudent to stay on track.
- In general, all required undergraduate courses are offered only once per year. Therefore, students may lose an entire year or more if they fail to stay on track.

Requirements are divided into four areas of study, each of which has its own courses and requirements. Each is based on a required core of course work that provides the student with an introduction to that area, and each has elective requirements that allow the student to pursue individual interests at a more advanced level through a combination of architecture electives, free electives, and cluster electives.

Areas of Study and Required Courses

Introductory Courses in Architecture

Three courses form the pre-professional introduction to the discipline of architecture. They must be taken in sequence:

- COA 1011. Fundamentals of Design and the Built Environment I. 0-9-3. Introduction to creative problem-solving and the design realization cycle through project-based design exercises that emphasize the role of representation.
- COA 1012. Fundamentals of Design and the Built Environment II. 1-9-4. Introduction to the design of complex problems through an emphasis on integrative and collaborative design strategies, research, critical reflection, and interdisciplinary teamwork.
- COA 1060. Introduction to Design and the Built Environment. 3-0-3. Introduction to architecture, building construction, and industrial design through case studies that illuminate past and present practices, as well as future possibilities within the disciplines.

Architectural Design

Architectural design studies are required in the second and third year of the undergraduate program. The studio courses are similar in their analytic and synthetic methods of inquiry and are issue-driven, focusing at increasing levels of complexity upon principles and concepts of history, environment, culture, context, function, space, form, human behavior, construction, structure, and representation.

Design courses are coordinated with the lecture courses in the areas of history, theory, and technology allowing students to gain knowledge, skill, and confidence from the repetitive experience of the design process. The content of each design studio varies, therefore, from semester to semester related to the objectives of each phase of the program. The following studios are required and must be taken in sequence:

- Arch 2011. Architectural Design Studio I. 0-12-4. Prerequisites: COA 1012. Elementary design exercises exploring fundamental issues of form and space through analysis of architectural elements and compositions and their use in creative problem-solving.
- Arch 2012. Architectural Design Studio II. 0-12-4. Prerequisites: Arch 2011. Elementary design exercises focusing upon the compositional integration of building and site through the creative assimilation of programmatic, technical and contextual requirements.

Arch 3011. Architecture Design Studio III. 1-12-5. Prerequisites: Arch 2012. Intermediate architectural design projects emphasizing the functional priorities and expressive potential of building technologies through studio problems of varying programmatic and contextual complexity.

Arch 3012. Architecture Design IV. 1-12-5. Prerequisites: Arch 3011. Intermediate architectural design projects exploring the interrelationships of various programmatic models, normative building types, and technological themes within specific physical, urban, and cultural contexts.

Arch 4011. Architectural Design Studio V. 1-12-5. Prerequisites: Arch 3012. Advanced studies in architectural design emphasizing application of analytical, conceptual, and representational skills within projects that engage and problematize urban contexts culturally, ecologically, and technologically.

Arch 4012. Architectural Design Studio VI. 1-12-5. Prerequisites: Arch 4011. Advanced studies in architectural design emphasizing application of analytical, conceptual, and representational skills within projects that engage and problematize urban contexts culturally, ecologically, and technologically.

NOTE: The fourth year design sequence, Arch 4011-2, is optional and recommended as cluster electives for students planning to complete the professional degree in Architecture.

Architectural History and Theory

Both introductory and advanced courses in architectural history and theory convey specific knowledge of, and interrelationships between buildings, technology, art, culture, cities, landscape, professional practice, and architectural texts. In this way history and theory courses provide a basis for both architectural design and criticism and become significant studies within the humanities. The required history core is comprised of a two-course sequence of a basic architectural history survey.

Arch 2111. History of Architecture I. Architectural history from antiquity through the 18th century emphasizing buildings in their cultural context as informed by social, technological, and constructive factors and theoretical positions.

Arch 2112. History of Architecture II. Prerequisites: Arch 2111. Architectural history during the 19th and 20th centuries emphasizing buildings in their cultural context as informed by social, technological, and constructive factors and theoretical positions.

Architectural Technology

The courses in technology assume that knowledge of architectural technology is an integral part of design and is necessary for both professional practice and advanced research. The introductory courses provide the basis for the student's understanding of the anatomy of buildings, the physiology of buildings (e.g. the characteristics of materials, systems, and assemblies), and the skeletal or structural basis of buildings. Advanced courses are concerned with investigations into specific subject areas that are led by scientific or engineering research. The required technology core is comprised of a two-course introductory sequence in building systems and an introductory course in the fundamentals of architectural structures.

Arch 2211. Construction Technology & Design Integration I. Introduction to building anatomy, technical and expressive characteristics of materials and their organizational assembly.

Arch 3231. Environmental Systems & Design Integration I. Prerequisites: Arch 2211. Human physiology, the occupation of space, and principles of sustainability. Microclimate, energy consumption, thermal loading, passive solar strategies, day lighting, optics, and acoustics.

Arch 3241. Fundamentals of Structures. Prerequisites: Phys 2211. Physics of structure: principles of statics, strengths of materials and the dynamic forces acting upon them.

Architecture (SoA/CoA) Electives

A minimum of twelve semester hours of approved architecture electives is required. These courses may be chosen from among any of the courses taught in the College of Architecture in the Architecture, Building Construction, City Planning, and Industrial Design Programs and not otherwise required for the B.S.Arch. degree.

One three-semester-hour course in Visual Arts and Computing (either ARCH 4411 or 4415, 4414, 4420 or other approved visual arts elective) is required within the category of Architecture Electives or from approved list.

Free Electives

Twenty-one semester hours of free electives are included in the curriculum to allow students to pursue architectural studies in additional depth or other educational interests within or outside of the School/College. Courses chosen from the lists of professional electives or any other courses taught in the College or the Institute and not otherwise required for the BArch degree will satisfy this requirement.

Cluster Electives (Substitution for Senior Studio)

If a student chooses not to complete senior studio, a minimum of 10 semester hours in a concentrated cluster of courses is required. Clusters may be developed from courses offered either inside or outside of the College of Architecture. This requirement may be fulfilled by any existing certificate program on the campus, or by a 10-credit-hour concentration approved by the School of Architecture Associate Chair. The cluster is subject to the following additional requirements:

- All 10 hours must be in addition to the specific required courses for the B.S.Arch. degree.
- All 10 hours must be in one discipline (e.g., Building Construction, Visual Communications, French, Mathematics, etc.) or in an interdisciplinary cluster group or a particular cluster (e.g., Technology and Society, Environmental Studies, Study Abroad, etc.) 3000 level or higher, with some exceptions.
- The cumulative grade point average for the 10-hour cluster must be a minimum of 2.0.

Students should consult their SoA Academic Advisor for additional information on cluster options. Proposed cluster programs must be approved prior to beginning the fourth year of study and must be signed by each student's advisor for the cluster prior to final approval by the Associate Chair.

Graduate Courses Taken as an Undergraduate

A number of courses offered in the SoA and required for the M.Arch. degree are also open to undergraduate students as elective courses. When successfully completed in the undergraduate program, these courses often contribute to the student's advanced placement when applying for graduate study at Georgia Tech or other graduate institutions. Courses that serve as both undergraduate electives and graduate requirements are divided into topical areas which correspond to the requirements of the graduate curriculum.

Architectural History and Theory

Arch 4151 History of Urban Form

Arch 6131-2 Architectural Theory & Criticism I, II (Note: Undergraduate student enrollment in graduate-level courses [6000 and above] requires senior status, a minimum GPA of 2.7, and permission of the Associate Chair).

Architectural Technology

Arch 4220 Construction Technology & Design Integration II

Arch 4231 Environmental Systems & Design Integration II

Arch 4251-2 Architectural Structures & Design Integration I, II

Professional and Social Practice

Arch 4315 Professional Practice of Architecture

Visual Arts & Design Computing

Arch 4411 Introduction to Visual Arts or 4414 or 4415

Arch 4420 Introduction to Design Computing

Notes on Preparing for Graduate School

It is important to note that B.S.Arch. students are not automatically admitted to the graduate program in architecture at Georgia Tech. Students must apply to their target program and compete with the general pool of applicants to that program. Graduate admission is based on a satisfactory level of achievement in four main areas:

- Academic performance,
- Design portfolio,
- Three letters of reference, and
- Scores from the Graduate Record Examination.

Normally a minimum 2.7 undergraduate grade point average is required for admission to the Graduate Program. Deadline for application is January 15 of the year preceding desired admission. The Graduate Program accepts students for admission only in the fall semester of each year. The Program has a limited number of graduate fellowships reserved for outstanding applicants who hold Georgia Tech undergraduate degrees.

Certificates and Minors 03

Certificates

The School of Architecture currently offers certificates in architectural history with specializations in European Design History, American Architectural History, and the History of Architecture and Design. Program requirements are detailed in the *General Catalog* at <http://www.catalog.gatech.edu/colleges/coa/arch/grad/master/cert.php>. For more information, please consult a SoA Academic Advisor.

The School of City and Regional Planning offers the Undergraduate Certificate in Land Development, detailed at <http://www.planning.gatech.edu/undergraduate/home>.

Minors

A minor in Architectural History and a College-wide minor in Multidisciplinary Design/Arts History are available to B.S.Arch. students as well as students in other majors. Navigate to <http://www.catalog.gatech.edu/academics/minors.php> to see information on these minors and those in other areas.

A B.S.Arch. student may complete a minor in a field other than architecture while completing the requirements of his or her major degree program. With the approval of the major school, the student should consult an advisor in the minor field, who can inform the student of the requirements for the minor. Students pursuing certificates or minors work with their SoA advisor and to incorporate requirements into the B.S.Arch. program. In general, most certificate and minor programs can be completed without exceeding B.S.Arch. program requirements.

International Programs 04

The School of Architecture strongly encourages students to study abroad and works closely with participants to ensure that they do not have to extend their B.S.Arch. program to do so. Studying abroad can enrich a student's life and academic program immeasurably. Many opportunities for foreign study are available through the College of Architecture and Institute, and new options are explored on an ongoing basis.

Study Abroad

Summer Study in Greece and Italy

The Summer Study in Greece and Italy program involves a five-week concentrated and intensive study at the buildings, sites, and museums where works by Michelangelo, Uccello, Leonardo, Brunelleschi, and Caravaggio were originally carried out. In addition to painting, sculpture, and architecture, attention is given to the urban context extending from classical antiquity through the Renaissance and late Baroque periods. On-site studies at Delphi, Mycenai, Epidauros, Delos, Mykonos, Santorini, the Roman Forum, Pompeii, Herculanium, Ostia, Paestum, Hadrian's Villa, Villa D'Este, Villa Giulia, The Vatican Museum, Borghese Museum, Basilica of St. Peter, and other sites provide students with a deeper understanding and appreciation for the role that Greece and Italy have played as the artistic, engineering, and political cornerstones of the western world. Twelve credit hours are offered, six of which satisfy Institute undergraduate humanities requirements. The remaining six hours are taken as free electives and involve faculty-directed independent study of topics developed during the spring term. For more details, including current contact information, navigate to http://www.arch.gatech.edu/undergraduate/summer_italy and contact your SoA Academic Advisor.

Plans for Junior-Year Study Abroad Options

The School of Architecture is currently considering several exchange arrangements with notable foreign schools that would offer students the opportunity to complete their junior-year studies, including design studio, abroad. Plans are expected to be finalized soon, so interested students should contact their SoA Academic Advisor for up-to-date information.

In addition, many study abroad options are available to students through the Office of International Education (OIE). For more information, navigate to <http://www.oie.gatech.edu/>. OIE advisors welcome B.S.Arch. students and work closely with SoA advisors to optimize study abroad experiences.

International Plan

The OIE administers Georgia Tech's International Plan (IP), a challenging and coherent academic program for undergraduates that aims to develop global competence within the study of architecture. The International Plan is an intensive, degree-long program designed to prepare Georgia Tech graduates professionally and personally for success lives in the twenty-first century. Students in the School of Architecture comprise one of the largest groups of IP students on campus.

Participation in the International Plan will gain students:

- An understanding of the global economy and international relations
- The ability to function effectively in multi-national work
- The ability to assimilate comfortably into different world
- Knowledge of how architecture is practiced in an international context
- Degree designator on the Georgia Tech diploma and transcript

While many students gain some exposure to these aspects of today's world through the patchwork of traditional international opportunities such as study abroad and international internships, the International Plan is designed to develop a deeper level of competency in these areas both generally and within the student's major.

Students in the School of Architecture can fulfill the International Experience requirement of the International Plan by participating in two semesters (at least 26 weeks) in another international study program(s) approved by the Institute. These programs include destinations such as Australia, London, Germany, Ireland, New Zealand, Scotland, Singapore, and Turkey. More information about the programs may be found on the Georgia Tech International Plan website at <http://www.internationalplan.gatech.edu/>.

Academic Advisement/Counseling 05

The School of Architecture employs a full-time Academic Advisor, who plays a crucial role in maintaining student records, explaining curricular requirements and providing routine academic advisement, administering course registration, and processing all Institutional forms, student petitions, application for graduation, and special requests. In addition to the Academic Advisor and faculty, the Associate Chair and Chair of the SoA are available to all students for help in resolving any questions or problems that cannot be adequately addressed at another level of advisement.

Each undergraduate student in the School of Architecture has access to faculty and academic advisors, who can assist and guide them in identifying their individual interests; in establishing professional, scholarly, and career objectives; and in taking advantage of the academic resources of the School of Architecture, College of Architecture, and Georgia Tech in the pursuit of those interests and objectives.

Pre-Architecture (Common First Year) students receive academic advisement from the Common First Year Office in Room 156-COA West. Second-, third- and fourth-year students should consult an academic advisor in the SoA Advising Office located in Suite 350-COA West. Students should consult their advisors on a regular basis—particularly during the advisement period which precedes Phase I

Registration each term—and should rely on them in selecting courses, choosing study abroad programs, and resolving any academic difficulties.

Important: A proposed program of study covering the third and fourth years, signed by the Academic Advisor, will be required of each undergraduate student at the time of spring semester pre-registration in the fall semester of third year.

Georgia Tech Counseling Center

The Georgia Tech Counseling Center offers a full range of counseling services provided by nine trained and credentialed professionals. The Center provides career/interest counseling, assists students in reducing test anxiety, and offers study skill counseling. The center also provides individual and group counseling and psychotherapy. Ongoing psycho-educational offerings have included relaxation/stress management workshops, women's groups, gay, lesbian, and bisexual support groups, and a bereavement and loss group. Workshops and groups are open to all Tech students. After-hours crisis counseling is available 24-hours a day and 7 days a week while school is in session by calling (404) 894-2575.

Career Placement

Each year, the School of Architecture organizes portfolio and resume seminars in preparation for the annual Jobs Fair held in the College of Architecture. Representatives of numerous local architectural firms participate in this event and make presentations about the nature of their office and work. This occasion provides an opportunity for students to make contacts with firms before entering the job market. In addition, the Georgia Tech Career Services Office is devoted to helping undergraduate and graduate students with career counseling and planning, and locating internships, part time, and full time employment. The Career Services Office is located on the second floor of the Bill Moore Student Success Center. For detailed information, navigate to <http://www.career.gatech.edu/>.

Tracking Your Degree Progress 06

Students are responsible for knowing and following their degree requirements. In order to stay on track, students should consult their academic advisor at least once each semester to review their program of study and progress toward a degree. The B.S.Arch. program of study may be found in the *General Catalog* at <http://www.catalog.gatech.edu/colleges/coa/arch/ugrad/B.S.Arch./grade.php>. The SoA Advising Office provides students with a curriculum worksheet (included at the end of this Handbook) to use in conjunction with the *Catalog* to assist them in understanding their degree requirements how they fit together.

DegreeWorks

A new product called DegreeWorks, which is maintained by the Office of the Registrar and academic advisors, is now available to students to assist them in completing degree requirements. At any time, B.S.Arch. students may login at <http://www.degreeworks.gatech.edu/> to generate a custom, color-coded report detailing their completed and remaining. The evaluation may be printed out for the student's records.

It should be noted that DegreeWorks is in no way a substitute for regular academic advising; as a new system, it is not yet error-free. Students should use the system as an informational tool only and consult

their advisors for advice regarding their academic program. Any discrepancies should be brought to the immediate attention of a student's academic advisor.

Applying for Graduation

Students must adhere to the deadlines posted by the Registrar's website when applying for graduation: The procedures for applying to graduate do change from year to year; current comprehensive instructions, however, can be found at <http://www.registrar.gatech.edu/students/degcandfaq.php>.

Academic Policies

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Architecture majors must follow the approved curriculum of the B.S.Arch. program. The Rules and Regulations of Georgia Tech <http://www.catalog.gatech.edu/genregulations/> state that students who do not follow the approved curriculum may be denied registration privileges.

Students must maintain a minimum of 2.0 grade average in each year-grouping of architectural-design studio courses (e.g., ARCH 2011, 2012, etc.) in order to enter the next sequence of studio courses. No student who fails to complete a studio's prerequisite will be permitted to enroll in that studio. Each year-level sequence of design-studio courses must be started in the fall semester. Students who fall out of sequence due to withdrawing, failing, or dropping below the required 2.0 average, must make up the required studio during the following year. Students should also be aware that, should they continue in the professional program in architecture at Georgia Tech, no credit towards the Master of Architecture degree will be granted for pre-professional or professional coursework completed with a grade less than "C."

Unsatisfactory Scholarship

The Institute will ordinarily not readmit students who are dropped from Georgia Tech for reasons of unsatisfactory scholarship. A student who seeks an exception to this rule must have been out of the Institute for at least one semester of the academic year and, prior to the application for readmission, have conferred with the major school concerning the readmission. Because the summer semester is not included in the academic year, students who are dropped at the end of the spring semester will not be eligible for readmission until the beginning of the following spring semester. A student who is dropped a second time for unsatisfactory scholarship will not be readmitted to the Institute.

Academic Dismissal and Readmission

Normally, students who have been dropped from the B.S.Arch. program are asked to enroll at another institution for a least one year with evidence of satisfactory scholarship prior to applying for readmission. Course work pursued at another institution after dismissal from Georgia Tech for unsatisfactory scholarship may be considered as evidence for readmission. If readmitted, however, a student will not necessarily be given transfer credit for work taken at another institution after dismissal from Georgia Tech.

Grade Substitution Policy

First-time freshman students who receive a grade of "D" or "F" in a course within their first two terms in residence are eligible to repeat the course and have the original grade excluded from the computation of their academic average (GPA). This policy, often referred to by students informally as "freshman

forgiveness,” is officially called the Grade Substitution Policy. Students may navigate to <http://www.catalog.gatech.edu/genregulations/gsub.php> to review the policy and download a form.

Pass/Fail and Audit

Pass/Fail Option

A maximum of nine semester hours may be taken on a pass/fail basis by a student whose program of study totals 91 or more credit hours. Only courses taken as free electives within the undergraduate architecture program curriculum are eligible for pass/fail credit. Courses qualifying for pass/fail status will be listed in each semester’s list of course offerings. Only courses qualified for pass/fail may apply toward the degree requirement. The exact number of allowable pass/fail credits is graduated in relation to the number of credit hours in the student’s program of study. See <http://www.catalog.gatech.edu/genregulations/passfail.php> for Institute regulations regarding pass/fail courses.

Auditing Courses

Officially enrolled students who have obtained approval from the instructor of the course and the Associate Chair may audit a in the B.S.Arch. program. Courses qualifying for audit status will be listed in each semester’s list of course offerings. The student, however, will not receive credit for courses scheduled on an auditing basis. See <http://www.catalog.gatech.edu/genregulations/audit.php> for the official Institute policy on auditing.

Cross Enrollment and Transfer Credit

The basic policy regarding the acceptance of courses by transfer is to allow credit for courses completed with satisfactory grades (“C” or better) in other accredited colleges, provided the courses are offered at the Georgia Institute of Technology. The student must request and file an official transcript of transfer courses before the Institute can award credit.

Georgia Tech will not accept credit (except by examination) for courses successfully completed at another institution but previously failed at Tech. In cases where incoming transfer students are requesting transfer credit in the areas of architectural design and visual communications, the Institute will often refer the final decision on such cases to the School of Architecture. In such situations, the SoA requires that transfer students submit portfolios as evidence of their previous visual communications and/or architectural design work. The portfolio is a crucial factor in the determination of the level of achievement the student has attained in those courses and the corresponding Georgia Tech courses for which the students deserve transfer credit. For the official Institute policies on transfer credit, navigate to <http://www.registrar.gatech.edu/students/transfercredit.php>.

Enrolled students at Georgia Tech must receive prior approval from the student’s major school and the Registrar before scheduling courses at other institutions. Students are not to be enrolled at Georgia Tech and another college without specific approval of the Registrar and the appropriate faculty committee.

Georgia Tech has cross- enrollment agreements with several Atlanta area institutions. Students may cross enroll only if courses are not available in a particular term at Georgia Tech. All registration activities are performed at Georgia Tech and all fees are paid at Georgia Tech. Students wishing to take

advantage of this opportunity and apply these courses toward the degree are advised to get the approval of their academic advisor or the Associate Chair in advance.

Transient Enrollment

Some B.S.Arch. students may elect to study at other accredited institutions as transient students. Note that transient status differs from cross-enrollment in that cross-enrolled students receive resident credit for courses completed rather than transfer credit. In order to be eligible for transient status, students must meet certain criteria, which are detailed at <http://www.registrar.gatech.edu/students/formlanding/transient.php>. Students who seek to become transient students at another institution should contact their advisor at least one semester in advance of attendance at another institution.

Scholarships and Financial Aid **08**

In general, financial aid at Georgia Tech is handled through the Institute's Office of Scholarships and Financial Aid. All questions should be addressed to that office. No aid is administered directly through the School of Architecture.

The School of Architecture annually conducts a number of competitions for awards and scholarships. The awards are made on the basis of academic achievement and design studio performance in the B.S.Arch. program. For current information on financial aid specific to B.S.Arch. students and the School of Architecture, navigate to http://www.arch.gatech.edu/undergraduate/financial_aid_awards.

Internships and Co-ops

The B.S.Arch. program does not participate in the Institute's undergraduate cooperative work study program for two main reasons. First, the design studio requirement of one course for each semester of undergraduate study makes it prohibitive and, second, the pre-professional part-time employment opportunities in the Atlanta area provide ample exposure to architectural practice and financial assistance prior to graduation. The following recommendations with respect to part-time employment are offered:

- First and Second year students should not try to maintain part-time employment during the academic year.
- Third and Fourth year students should limit part-time employment to no more than 10-15 hours per week during the academic year.
- Summer employment in a related field is strongly recommended at least one summer during the B.S.Arch. program. Students are urged to discuss relevant employment opportunities with their advisors.
- Students may pursue internships during the summer through the Institute's Division of Professional practice (DoPP). No academic credit is awarded for the work experience; a registered internship, however, is recorded on the student's transcript. For more details on internships, navigate to <http://www.gtpp.gatech.edu/>.

Lectures

The program's public lecture series presents internationally prominent speakers in the design fields. Speakers are invited to share their work and ideas with the Georgia Tech community, thus opening dialogue into contemporary practice and scholarship. The lecture and exhibition program is offered for students, faculty and local design professionals, but they also attract a larger audience of alumni/ae and professionals in related fields. Recent lecturers include:

| | | |
|----------------------|-----------------------|-------------------------|
| David Adjaye | Kenneth Frampton | Micheale Pride-Wells |
| Diana Agrest | Ben Fry | Michael Pyatok |
| Volkan Alkanoglu | Jeanne Gang | Michael Ra |
| Stan Allen | Diane Ghirardo | Mary-Ann Ray |
| Karl A. Backus | Annette Gigon | Mark Robbins |
| Diana Balmori | James Glymph | Francisco Rodriguez |
| Frank Barkow | Sarah Graham | Judith C Rohrer |
| Kinder Baumgardner | Laurie Hawkinson | Danielle Roney |
| Barry Bergdoll | Herman Hertzberger | Michael Rotondi |
| Phil Bernstein | Mimi Hoang | Patrick Schumacher |
| Jennifer Bloomer | Eric Howeler | Benjamin Ibarra Sevilla |
| Matthias Boeckl | Bjarke Ingels | Bill Sharples |
| Christine Boyer | Scott Ingram | Jeff Sheppard |
| Jens Brinkmann | Lisa Iwamoto | Marc Simmons |
| Will Bruder | George B. Johnston | Ted Smith |
| Susan Buck-Morss | Sulan Kolatan | Lars Spuybroek |
| Julia Christensen | Sheila Kennedy | Hailim Suh |
| Annie Chu | Joe King | Gene Surber |
| Brad Cloepfil | David Lake | Nader Tehrani |
| Carlos Coelho | Ronald Lewcock | Bernard Tschumi |
| James Corner | Bruce Lindsey | Nicola Twilley |
| Vincent Cornu | Judi Loach | Michel Vernes |
| Maurice Cox | Greg Lynn | Stanislaus Von Moos |
| Margaret Crawford | Dian Magie | Wilfried Wang |
| Marcos Cruz | Geoff Manaugh | Todd Williams |
| Neil Denari | Reinhold Martin | Charles Wolf |
| Marco Dessardo | Achim Menges | |
| Rosalyn Deutsche | Detlef Mertins | |
| Michael Dobbins | Mary McLeod | |
| Christopher Domin | Francois de Menil | |
| Chuck Eastman | Esther da Costa Meyer | |
| Athanassios Economou | William Mitchell | |
| Julie Eizenberg | Mark Mueckenheim | |
| Merrill Elam | Michael Oliveri | |
| Karen Fairbanks | Patricia Patkau | |
| Anne Fairfax | Thomas Phifer | |
| Lisa Findley | Antoine Predock | |
| Edward R. Ford | Monica Ponce de Leon | |

Exhibitions

The School of Architecture stages frequent exhibitions of student work and hosts traveling exhibitions of contemporary architecture having both national and international significance.

Conferences / Symposia

The program sponsors occasional educational conferences that bring to the school design scholars and practitioners who examine contemporary issues and ideas concerning the design of urban and natural environments.

Recent Conferences

Architecture of the Imagination

Architecture, Technology and the Historical Subject

Terrain Vague: Photography, Architecture and the Post-Industrial Landscape

Uniformity and Variability

New Orleans Study Group

The Atlanta Beltline

Architecture and Memory

The Changing Nature of Practice

Urban Design Practices: Landscape, Architecture and Urbanism

Facilities/Building Policies

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The policies governing the use of the College of Architecture buildings and its facilities are commensurate with the Georgia Institute of Technology regulations concerning the use of physical facilities on campus. While all of the Institute regulations shall apply, the College's policies are specific interpretations of the Institute's regulations affecting the use of the College buildings, and they address general as well as unique aspects that characterize the College.

The College of Architecture buildings include the Old (East) and New (West) Architecture buildings, the Hinman Building, and those portions of the Couch School under control of the College of Architecture. Personnel within the Church (CRC, CRT) will observe any of the following policies that apply to that particular building.

The cooperation of all faculty, staff, and students is expected in the observance of the College of Architecture buildings use policies. The demonstration of care in the use of the academic facilities the state has provided is of vital importance to the College and the future growth of its facilities and resources. The faculty and staff of the College are responsible for enforcing these building policies.

Information regarding all College Building Policies may be found at this link:

<http://www.coa.gatech.edu/content/coa-building-policies>. B.S.Arch. students are expected to become familiar with and to follow College building policies.

Course Offerings**11**

Note: The following course descriptions are included in the Handbook as a ready reference for students' convenience. For a complete and current list of course offerings, navigate to the *Georgia Tech General Catalog* at <http://www.catalog.gatech.edu/index.php>.

Architectural Technology

Arch 2211. Construction Technology and Design

Integration I. 3-0-3. Introduction to building anatomy, technical and expressive characteristics of materials and their organizational assembly.

Arch 4220. Construction Tech II. 1-6-3. Prerequisites: Arch 2211 or 4219. Integration, representation, and constructability of building assemblies and structural systems. Grading, drainage, foundations, structure and enclosure, in relation to building codes and principles of sustainability.

Arch 4225. reinvestigating Details. 3-0-3. Explores the role of the detail in contemporary architectural practice.

*Arch 4231. Environmental Systems. 3-0-3. Prerequisites: Arch 3231. Active building systems design: artificial lighting, mechanical, electrical, communication, transportation systems. Case studies of integrated and sustainable building assemblies.

Arch 4251. Structures I. 2-3-3. Prerequisites: Arch 3241. Gravity loads on building structures. Introduction to structural planning. Design of wood and steel structures. Properties of wood and architectural metals. Computer-based analysis of structures.

Arch 4252. Structures II. 2-3-3. Prerequisites: Arch 3241. Lateral loads and lateral load resisting systems for building structures. Design and application of Portland cement concrete mixtures. Design of reinforced concrete structures. Building foundations.

Arch 4128. Barcelona: Architecture, Urban Design, Public Space. 3-0-3. Architectural history of the city of Barcelona and its public spaces, with a focus on the major urban and architectural projects since 1850.

ARCH 4129. Form and Narrative. 3-0-3. This theory course will involve an extended comparison between architecture and related art forms, especially painting, film, and writing.

ARCH 4133. Arch & Discourse Everyday. 3-0-3. Application of the concept of the everyday to architectural practice from perspectives of European social theory, American cultural landscape studies, and contemporary architectural theory.

Arch 4253. Advanced Structures Seminar. 3-0-3.

Prerequisites: Arch 4252. Fundamentals of steel and concrete design and the computerized design of steel and concrete structural systems for multi-story buildings.

Architectural History and Theory

Arch 4113. Renaissance and Mannerist

Architecture. 3-0-3. Investigation of the history and theory of Renaissance and Mannerist architecture with a primary emphasis on Italy.

Arch 4114. Medieval Architecture. 3-0-3.

Investigations of the architecture of Medieval Europe with an emphasis on English and French Romanesque and Gothic, including towns and castles.

Arch 4115. Intro Classical Design 3-0-3. An introduction to the principles of Classical and traditional architectural design through readings, discussions, and site visits with Classical architects.

Arch 4117. Arts and Crafts Architecture.

3-0-3. Investigations in the theory, design, and building methods of English and American architects associated with the Arts and Crafts Movement.

Arch 4118. American Academic Architecture. 3-0-3. Investigations of the history and theory of late nineteenth and twentieth century classicism in America.

Arch 4119. Architecture of Frank Lloyd Wright.

3-0-3. Investigations in the life and work of Frank Lloyd Wright.

Arch 4120. Atlanta Architecture. 3-0-3.

Investigations through lectures, reading and research of the history of Atlanta Architecture and significant architectural firms from the city's founding to the present.

Arch 4123. European Modernism. 3-0-3. Survey of European architecture from Art Nouveau to LeCorbusier.

Arch 4124. History of Architecture in the United States. 3-0-3. Historic investigations of architecture within the continental United States from the colonial period to the present.

Arch 4125. French Architecture from Ledoux to LeCorbusier. 3-0-3. History of French architecture from Ledoux to LeCorbusier with special emphasis on Paris.

Arch 4127. Intro to Art and Architecture in Italy. Required preparation for COA Summer Program in Greece/Italy including fundamentals of art and architecture; basic Italian language skills; library research for required summer program projects.

*Arch 4151. History of Urban Form. 3-0-3. Prerequisites: Arch 2111 or 4105. History of the city as a collective work of architecture with an emphasis on the city's physical form and spaces.

COA 3115. Art and Architecture in Italy. 3-0-3. Investigations of the painting, sculpture, and architecture of the Classical, Early Christian, Byzantine, and Medieval periods in Italy with special emphasis on Rome.

Visual Arts and Computing

*Arch 4411. Introduction to Visual Arts. 1-6-3. Orientation to issues of visual perception and representation of form and space through freehand drawing, composition, color, texture, mixed-media, and journal-making.

Arch 4412. Drawing the Human Figure. 0-9-3. Studio instruction in figure drawing from the live model with emphasis on the structure and dynamics of the human figure.

Arch 4413. Collage-Making. 1-6-3. Prerequisites: Arch and three-dimensional collage-making.

Arch 4414. Representation in Watercolor. 1-6-3. Introductory course in the use of transparent watercolor for field painting and architectural representation. Theory of pigment characteristics in applied painting.

Arch 4415. Photography I. 1-6-3. Introduction to studio, darkroom, and field photography with emphasis on composition, processing, and printing.

Arch 4416. Photography II. 1-6-3. Prerequisites: ARCH 4415. Advanced techniques in photography. Use of color, filters, four by five format cameras with emphasis on architectural photography.

Arch 4417. Furnishing Buildings. 3-0-3 A course that focuses on schematic design development of furniture. the emphasis of this course is on conceptual development and material and structural clarity.

*Arch 4420. Introduction to Design Computing. 2-3-3. Survey of computer representations and modeling techniques, including pixel-based images, vector-based drawing systems, and surface and solid modeling; use of applications built upon these systems.

Undergraduate Research

Arch 4698. Research Assistantship. 1-0-1 Independent research conducted under the guidance of a faculty member.

Arch 4699. Undergraduate Research. 1-0-1. Independent research conducted under the guidance of a faculty member

Special Topics and Special Problems

Arch 4801, 4802, 4803, 4804, 4805.

Special Topics. Variable 1-0-1 thru 5-0-5.

Arch 4811, 4812, 4813, 4814, 4815.

Architectural Design. 0-3-1 thru 0-15-5

Arch 4821, 4822, 4823.

Special Topics: History, Theory & Criticism. 3-0-3.

Arch 4831, 4832, 4833. Special Topics-Architectural Technology. 3-0-3.

Arch 4841, 4842, 4843. Special Topics-Professional & Social Practice. 3-0-3.

Arch 4851, 4852, 4853. Special Topics-Visual Arts & Computing. 0-3-1 thru 0-9-3. .

Arch 4901, 4902, 4903, 4904, 4905. Special Problems. Credit hours to be arranged.

Arch 4911, 4912, 4913, 4914, 4915. Special Problems- Architectural Design: To be arranged.

Arch 4921, 4922, 4923. Special Problems- History, Theory & Criticism. Credit hours to be arranged.

Arch 4931, 4932, 4933. Special Problems-Architectural Technology. Credit hours to be arranged.

Arch 4941, 4942, 4943. Special Problems-Professional & Social Practice. Credit hours to be arranged.

Arch 4951, 4952, 4953. Special Problems-Visual Arts & Computing. 0-3-1 thru 0-15-5.

Credit hours to be arranged.

Arch 4XXX. Arch Elective . 0-3-1 thru 0-15-5. Credit hours to be arranged.

College of Architecture

COA 2115. Art and Architecture in Italy

I. 3-0-3. Investigations of the painting, sculpture and architecture of the Classical, Early Christian, Byzantine and Medieval periods in Italy with special emphasis on Rome.

COA 2116. Art and Architecture in Italy II.

3-0-3. Investigations of the painting, sculpture and architecture of the Renaissance and Baroque periods in Italy with special emphasis on the works of Rome.

COA 2241-2. History of Art I, II. 3-0-3 each. A survey of artistic manifestations from primitive times to the present. First semester sequence, prehistoric through Renaissance; second semester, Renaissance through 19th and 20th centuries.

Academic Calendar

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It is important for all B.S.Arch. students to save the following link to the Official School Calendar maintained by the Registrar: <http://www.registrar.gatech.edu/home/calendar.php>

APPENDIX 6: B.Sc. Architecture OATS assessment

2010-2012 Assessment Update for:

School of Architecture: Bachelor of Science

Program Purpose

The degree of Bachelor of Science in Architecture (B.S.Arch) is a 4-year, pre-professional degree that prepares students for graduate-level studies in architecture or related fields, or for a variety of careers related to architecture, the building industry, design, and communication. Although the B.S.Arch is not itself an accredited degree nor is it separately reviewed by the National Architectural Accreditation Board (NAAB), many of its core requirements overlap as preparatory coursework for the professional M.Arch. degree. Accordingly, learning objectives contained in this report are derived from NAAB's criteria in a manner similar to those for the M.Arch. degree.

Responsibility and Implementation Process

Program's approach to assessment.

- Types of assessment activities conducted and how scheduled
 - Faculty Curriculum Review
 - At the end of each semester, faculty in the School of Architecture review the student work outcomes from each architectural design studio. Because the design studio work is expected to demonstrate a synthesis of other subject areas in the professional curriculum, the accomplishment of this work is considered an index of overall curricular efficacy. Currently, this faculty review represents only an informal assessment of curricular outcomes.
 - At the end of each semester we have instituted formal survey instruments for the sophomore design studio. The survey is administered electronically to all faculty and visiting critics participating in the final review of the students projects at the conclusion of this adjudication process each semester. Evaluation questions are included below under Outcomes and Methods.
 - Once per year, the faculty in the School of Architecture convenes formally to reflect upon and assess the efficacy of the Bachelor of Architecture curriculum and to propose possible curricular revisions for future enactment and ongoing assessment. The faculty meets informally throughout the year to address similar issues.
 - Accreditation Review
 - On a six-year cycle, the School of Architecture must submit a comprehensive assessment of the Master of Architecture degree program to the National Architecture Accrediting Board (NAAB). In the semester following submission of the self-assessment, an externally constituted Visiting Team visits the school and reviews all collected evidence in support of the school's case for re-accreditation. This includes examples of work from each and every course in the curriculum including both required and elective coursework. The Visiting Team reviews the evidence from all required courses as the basis for evaluating whether the school is meeting the requirements of 32 separate Student Performance Criteria. While the accreditation process does not separately review the Bachelor of Science in Architecture program, many of the review criteria are nonetheless applicable because of the interlinking of our pre-professional and professional degree programs.
 - Student Exit and Alumni Surveys
 - Through the online application for graduation and degree petition, exit surveys are collected at the time students complete their graduate petitions. Alumni Surveys are completed periodically via ADORS, and the most recent B.S.Arch Alumni survey is referenced below. In general, these are primarily satisfaction surveys regarding instruction, facilities, etc. however, the SoA crafts learning outcome specific questions that are included under "program means". The Chairs interpolate the results of the surveys from SoA students for use in annual assessment and discussion with the faculty.
 - Tracking B.S. Arch Alumni

- One important criterion for assessing the B.S.Arch Program is career outcome of our graduates. However, the difficulty in gathering this information is due to the fact that alumni must be willing to self-report or respond to surveys, and only a small percentage of graduates typically do so. A monumental challenge is maintaining current contact information for alumni. Since student email accounts become inactive one semester after graduation, students are encouraged to register with the Georgia Tech Alumni Association and report changes in their contact information. If graduates are willing to participate, the Institute offers E-mail Forwarding for Life, which is an e-mail alias service that allows eligible users to keep their Georgia Tech e-mail alias (something@gatech.edu) address after they have left Tech. This Georgia Tech alias address will simply be an address that forwards to a valid e-mail account. The College of Architecture, through its website, encourages alumni to explore the benefits of an affiliation with the Georgia Tech Alumni Association and to share ideas and accolades with the College of Architecture. Alumni are reminded to notify one or both of these offices if they move or change contact information. The types of information alumni are asked to report include standard contact information (primary and secondary mailing and email addresses, phone numbers, degree information, employment information, as well as information regarding spouse and children.

While attempting to track career outcomes of the graduates of our PhD Program, it was determined that the information available from the Alumni Association was incomplete and insufficient for our purpose. We realized that a greater effort must be made on the part of the SoA to track graduates at the undergraduate and graduate levels. The internal process, which was developed and implemented to track the PhD Program graduates, will be applied to B.S.Arch Program. This process involves contacting graduates immediately upon graduation, using their GT student email accounts to request a forwarding email address, permanent address, employer information and graduate school information. This data will be saved in an internal SoA database and updated annually by soliciting current information from the students and faculty, and by conducting web searches.

- Responsibility for collection, evaluation, recommendation, and budgetary allocation in response to assessment results
 - The administration of the School of Architecture, through its Associate Chair and Academic Advisors, collect and collate data from various survey instruments. School of Architecture faculty, and the School of Architecture Curriculum Committee (elected faculty representatives) are responsible for interpreting and assessing outcomes and enacting appropriate curriculum changes. The Chair of the School of Architecture is responsible for all budgetary decisions for the unit.

Operational Objectives

The School of Architecture has recently undergone substantial reorganization and changes in administrative leadership and has a new strategic plan in place with clearly prioritized objectives and action plans in alignment with Institute and College goals.

Objective 1: Visual + Technical Communication Skills

Students must continually hone their ability to produce clear, descriptive architectural drawings in plan, section, elevation and axonometric and to use appropriate representational media, such as traditional graphic and digital technology skills, to convey essential formal and programmatic elements at each stage of the design process with special emphasis on how to articulate a basic drawing conventions (plan, section, elevation) and iterative model making.

Method 1: Focused Surveys

At the end of each semester we have instituted formal survey instruments for the sophomore design studio. The survey is administered electronically to all faculty and visiting critics participating in the final review of the students projects at the conclusion of this adjudication process each semester.

Results of Focused Surveys:

On a scale of 1-5, how would you rate the sophomore students ability to convey ideas in plan, section and elevation, e.g. basic drawing conventions?



Method 2: NAAB Accreditation Review

On a six-year cycle, the School of Architecture must submit a comprehensive assessment of the Master of Architecture degree program to the National Architecture Accrediting Board (NAAB). This review includes assessments pertinent to the Bachelor of Science in Architecture degree program.

Results of NAAB Accreditation Review:

Re-accreditation.

Method 3: Survey of Graduating Students

Through the online application for graduation process, exit surveys are collected each semester at the time students complete their graduate petitions. Exit surveys address a variety of areas, including job preparation, areas of strength and areas in need of improvement related to curriculum, facilities, and employment.

Results of Survey of Graduating Students:

The current graduating B.S.Arch student survey needs to be updated with specific questions related to learning outcomes and the design studio pedagogy, similar to the way in which the "program mean" section of the M.Arch survey is scripted. updates will be made in 2013.

Method 4: Faculty Curriculum Review

Once per academic year the School holds an all-day all-faculty all-studio review which assesses the pedagogical intentions and the outcomes of each of the undergraduate design studios.

Results of Faculty Curriculum Review:

Updates to pedagogy and curriculum per discussions.

Method 5: Alumni Survey

The 2012 Baccalaureate Undergraduate Alumni Survey includes responses to 29 questions that cover a range of learning outcomes. There were 27-41 respondents who rated questions in terms of Preparation or Importance of topic on a scale 1-5 with 5 being the highest rating: Prepared/Very Well; Important/Extremely Important.

Results of Alumni Survey:

Q23 & 24. An understanding and ability to apply knowledge of: 2-D and 3-D visual representations of design, 41 B.S.Arch students reported an average of 3.44 in terms of preparedness, 27 B.S.Arch students reported 4.37 in terms of importance.

Q29. In the area of How Well did your Major Curriculum Prepare you to Communicate Effectively with Colleagues, Clients and Superiors, 41 B.S.Arch students reported 3.95.

Action Summary for Learning Objective Visual + Technical Communication Skills:

The creation of two new special topics Architecture, Media and Modeling (AMM) courses supports the change in the general design studio pedagogy/learning outcomes related to digital design and fabrication, and directly supports the sophomore studio. Pre-2011, undergraduates were required to take either Intro to Visual Arts, or Intro to Design Computing. These two courses have been recast special topics AMM2 and AMM3, and will become required co-requisites to sophomore studio 1 and 2. The courses are currently taught, have been approved by the CoA Curriculum Committee and Faculty, and will be sent up to be voted on by the IUCC in the spring semester.

In the last three years, the introductory course of the required history survey sequence (ARCH 2111/6015), the course covering ancient, medieval, pre-modern and "world" architecture, has been reconfigured to include considerably more writing. Students now compose some 25-30 pages of writing in a variety of formats ranging from formal papers to timed exam essays.

Objective 2: Fabrication, Assembly and Construction

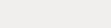
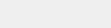


Students will interpret and apply the basic principles utilized in the appropriate selection of construction materials and assemblies, based on their inherent characteristics and performance, including their environmental impact and reuse.

Method 1: Focused Surveys

At the end of each semester we have instituted formal survey instruments for the sophomore design studio. The survey is administered electronically to all faculty and visiting critics participating in the final review of the students projects at the conclusion of this adjudication process each semester.

Results of Focused Surveys:

On a scale of 1-5, how would you rate the sophomore students ability to represent construction materials and assemblies?

| | | | |
|-------------------|---|-------|---|
| 1 - Weak |  | 0.0% | 0 |
| 2 |  | 0.0% | 0 |
| 3 - Meets Minimum |  | 25.0% | 2 |
| 4 |  | 37.5% | 3 |
| 5 - Strong |  | 37.5% | 3 |

Method 2: Faculty Curriculum Review

At the end of each academic year the Program holds an all-day all-faculty all-studio review which assesses the pedagogical intentions and the outcomes of each of the undergraduate and graduate design studios.

Results of Faculty Curriculum Review:

Updates to pedagogy and curriculum per discussions.

Method 3: NAAB Accreditation Review

On a six-year cycle, the School of Architecture must submit a comprehensive assessment of the Master of Architecture degree program to the National Architecture Accrediting Board (NAAB). This review includes assessments pertinent to the Bachelor of Science in Architecture degree program.

Results of NAAB Accreditation Review:

Re-accreditation.

Method 4: Survey of Graduating Students

Through the online application for graduation and degree petition, exit surveys are collected each semester at the time that students complete their graduate petitions. Exit surveys address a variety of areas, including job preparation, areas of strength and areas in need of improvement related to curriculum and facilities, and employment.

Results of Survey of Graduating Students:

The current graduating B.S.Arch student survey needs to be updated with specific questions related to learning outcomes and the design studio pedagogy, similar to the way in which the "program mean" section of the M.Arch survey is scripted. updates will be made in 2013.

Method 5: Alumni Survey

The 2012 Baccalaureate Undergraduate Alumni Survey includes responses to 29 questions that cover a range of learning outcomes. There were 27-41 respondents who rated questions in terms of Preparation or Importance of topic on a scale 1-5 with 5 being the highest rating: Prepared/Very Well; Important/Extremely Important.

Results of Alumni Survey:

Q5 & 6. 41 B.S.Arch students reported their preparation in the areas of Structural Systems, Material Assembly, Construction Technology and Design Integration an average of 3.1 in terms of preparedness, and 3.8 in terms of importance.

Q11 & 12. B.S.Arch students reported their preparation in the areas of understanding and ability to apply knowledge of: Sustainable design in relation to climate, geography, and other natural phenomena. 41 students reported an average of 3.2 in terms of preparedness, 27 students reported 3.89 in terms of importance.

Action Summary for Learning Objective Fabrication, Assembly and Construction:

Under the guidance of a highly skilled instructional core, beginning in the fall of 2011, the sophomore studio is now the locus of constructive debate around the future of foundational design pedagogy. Students are immersed in a reinvigorated studio curriculum aimed at investigating new approaches to architectural structure, form and technology via a variety of software platforms.

Objective 3: Research

Students will refine their ability to analyze a fundamental architectural issue, via the generative use of diagrams, evidence derived from precedents and readings, and construct a basic argument that will serve as parameters for the design of a simple architectural proposition. In essence, Develop a critical framework and the ability to apply that framework toward a design intervention.

Method 1: Focused Surveys

At the end of each semester we have instituted formal survey instruments for the sophomore design studio. The survey is administered electronically to all faculty and visiting critics participating in the final review of the students projects at the conclusion of this adjudication process each semester.

Results of Focused Surveys:

On a scale of 1-5, how would you rate the sophomore students ability to convey, clearly communicate an architectural proposition via diagrams, historical precedent and verbal presentations?

| | | | |
|-------------------|--|-------|---|
| 1 - Weak | | 12.5% | 1 |
| 2 | | 25.0% | 2 |
| 3 - Meets Minimum | | 12.5% | 1 |
| 4 | | 12.5% | 1 |
| 5 - Strong | | 37.5% | 3 |

Method 2: Faculty Curriculum Review

Once per academic year the School holds an all-day all-faculty all-studio review which assesses the pedagogical intentions and the outcomes of each of the undergraduate design studios.

Results of Faculty Curriculum Review:

Updates to pedagogy and curriculum per discussions.

Method 3: NAAB Accreditation Review

On a six-year cycle, the School of Architecture must submit a comprehensive assessment of the Master of Architecture degree program to the National Architecture Accrediting Board (NAAB). This review includes assessments pertinent to the Bachelor of Science in Architecture degree program.

Results of NAAB Accreditation Review:

Re-accreditation.

Method 4: Survey of Graduating Students

Through the online application for graduation and degree petition, exit surveys are collected each semester at the time that students complete their graduate petitions. Exit surveys address a variety of areas, including job preparation, areas of strength and areas in need of improvement related to curriculum and facilities, and employment

Results of Survey of Graduating Students:

The current graduating B.S.Arch student survey needs to be updated with specific questions related to learning outcomes and the design studio pedagogy, similar to the way in which the "program mean" section of the M.Arch survey is scripted. updates will be made in 2013.

Method 5: Alumni Survey

The 2012 Baccalaureate Undergraduate Alumni Survey includes responses to 29 questions that cover a range of learning outcomes. There were 27-41 respondents who rated questions in terms of Preparation or Importance of topic on a scale 1-5 with 5 being the highest rating: Prepared/Very Well; Important/Extremely Important.

Results of Alumni Survey:

Q3 & 4. In the areas of Architectural History and Precedents, 27 B.S.Arch students reported an average of 3.44 in terms of preparedness, 41 students reported a 3.2 in terms of importance.

Action Summary for Learning Objective Research:

Students in the undergraduate foundation studios are challenged to examine the world through a variety of analytical lenses, instrumental, affective and cognitive, all aimed at understanding discourses of architectural representation and the connection between applied research and design. We are developing a number of benchmarks relative to research in the core design studios.

Objective 4: Site/Context + Architectural Program



Students should be able to classify, compare and explain basic circumstantial contextual forces operating at a specific urban scaled site including environmental conditions, and apply knowledge to the interpretation and intelligent resolution/configuration of an architectural program on the prescribed site.

Method 1: Focused Surveys

At the end of each semester we have instituted formal survey instruments for the sophomore design studio. The survey is administered electronically to all faculty and visiting critics participating in the final review of the students projects at the conclusion of this adjudication process each semester.

Results of Focused Surveys:

On a scale of 1-5, how would you rate the sophomore students ability to generate a simple site analysis?

| | | | |
|-------------------|---|-------|---|
| 1 - Weak |  | 25.0% | 2 |
| 2 |  | 25.0% | 2 |
| 3 - Meets Minimum |  | 25.0% | 2 |
| 4 |  | 25.0% | 2 |
| 5 - Strong | | 0.0% | 0 |

Method 2: Faculty Curriculum Review

Once per academic year the School holds an all-day all-faculty all-studio review which assesses the pedagogical intentions and the outcomes of each of the undergraduate design studios.

Results of Faculty Curriculum Review:

Updates to pedagogy and curriculum per discussions.

Method 3: NAAB Accreditation Review

On a six-year cycle, the School of Architecture must submit a comprehensive assessment of the Master of Architecture degree program to the National Architecture Accrediting Board (NAAB). This review includes assessments pertinent to the Bachelor of Science in Architecture degree program.

Results of NAAB Accreditation Review:

Re-accreditation.

Method 4: Survey of Graduating Students

Through the online application for graduation and degree petition, exit surveys are collected each semester at the time that students complete their graduate petitions. Exit surveys address a variety of areas, including job preparation, areas of strength and areas in need of improvement related to curriculum and facilities, and employment

Results of Survey of Graduating Students:

The current graduating B.s.Arch student survey needs to be updated with specific questions related to learning outcomes and the design studio pedagogy, similar to the way in which the "program mean" section of the M.Arch survey is scripted. updates will be made in 2013.

Method 5: Alumni Survey

The 2012 Baccalaureate Undergraduate Alumni Survey includes responses to 29 questions that cover a range of learning outcomes. There were 27-41 respondents who rated questions in terms of Preparation or Importance of topic on a scale 1-5 with 5 being the highest rating: Prepared/Very Well; Important/Extremely Important.

Results of Alumni Survey:

Q15 & 16. B.S.Arch students reported their preparation in the areas of understanding and ability to apply knowledge of: Site design and integration into visual and natural contexts'. 41 students reported an average of 4.00 in terms of preparedness, 27 B.S.Arch students reported 3.78 in terms of importance.

Action Summary for Learning Objective Site/Context + Architectural Program :

Site, Context and the Architectural Program are areas in need of the most improvement based on the number of recent changes to the undergraduate sophomore design studio pedagogy. Recent changes as noted above to the delivery of software tutorials outside of the studio should create more space for instruction in these key areas. We will continue to monitor progress through SoA and ADORS surveys. The B.S.Arch Alumni survey demonstrates effectiveness in this area prior to 2011.

Update Author:

Michael Gamble, Associate Chair, Undergraduate and Professional Programs, School of Architecture

michael.gamble@coa.gatech.edu 404/894-4885

APPENDIX 7: Faculty biographical summaries and accomplishments

Name: Tristan Al-Haddad

Courses Taught (Two academic years prior to current visit):

ARCH 3012 - Design Studio IV (undergrad)
ARCH 6051 - Design Studio: Options I (grad)
ARCH 6053 - Design Studio: Options III (grad)
ARCH 6504 - Digital Design and Fabrication Workshop
ARCH 6505/4803 - Geometric Constructs in Digital Space
ARCH 7060 - Critical Positions
ARCH 7090 - Master's Project Studio
ARCH 8803 - Advanced CNC Fabrication Seminar and Mold Making Workshop

Educational Credentials:

B.S., Georgia Institute of Technology, 2001
M.ARCH, Georgia Institute of Technology, 2006

Teaching Experience:

Lecturer, Georgia Institute of Technology, 2005-2006
Visiting Assistant Professor, Georgia Institute of Technology, 2006-2010
Assistant Professor, Georgia Institute of Technology, 2010-Present

Professional Experience:

Intern Architect, Cooper Carry Architects, 2000 (Atlanta, Georgia)
Intern Architect, Jakob & MacFarlane SARL D'Architecture, 2001 (Paris, France)
Intern Architect, Atelier Architects, 2001-2002 (Tampa Bay, Florida)
Intern Architect, Plexus R+D, 2004 (Atlanta, Georgia)
Collaborator, G+G Architects, 2005 (Atlanta, Georgia)
Owner, Formations Studio, 2005-Present (Atlanta, Georgia)

Selected Publications and Recent Research:

Research:

Simple Balance of Systems (BoS) for Photovoltaic Systems. Development of next generation Building Integrated and Building Applied Photovoltaic systems working towards a reduction of cost, improved performance and improved constructability for Solar Balance of Systems design, installation, and service. Funded by the US Department of Energy. Co-PI with many other associated faculty.

Publications:

- Al-Haddad, Tristan. (2012). From Modeling to Making: Parametric Design and Digital Fabrication. In F. Trubiano (Ed.), *The Design and Construction of High Performance Homes: Building Envelopes, Renewable Energies and Integrated Practice*. Oxfordshire, Routledge.
- Cavieres, Andres, R. Gentry, T. Al-Haddad. (2011). Knowledge-Based Parametric Tools for Concrete Masonry Walls: Conceptual Design and Preliminary Structural Analysis. *Journal of Automation and Construction* 20(6), 716-728.

Name: Volkan Alkanoglu, AKNW LEED AP

Courses Taught (Two academic years prior to current visit):

ARCH 6026, Core II Studio, Fall 2012

ARCH 8803, Seminar 'Infamous Lines', Fall 2012

Educational Credentials:

Diploma in Architecture, Peter Behrens School of Architecture, FH Düsseldorf, Germany, 2001

Master of Architectural Design, The Bartlett, University College London, United Kingdom, 2003

Teaching Experience:

Tutor, Architectural Association, London, United Kingdom, Summer 2007

Teaching Associate, Harvard University, Graduate School of Design, Spring 2008

Teaching Associate, Princeton University, School of Architecture, Fall 2008

Assistant Professor, Southern California Institute of Architecture, Los Angeles, 2009-2012

TVS DESIGN Distinguished Critic, Georgia Institute of Technology, COA, Atlanta, 2012-2013

Professional Experience:

Architect, Foster and Partners, London, UK, 2003-2005

Architect, Future Systems, London, UK, 2005-2007

Architect, Asymptote Architecture, New York, 2007-2009

Principal and Founder VA | DESIGN, Atlanta-Los Angeles, 2009-present

Licenses/Registration:

Germany, AKNW

Selected Publications and Recent Research:

100th ACSA Annual Conference Catalogue 'Digital Aptitudes', Boston USA

Professional Memberships:

Architektenkammer Nordrhein Westfalen, Germany

LEED AP, USA

Name: Libero Andreotti, Ph.D.

Courses Taught (Two academic years prior to current visit):

ARCH 6072 Design and Research Studio
ARCH 8102 Historiography and Epistemology
ARCH 8823 Architectural Theory and Criticism I
ARC 8823 Architecture and Spectacle
ARCH 8806 Design and Research Studio

Educational Credentials:

Ph.D., Massachusetts Institute of Technology 1989.
M.Arch., Georgia Institute of Technology, 1982.

Teaching Experience:

Professor of Architecture, Georgia Institute of Technology 2004-2013
Resident Director, Georgia Tech Paris Program 1995-2011
Lecturer, Ecole d'Architecture de Paris La Villette 2009-11
Visiting Professor, Rhode Island School of Design, 1989-90.

Professional Experience:

Partner, Virginie Sougy Architect, Paris France 1995-2011

Licenses/Registration:

None

Selected Publications and Recent Research:

Libero Andreotti, ed. *Spielraum: Benjamin et l'Architecture* (Paris, Editions la Villette 2011)
Libero Andreotti, "The Techno-aesthetics of Shock: Mario Sironi and Italian Fascism" in *Grey Room* 38 (Winter 2010)
Libero Andreotti, *Le Grand Jeu a venir: textes situationnistes sur la ville* (Paris, Editions la Villette 2007)
Libero Andreotti, "Play tactics of the *Internationale Situationniste*" in *October* 2001
Libero Andreotti, Pratiche ludiche dell'Internazionale Situazionista in *Lotus International* 108 (2001)
Libero Andreotti, ed. *Theory of the Derive and other Situationist Writings on the City* (Barcelona ACTAR 1997) (with Xavier Costa)

Professional Memberships:

None

GODFRIED L. AUGENBROE, IBPSA fellow

Professor, College of Architecture, Georgia Institute of Technology

Data: fried@gatech.edu; Voice: 404-894-1686

Courses Taught in last two years:

ARCH 6241 Building Simulation in Design Practice

ARCH 6731 Zero Energy House

COA 8833 Computational Building Simulation

COA 8685 Building Simulation seminar

ARCH 8100 Intro to Architectural Research

Educational Credentials

MS CE, Delft University of Technology, 1975

Teaching Experience

1976-1986 Assistant Professor, TU Delft, Netherlands

1986-1996 Associate Professor, TU Delft, Netherlands

1997-2010 Associate Professor, College of Architecture, Georgia Tech

2010-present Professor, School of Architecture, CoA, Georgia Tech

Professional Experience:

Owner and founder COBF, small energy consultant firm, Netherlands, 1984-1996

Licenses/Registration:

None

Selected publications:

Augenbroe, Godfried (2011). The role of simulation in performance based design. In: J. Hensen and R. Lamberts (eds), Building Performance Simulation for Design and Operation. Spon Press.

Ali Malkawi and Godfried Augenbroe (editors), Advanced Building Simulation. SPON Press, Taylor and Francis group, 2004. ISBN 0-415-32122-0

Augenbroe, Godfried and Jan Hensen (editors). Building Simulation 2003, IBPSA Conference Proceedings, Eindhoven August 11-14, 2003.

Augenbroe, Godfried (2009) Applying process rigor to the use of BIM in building design teams: a review of three technologies. In: Collaborative Construction Information Management, edited by Geoffrey Qiping Chen, Peter Brandon and Andrew Baldwin (eds). Spon Press, 2009.

Recent research:

Projects deal with large scale energy retrofits of the built environment, multi-scale energy modeling, uncertainty and financial risk analysis of renewable technologies and the next generation of building sustainability assessment methods.

Most recently PI of NSF EFRI-SEED award for the 4 year research project "Risk conscious design and retrofit of buildings for low energy", \$2.0 Million, 2010-2014.

Professional memberships:

ASHRAE, IBPSA

Name: Dipl. Ing. Arch. Daniel Baerlecken, BDA, AKNW

Courses Taught 2011-2012:

ARCH 2011, Design 1, Aggregates, Section MB, Fall 2011.
ARCH 2011, Design 1, Aggregates, Section JS, Fall 2011
ARCH 8903, Section DB Special Problems, Junk, Fall 2011.
ARCH 8903, Section DB Special Problems, Origami, Fall 2011.
ARCH 2011, Design 1, Matter Matters, Section AV, Spring 2012.
ARCH 2011, Design 1, Matter Matters, Section DB, Spring 2012.
ARCH-8903-GR, Spring 2012.
ARCH-8803-GR, Media and Modeling 3, Spring 2012.
ARCH-4823-A, ARCH-6426-A, 3d modeling – Introduction to Autodesk Revit, Summer 2012.
ARCH 8803-DB, Bioconstructs, Fall 2012.
ARCH 2011, Design 1, Matter Matters, section JS, Fall 2012.
ARCH 2011, Design 1, Matter Matters, section AV, Fall 2012.
ARCH 2011, Design 1, Matter Matters, section KJ, Fall 2012.
ARCH 2011, Design 1, Matter Matters, section LH, Fall 2012.

Educational Credentials:

Pre-diploma in Engineering, RWTH Aachen University, Department of Architecture, 1997-1999
Diploma in Engineering (Dipl.- Ing.), RWTH Aachen University, Department of Architecture, 1999-2003

Teaching Experience:

Research Associate, RWTH Aachen University, Department of Architecture, 2006-2007.
Research Associate, TU Braunschweig, Department of Architecture, 2006-2007.
Lecturer, RWTH Aachen University, Department of Architecture, 2007-2010.
Visiting Assistant Professor, Georgia Institute of Technology, 2008-2010.
Assistant Professor, Georgia Institute of Technology, 2010-present.

Professional Experience:

Zaha Hadid Architects, 2003-2007, London, UK.
BFR Lab, 2006-present, Cologne, Germany.

Licenses/Registration:

AKNW Germany.

Selected Publications and Recent Research:

Baerlecken, D.+Riether, G.(2012) Aggregates: Digital design for design 1, Proceedings Cadria 2012, pp.607-616
Baerlecken, Daniel;Swarts, Matthew;Gentry, Russell; Wonoto, Nixon(2012) Bio-Origami: Form Finding and Evaluation of Origami Structures, -Proceedings of the 30th eCAADe Conference 2012, pp.497-504
Baerlecken, Daniel;Reitz, Judith;Duncan, David(2012) Junk: Reuse of Waste Materials, Proceedings eCAADe Conference 2012, pp.143-150
Riether, G.;Baerlecken, D.(2009) Open Pattern, Proceedings Caadria 2009, pp.615-624

Professional Memberships:

Association of German Master Builders [Bund Deutscher Baumeister], BDA, since 2011
Chamber of Architects, NRW, Germany, since 2005

Name: Dr. Sonit Bafna

Courses Taught (Two academic years prior to current visit):

ARC 3011 Junior Studio
COA 8863 Formulation of Architectural Intention
ARC 8803/4803 Diagrams: Tools for Conceptual Analysis
ARC 4335/8843 Social Practice of Architecture
COA 8625 Theories of Inquiry
COA 8000 Introduction to Architectural Research

Educational Credentials:

PhD Georgia Institute of Technology, 2001
SMArchS Massachusetts Institute of Technology, 1993
GrDiplArch Center for Environmental Planning and Technology, 1991

Teaching Experience:

Associate Professor, Georgia Institute of Technology, 2008-present
Assistant Professor, Georgia Institute of Technology, 2002-2008
Lecturer, University of Michigan, 2001

Professional Experience:

Assistant Architect, Anant Raje and Associates, 1990-1991
Intern, Kiran Pandya and Associates, 1987

Selected Publications and Recent Research:

Bafna, S. 2013. "Attention and Imaginative Engagement in Marcel Breuer's Public Library." In *Rethinking Aesthetics: The Role of Body in Design*, pp. 51-84. Edited by Ritu Bhatt, New York: Routledge.

Bafna, S. 2012. "Rethinking Genotype: Comments on the sources of type in architecture." *Journal of Space Syntax* 3 (1): 69-80.

Bafna, S. 2012. "The Imaginative Function of Architecture: a clarification of some conceptual issues." In *Proceedings of the Eighth International Space Syntax Symposium*, pp. 8117.1-8117.19. Edited by M. Greene, J. Reyes and A. Castro. Santiago de Chile: PUC.

Bafna, S., Losonczy, A., and Peponis, J. 2012. "Perceptual Tuning of a Simple Box." In *Proceedings of the Eighth International Space Syntax Symposium*, pp. 8024.1-8024.28. Edited by M. Greene, J. Reyes and A. Castro. Santiago de Chile: PUC.

Zook, J., and Bafna, S. 2012. "Imaginative Content and Building Form in the Seattle Public Library." In *Proceedings of the Eighth International Space Syntax Symposium*, pp. 8087.1-8087.24. Edited by M. Greene, J. Reyes and A. Castro. Santiago de Chile: PUC.

Name: Brian Bell, AIA

Courses Taught (Two academic years prior to current visit):

Fall 2010 ARCH 6053 (Options III)

Fall 2011 ARCH 6053 (Options III) & ARCH 4011 (Vertical Studio)

Educational Credentials:

M.ARCH, Harvard University, Graduate School of Design, 1997

B.ART in Architecture, University of Washington, Seattle, 1990

Teaching Experience:

Professor of the Practice of Architecture, Georgia Institute of Technology, 2012-2013

Paul Rudolph Fellow, Auburn University College of Architecture, Spring 2012

Millkey Visiting Professor of Architectural Practice, Georgia Institute of Technology, 2010-2011

Visiting Faculty, Georgia Institute of Technology, 2008-2009

Instructor, Career Discovery Program, Harvard University Graduate School of Design, 1997

Studio and Academic Teaching Assistant, Harvard University Graduate School of Design, 1994-1997

Research and Teaching Assistant, University of Washington Rome Center, 1990-1992

Professional Experience:

Director, BLDGS, Atlanta GA, 2006-present

Senior Project Architect, Mack Scogin Merrill Elam Architects, Inc., Atlanta, GA, 1999-2005

Intern Architect, Thompson and Rose Architects, Cambridge, MA, 1997-1999

Licenses/Registration:

Georgia

Selected Publications and Recent Research:

The Pressures of Paradox: Michelangelo and the Sforza Chapel, in *Conventions of Architectural Drawings: Representations and Misrepresentations*, Edited by James Ackerman and Wolfgang Jung (published by James S. Ackerman, 2000).

Professional Memberships:

American Institute of Architects (AIA)

National Council of Architectural Registration Boards (NCARB)

Name: Jennifer Bonner, LEED AP

Courses Taught (Two academic years prior to current visit):

ARC XXX Junior Studio
ARC XXX Elective Seminar – The Role of the Guidebook
ARC 6071 D&R Studio I – ATL: Dirty South
ARC 6051 Option Studio – Civic Shelter: Anti-Tornado Machines
ARC 8813-4813 Seminar – Exhibiting Constructions

Educational Credentials:

B.Arch., Auburn University, 2002
M.Arch., Harvard University, Graduate School of Design, 2009

Teaching Experience:

Lecturer, Auburn University, 2002-2003
Tutor, Architectural Association, London, UK, Summer 2007
Lecturer, Georgia Tech, Fall 2009
Visiting Professor, Lund University, Lund, Sweden, May 2010
Visiting Assistant Professor, Woodbury University, 2010-2011
Professor of the Practice, Woodbury University, 2011-2012
TVSDesign Distinguished Studio Critic, Georgia Tech, 2012 - present

Professional Experience:

Architectural Assistant, Foster and Partners, London, UK; Istanbul, Turkey, 2004-2005
Project Architect, David Chipperfield Architects, London, UK, 2005-2006
Studio Bonner, Los Angeles / Atlanta, 2009-present

Licenses/Registration:

LEED Accredited Professional, 2009
State of New York ARE Licensure, Forthcoming (currently testing: 3 of 7)

Selected Publications and Recent Research:

Upstream Imagination, with C.Canabou, ed. Benjamin Flowers (*Ashgate, forthcoming*)
Death of the Star Architect, ed. Hanif Kara (*Actar, forthcoming*)
Inside ALI: Slow Reveals, GIS Trajectories, and Watercourse Urbanism, (*ARID Journal, 2012*)
Building a Pavilion, *Proceed and Be Bold: Rural Studio after Samuel Mockbee*, (New York: Princeton Architectural Press, 2005)
Obliquity of the Ecliptic, Samuel Mockbee and the Rural Studio: Community Architecture, (Birmingham Museum of Art, 2003)

Mark Cottle

Courses Taught

Spring 2012 ARCH 8806 -- Design + Research Studio
Fall 2011 ARCH 6051 -- Options Studio I
ARCH 6225/4225 -- "The Detail from Alberti to Zumthor" -- elective seminar
Spring 2011 ARCH 7090 -- Master's Project Studio
ARCH 6131 -- Theory I -- required course
Fall 2010 ARCH 3011 -- Options Studio III
ARCH 7060 -- Critical Positions -- elective seminar

Educational Credentials

Harvard University Graduate School of Design. Master of Design Studies in Contemporary Theory and Criticism. 1988 to 1989.
Rice University School of Architecture. Master in Architecture. 1984 to 1988.
Clemson University. Bachelor of Arts in English, minor in music theory and composition. 1975 to 1979.

Fellowships

Steedman Fellow in Architecture, Washington University in Saint Louis. First place, biannual international design competition; travel in India and residence at the American Academy in Rome. 1996 to 1997.
American Academy in Rome. Dinkeloo Fellow in Architecture. 1991 to 1992.

Teaching Experience

Georgia Institute of Technology College of Architecture. Associate Professor with tenure: Spring 2007 to Present.
Assistant Professor: Fall 2001 to Spring 2007. Visiting Assistant Professor: Fall 1999 through Spring 2001.
Visiting Instructor: Fall 1997, Fall 1996, Spring 1996, Winter 1996, Fall 1995, Winter 1994.
Rhode Island School of Design Department of Architecture. Visiting Critic: Spring 1999, Spring 1998.
University of Hawai'i School of Architecture. Visiting Professor: Fall 1998.
Boston Architectural Center. Studio and Course Instructor, Thesis Advisor. Fall 1987 to Spring 1993.

Professional Experience

Cottle Khan Architects. August 1995 to Present. Principal.
Childs Bertman Tseckares, Architects, Boston. June 1994 to August 1995. Senior designer.
Ellenzweig Associates, Architects, Cambridge, Massachusetts. November 1992 to April 1994. Designer.
Perry Dean Rogers & Partners: Architects, Boston. August 1989 to October 1992. Designer.
Amsler Hagenah MacLean, Architects, Boston. June to December 1987, July to August 1989. Intern.
Tamarkin Techler Group, Architects, Boston. July 1988 to July 1989. Intern.
Dennis & Clark, Architects, Boston. Summer 1986. Intern.
Steven Gendler Design, Houston. Summer 1985. Intern.

Selected Publications

CITE 86. "One Hundred Years of Rice : Contemporary Responses to Tradition". Summer 2011.
Co-authored with Sabir Khan.
gray_matters, Georgia Tech School of Architecture online student journal. "Remarks on Colors : Blue". 22 March 2010.
JAE. Review of N.J. Habraken's book, *Palladio's Children : Essays on Everyday Environment and the Architect*. February 2007.

Richard Dagenhart, RA

Courses Taught:

COA 6011/ARCH 6053: Urban Design Laboratory/Options III Studio
COA 6151: Urban Design Theory
ARCH 6054/CP6832: Introduction to Urban Design
ARCH 6053: History and Theory of the Modern City (Summer Study Abroad Asia 2012)
ARCH 7045: Urban Design Workshop (Summer Study Abroad Asia 2012)

Educational Credentials:

Master of City Planning, University of Pennsylvania, 1972
Master of Architecture, University of Pennsylvania, 1972
Bachelor of Architecture (Honors), University of Arkansas, 1970
Bachelor of Arts (Anthropology), University of Arkansas, 1970

Teaching Experience:

Visiting Professor (part time), University of Maryland, 1974
Visiting Professor (part time), Rice University, 1975-76
Assistant Professor, Georgia Tech, 1977-1985
Associate Professor, Georgia Tech, 1985-2011
Senior Lecturer (retired), Georgia Tech, 2012-Present

Professional Experience:

Wallace McHarg Roberts and Todd, Philadelphia. 1970-74
David A. Crane and Partners, Philadelphia and Houston. 1974-1978
Urban Design Plus, Atlanta. 1978-1982
Wilson Dagenhart Johnson, Atlanta. 1982-1986
Richard Dagenhart, Architect, Atlanta. 1987-Present

Licenses/Registration:

Registered Architect, Georgia #RA005811, 1983-Present
Registered Architect, Florida #AR93314, 2006-Present
NCARB Certificate #31,268. 1982-Present
American Institute of Certified Planners. 1975-1988

Selected Publications and Recent Research:

Current Research: Sustainable Urbanism – Stormwater and Urban Design (with T.Debo)
Current Research: Urban Form and Transformations in East Asia
Dagenhart, Richard (2010) “*Thoughts on Sustainable Urbanism: Tschumi and Koolhaas at La Villette*” in *WA (World Architecture)* Beijing.
Dagenhart, Richard (2010) “Rem Koolhaas”, John Nolen, “James Rouse, and “Harland Bartholomew” in *Encyclopedia of 20th Century American Art*, Oxford University Press.
Dagenhart, Richard, (2009) “*The Re-Inhabitation of Deira and Bur Dubai*” in *2A: ART+ARCHITECTURE. No.8, Spring 2008, pp. 36-49.*
Bacon, Dagenhart, Green Leigh, Skach (2008) “The Economic Development – Urban Design Link in Brownfield Redevelopment” *International Economic Development Journal*. Spring 2008, pp. 4-9.
Dagenhart, Richard (2008) “Comment on Garde: Retrofitting Suburbia - Is It About Image or Form?” *Journal of the American Planning Association*. Vol.74, Summer 2008, pp.342-348.
Dagenhart, Richard (2006) “Book Review: *Sprawl-A Compact History*” *Harvard Design Magazine*. #25. Fall/Winter 2006, pp. 47-49.
Dagenhart, Richard (2005), Book Review Essay, “*Urban Design and Urban Form*” in *Journal of the American Planning Association*. Vol. 71.3. pp.334-337.

Name: Dr. Harris Dimitropoulos

Courses Taught (Two academic years prior to current visit):

ARCH 6026 Core II Design Studio
ARCH 4022 Core II Design Studio
ARCH 4012-3012 Undergraduate Vertical Design Studio
ARCH 3012 Design Studio III
ARCH 6420 Design Computing
ARCH 8803 Introduction to Design Computing
ARCH 4803-8803 Elective Lecture course
ARCH 4803-8803 Elective Lecture course

Educational Credentials:

Undergraduate Professional Diploma in Architecture and Engineering, School of Architecture, National Technical University, Athens Greece, 1977
M.Arch. Georgia Institute of Technology, 1984
Ph.D. Aristoteleion University, Thessaloniki, Greece, 1983

Teaching Experience:

Associate Professor, Georgia Institute of Technology, College of Architecture, 1992 - present.
Courses taught include Studio, Art and Architectural Theory.
Assistant Professor, Georgia Institute of Technology, College of Architecture, 1986-1992.
Adjunct Professor, Atlanta College of Art, 1990-1994.
Instructor, Georgia Institute of Technology, College of Architecture, 1985.
Instructor, N.T.U., School of Architecture, Greece, 1981-1983.

Professional Experience:

Heritage Park, Atlanta, Georgia, 1996
North Avenue Bridge improvement, Atlanta, Georgia t1995, 1996
Monument for Bicentennial of French Revolution, Paris, 1989
Municipal Theater, Halandri Athens, Greece, 1982
Agni Pikioni Architects, Athens Greece, 1980-1983
Panos Touliatos Architects, Athens Greece, 1979-1980

Licenses/Registration:

Greece

Selected Publications and Recent Research:

H. Dimitropoulos with John Lauer, Brad Brooks, Claire Downey and Susan Desko, *Four Down South*, (Nexus Press. 1990)
The Churches of Kea, (Athens, Greece, 1983)
Co-Editor of Places, "Recovering", (Volume 21, Number 1 2009)

Professional Memberships:

Technical Chamber of Greece

Name: Ellen Dunham-Jones, AIA

Courses Taught (Two academic years prior to current visit):

CoA 7011/CP 6052 MSUD Studio
Arch 4011/6053/CP 6052 Options 3 Studio
Arch 4803/CoA 6120 Retrofitting Suburbia Seminar
Arch 6151 Theories of Urban Design

Educational Credentials:

A.B., Architecture and Planning, Princeton University, 1980
M.Arch, Princeton University, 1983

Teaching Experience:

Assistant Professor, University of Virginia, 1986-1993
Assistant Professor, Massachusetts Institute of Technology, 1993-1997
Associate Professor, Massachusetts Institute of Technology, 1997-2000
Associate Professor, Georgia Institute of Technology, 2000-2010
Ax:son Johnson Visiting Professor, Lund University, Sweden, 2006-2007
Professor, Georgia Institute of Technology, 2010-present

Professional Experience:

Intern, Johansen & Bhavnani Architects, NY, NY, 1980-1981
Job Captain, Hambrecht Terrell, NY, NY, 1983-1985
Production Team, Eisenman/Robertson Architects, NY, NY, 1985-1986
Principal, Dunham-Jones & LeBlanc Architects, VA & MA, 1987-1997
Principal, Ellen Dunham-Jones Architect, 1997-present

Licenses/Registration:

New York

Selected Publications and Recent Research:

"Irrational Exuberance: Rem Koolhaas and the Nineties" in Peggy Deamer ed., *Architecture and Capitalism* (Routledge: 2013), also forthcoming in *Places Journal*
Co-author of chapter, "Retrofitting Suburbs" in Henry Cisneros ed., *Independent for Life: Homes and Neighborhoods for an Aging America* (UT Austin Press: 2012)
Co-author, *Retrofitting Suburbia: Urban Design Solutions for Redesigning Suburbs* (Wiley, 2009/2011).
"Free Trade Zones, Downtown Financial Cores, and Sprawl: the Landscapes of Globalization" in Graham Owen ed., *Architecture, Ethics & Globalization* (Taylor & Francis, 2009)
"New Urbanism: A Forum not a Formula" in Tigran Hass, ed., *New Urbanism and Beyond: Designing Cities for the Future* (Rizzoli, 2008)
Recent research continues to focus on contemporary urban design theory and practice. In addition to critical essays, I have grown my database of announced or permitted suburban retrofit projects from 80 examples in 2008 to over 500. I have disseminated analysis of trends and strategies through well over 100 invited lectures to professional and academic audiences, including keynotes at MoMA in NYC, EcoBuild in London, Tongji and Tianjin Universities in China, a TEDx talk that was later relaunched as a TED talk, several invited opinion pieces for *The New York Times*' Room for Debate blog, and several interviews on NPR, PBS and other venues. Grant requests to conduct post-occupancy evaluation of several retrofits have yet to yield fruit, but I'm continuing to develop more robust performance metrics.

Professional Memberships:

The American Institute of Architects
The Congress for the New Urbanism (chair of the board)
International Council of Shopping Centers
Urban Land Institute

Name: Prof. Charles (Chuck) Eastman

Courses Taught (Two academic years prior to current visit):

Fall, 2012

| | |
|-------------------------------------|-------------------------|
| COA8672 Seminar in Design Computing | 13 students, 2 auditors |
| COA8999 Pre-doctoral thesis | 1 student |
| COA9000 Thesis | 3 students |
| COA8903 Special Problems | 3 students |

Spring 2012

| | |
|------------------------------|------------------------|
| COA 8690-CE Building Models | 4 students, 2 auditors |
| ARCH6503-CE BIM Applications | 15 students |
| COA8999 Pre-thesis | 2 students |

Fall, 2011

| | |
|--|---------------------------------|
| COA8676, Design & Engr Databases (crosslisted) | 10 students CETL : 4.0 to 5.0 |
| ME6754-A Design & Engr Databases | 10 students CETL : 3.0 to 4.143 |
| COA9000 Doctoral thesis | 5 students |
| COA8999 Pre-doctoral thesis | 2 student |

Spring 2011

| | |
|------------------------------|---|
| COA 8690-CE Building Models | 4 students |
| ARCH6503-CE BIM Applications | 19 student, 2 auditors--CETL : 4.6 to 4.9 |
| COA8999 Pre-thesis | 3 students |
| COA9000 Thesis | 3 students |

Educational Credentials:

B.Arch., UC Berkeley, 1964
MS Arch., UC. , 1966

Teaching Experience:

Assistant Professor, Associate Prof., Prof, Carnegie-Mellon Universty, 1967-1985
Professor, University California, Los Angeles, 1987-1995
Professor, Georgiai Institute of Technology, Atlanta, 1996-present

Professional Experience:

Intern, Hertzka and Knowles AIA, San Francisco, San Francisco 1964-1966
Private Practice, 1964-1966

Licenses/Registration:

Selected Publications and Recent Research:

Eastman, C., Teicholz, P., Sacks, R. and Liston, K. (2011) BIM Handbook: A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers and Contractors, 2nd Edition John Wiley & Sons, Inc., New Jersey.

Design Knowing and Learning: Cognition in Design Education, C. Eastman, W. Newstetter, M. McCracken eds. Elsevier Science Press, 2000.

Building Product Models: Computer Environments Supporting Design and Construction, CRC Press, Boca Raton FL, 1999.

Over 100 refereed papers on BIM, Design Cognition, parametric models and design databases

Professional Memberships:

Associate, American Institute of Architects

Name: Thanos Economou, PhD

Courses Taught (Two academic years prior to current visit):

ARC 6051 GR Options Studio I, Fall, 2011
ARC 6508 Shape Grammars, Fall 2011
ARC 8806 D&R Studio, Spring, 2012
ARC 6501 Analog-Digital, Spring 2012
ARC 4127 Greece and Italy Prep, Spring 2012
ARC 4921 Directed Research, Summer 2012
COA 3114 Art and Architecture in Greece, Summer 2012
ARC 6053 D&R Studio, Fall, 2012
ARC 6508 Shape Grammars, Fall 2012
ARC 6501 Analog-Digital, Spring 2013
ARC 4127 Greece and Italy Prep, Spring 2013

Educational Credentials:

Diploma Arch (5 yrs), National Technical University of Athens University, 1990
M. Arch, University of Southern California (USC), 1992
Ph.D. Arch, University of California (UCLA), 1998

Teaching Experience:

Teaching Assistant, University of Southern California (USC), 1990-1992
Lecturer, University of California (UCLA), 1996
Assistant Professor, Georgia Institute of Technology, 1997- 2003
Visiting Associate Professor, MIT, 2011
Associate Professor, Georgia Institute of Technology, 2003 - present

Professional Experience:

Intern, Biris Architectural Office, Athens, Greece, 1988-1989.
Project Architect, Stathopoulos Architectural Office, Athens, Greece, 1990.
Intern, Urban Innovation Group and Charles Moore Architectural Office, LA, CA, 1993.
Intern, Moule and Polyzoides, Architects and Urbanists, LA, CA, 1995.

Licenses/Registration:

Technical Chamber of Engineers, Greece

Selected Publications and Recent Research:

Courtsweb: A Research Database on Federal Courthouse Design. PI Thanos Economou, GSA: GS-00P-10-CY-C-0160; 2012 -13; \$160,736.60 (Total: 2007-2013; \$1,110,092.73)
Economou, A, Grasl, T, 2012, "Spatial Sieves", In Xenakis Matters: *Contexts, Processes, Applications*, ed. Sharon Kanach, Pendragon Press
Grasl, T, Economou, A. 2012. "Sort Machines" in J. Halatsch (ed), *Digital Urban Modelling and Simulation*, Springer-Verlag, Computer Science Editorial, Germany Volume 0242; pp.123-143
Din E., Economou, A., 2011. "Surface Symmetries: The Smith House Revisited" *International Journal of Architectural Computing*, Issue 04, Vol. 08, pp. 485-506
Economou, A., Tehrani N., 2011. "Scripting Concrete " in *Digital Narratives*, ed. Javier Isado, Universidad de Puerto Rico Press; (in)forma Vol. 05, pp. 44-61
Economou A., Riether, G., 2011. "Design Machine Revisited" in *Digital Narratives*, ed. Javier Isado, Universidad de Puerto Rico Press; (in)forma Vol. 05, pp. 32-43
Grasl, T, Economou, A (in print): "GRAPE: Using Graph Grammars to Implement Shape grammars". *Environment and Planning: Planning and Design B*

Professional Memberships:

International Scientific Review Committees: CAADFutures, eCAADe; ACADIA; SIGRADI, M&D

Name: Robert J Farrow, AIA, FHF, LEED AP

Courses Taught (Two academic years prior to current visit):

COA 4813/8813 Borneo Workshop
COA 8813 Borneo Workshop
COA 4803/8813 State of Art in Healthcare Design
COA 4803/8803 Healthcare Dateline 2012
COA 8806 Arch Options Studio III - Community Hospital
COA 6053 Arch Options Studio III – Roswell Community Hospital

Educational Credentials:

B.Arch., Auburn University, 1974

Teaching Experience:

Lecturer, SCAD, Atlanta, GA and Savannah, GA
Visiting Studio Advisor/Lecturer/Adjunct Professor, Georgia Institute of Technology, 2008- present

Professional Experience:

Intern, Hansen Lind Meyer, Iowa City, Iowa, 1974-75
Intern, Robert & Company, Atlanta, GA, 1975-77
Project Designer, Tippett & Associates, Atlanta, GA, 1977-1980
Project Architect, Thompson Ventulett & Stainback, Atlanta, GA , 1980-1990
Principal, Sherlock, Smith & Adams, Montgomery, AL, 1990- 1997
Principal, TRO, Sarasota, FL and Boston, MA, 1997 – 2002
Principal, HKS, Atlanta, GA, 2002 to present

Licenses/Registration:

Alabama
Georgia

Selected Publications and Recent Research:

Vital Role of CEO in Evidence Based Design – Healthcare Design
Evidence Based Design – Emory Neuro CCU
Healthcare – Balance of Research and Sustainability
Green Hospitals and Healthcare

The Evidence of Collaboration, AIA Georgia
Taking Care of Our Nurses, Atlanta Hospital News
Flexibility in Architecture, Healthcare Design

Professional Memberships:

The American Institute of Architects
NCARB
Health Facility Institute
USGBC Leed Accredited Professional

Name: Dr. Benjamin Flowers

Courses Taught (Two academic years prior to current visit):

ARCH 2112/6106 History II

ARCH 4137/6137 Postwar Architecture + Urbanism

ARCH 6132 Theory II

ARCH 6160 Race + Space

COA 4801/8803 gray_matter(s)

Educational Credentials:

BA, Wesleyan University, 1996

Ph.D., University of Minnesota, 2003

Teaching Experience:

Assistant Professor, Georgia Tech, 2005-2011

Associate Professor, Georgia Tech, 2011-present

Professional Experience:

Research specialist, Federal Research Division, Library of Congress, 2004-2005

Licenses/Registration:

Selected Publications and Recent Research:

- *Skyscraper: The Politics and Power of Building New York City in the Twentieth Century* (Philadelphia: University of Pennsylvania Press, 2009)
- *Architecture in an Age of Uncertainty* (London: Ashgate, forthcoming 2013)
- "Stadium Architecture, Visual Iconography and the Shaping of Urban and Sporting Identities," in *The Visual in Sport*, Huggins, Mike and Mike O'Mahoney, eds. (Oxford: Routledge, 2011)
- "Stadia: Architecture and the Visual Iconography of Football," in *The Visual Turn in Sport—A Special Issue of the International Journal of the History of Sport*. (2011)
- "Ada Louise Huxtable," in *The Grove Encyclopedia of American Art*, Joan Marter, ed. (Oxford: Oxford University Press, 2011)
- "Marxism," in *The Grove Encyclopedia of American Art*, Joan Marter, ed. (Oxford: Oxford University Press, 2011)
- "Thom Mayne," in *The Grove Encyclopedia of American Art*, Joan Marter, ed. (Oxford: Oxford University Press, 2011)
- "New Brutalism," in *The Grove Encyclopedia of American Art*, Joan Marter, ed. (Oxford: Oxford University Press, 2011)
- "Illuminating the Invisible: Race + Space in Architectural Pedagogy," in *The Journal of History and Culture* (Summer, 2009)
- "Race, Space, and Architecture in Oakland Cemetery," in *Scapes* 6 (Fall 2007)
- "The Architects' Collaborative (TAC)" in *The Encyclopedia of Twentieth Century Architecture*. R. Stephen Sennott, ed. (New York: Routledge, 2004)
- "Corporate Office Park Architecture," in *The Encyclopedia of Twentieth Century Architecture*. R. Stephen Sennott, ed. (New York: Routledge, 2004)
- "Urban Renewal," in *The Encyclopedia of Twentieth Century Architecture*. R. Stephen Sennott, ed. (New York: Routledge, 2004)
- "Historic Preservation" in *The Encyclopedia of American Studies*. Kurian, Orvell, Butler, and Mechling, eds. (Danbury, CT: Grolier, 2001)
- "Urban Architecture," in *The Encyclopedia of American Studies*. Kurian, Orvell, Butler, and Mechling, eds. (Danbury, CT: Grolier, 2001)

Professional Memberships:

Society of Architectural Historians, College Art Association

Michael Eric Gamble, Architect

Courses Taught:

| | |
|-----------|--|
| ARCH 4012 | Core II Graduate Design Studio |
| ARCH 4123 | European Modernism: Berlin |
| ARCH 6052 | Options II Graduate Building Workshop Studio |
| ARCH 4220 | Construction Technology II |
| ARCH 8833 | Zero Energy Housing |

Educational Credentials:

| | |
|---|-----------|
| Auburn University, Bachelor of Architecture | May 1989 |
| Burckhardt Award - Graduated first in the design class | |
| Georgia Institute of Technology, Master of Architecture | May 1991 |
| Harvard University, Master of Design Studies | |
| Degree awarded with Distinction | |
| | June 1996 |

Teaching Experience:

| | | | |
|--------------|---|---------------------------------|---------------|
| 2010-present | Associate Chair, Undergraduate and Professional Education | Georgia Institute of Technology | Atlanta, GA |
| 2010 | Interim Curriculum Coordinator | Georgia Institute of Technology | Atlanta, GA |
| 2007-present | Associate Professor | Georgia Institute of Technology | Atlanta, GA |
| 2000-2007 | Assistant Professor | Georgia Institute of Technology | Atlanta, GA |
| 1998-1999 | Visiting Assistant Professor | Georgia Institute of Technology | Atlanta, GA |
| 1995-1996 | Graduate Research Assistant | Harvard University | Cambridge, MA |

Professional Experience:

| | | | |
|--------------|------------------------|-----------------------------------|-------------|
| 1997-present | Principal/ Joint Owner | Gamble and Gamble Architects, LLC | Atlanta, GA |
| 2002-present | Partner | Willow Acquisition, LLC | Atlanta, GA |

Licenses/Registration:

| | |
|---------------|--|
| 2007 -Present | Registered Contractor, State of Georgia, RLC 1001404 |
| 2001- Present | Registered Architect, State of Florida, No. 92603 |
| 1993- Present | Registered Architect, State of Georgia, No. 8186, |

Selected Publications and Recent Research:

First Prize, G+G Architects. Revitalization of the Cleremont Hotel. Atlanta, GA. 2009

Gamble, Michael E. Essay entitled "The Inscription of Public and Civic Realms in the Contemporary City" included in Douglas Kelbaugh and Kit McCollough Writing Urbanism: A Design Reader, New York: Routledge Press pp. 181-191.

Honor Award. G+G Architects. "63 Gammon Street: Sustainable House Competition" American Institute of Architects, Atlanta Chapter. 2006.

First Prize, G+G Architects. (\$10,000) for the "Sustainable House Competition: 63 Gammon Street". Sponsored by Charis Community Housing, SouthFace Energy Institute and the Kendeda Fund. 2006.

Professional Memberships:

| | |
|---------------|---|
| 1993- Present | National Council of Architecture Review Boards Certificate No. 46,896 |
| 1993-1999 | Member, American Institute of Architects |

Name: Dr. T. Russell Gentry, PE

Courses Taught (Two academic years prior to current visit):

ARCH 4251 – Architectural Structures I and Design Integration
ARCH 4252 – Architectural Structures II and Design Integration
ARCH 6226 – Green Construction
ARCH 8833 FGT – Zero Energy Housing
ARCH 6506 – Construction Materials, Systems, Fabrications

Educational Credentials:

B.S., Civil Engineering, Georgia Institute of Technology, 1985
M.S., Civil Engineering (Structures), Georgia Institute of Technology, 1986
Ph.D., Civil Engineering (Structures), University of Michigan, 1992

Teaching Experience:

Assistant Professor, Catholic University of America, 1992-1996
Assistant Professor, Georgia Institute of Technology, 1997-2000
Associate Professor, Georgia Institute of Technology, 2001-present

Professional Experience:

Intern Engineer, Gardner and Howe, PC, Memphis, TN, 1986-1988
T. Russell Gentry, Consulting Structural Engineer, Atlanta, GA, 1990-present

Licenses/Registration:

Georgia
Maryland (inactive)
Michigan (inactive)

Selected Publications and Recent Research:

Publication: Gentry, T. Russell "Building Systems, Controls, and Automation" in High Performance Homes, Their Design and Construction: New Materials, Renewable Energies and Integrated Practice, Trubiano, Franca, ed., Routledge Architecture, October, 2012.
Publication: Gentry, T. Russell, 2011, "Performance of glued-laminated timbers with FRP shear and flexural reinforcement", Journal of Composites for Construction, American Society of Civil Engineers, v 15, n 5, p 861-870, September-October 2011.
Publication: Cavieres, Andres, Gentry, Russell, and Al-Haddad, Tristan, (2011), "Knowledge-based parametric tools for concrete masonry walls: Conceptual design and preliminary structural analysis," Automation in Construction, Elsevier, 20: 716–728.
Publication: Gentry, R., D. Baerlecken, M. Swarts, and N. Wonoto (2013), "Parametric Design and Non-Linear Analysis of a Large-Scale Deployable Roof Structure based on Action Origami" in ICSA 2013: 2nd International Conference on Structures and Architecture, Guimaraes, Portugal, to appear.
Publication: Sharif, S., T.R. Gentry, J. Yen, and J.N. Goodman (2013) "Kinetic Solar Panels: A Transformative and Expandable Geometric System for Photovoltaic Structures" in SIGraDi 2012 - Proceedings of the 16th Iberoamerican Congress of Digital Graphics, Fortaleza, Brazil.
Project: Building Information Modeling for Masonry, Phase 1 Roadmap, Russell Gentry, PI, \$35,000, 5/2012 – ongoing.
Project: Simple BOS (Balance of System), U.S. Department of Energy, Georgia Tech Research Institute (GTRI), Joseph Goodman, PI; Russell Gentry + multiple others, co-PIs, \$2,800,000 (11/1/2011 –).
Project: Use of Phase-Change Materials in Small Spaces, with Vikram Sami at Perkins and Will Architects, internally funded by Perkins and Will, 6/2012-ongoing
Project: Italian-American Symposium on Advanced Manufacturing, with Kevin Shankwiler (PI), Tristan Al-Haddad (co-PI) and Andrew Dugenke (co-PI), \$40,000, 1/2013 – ongoing.

Professional Memberships:

American Society of Testing and Materials (ASTM)
American Concrete Institute (ACI)

Name: Sabri Gokmen

Courses Taught (Two academic years prior to current visit):

ARCH 4833 Elective Class on Morris Carpets - Tangle Jungle

ARCH 4021 Graduate Core Design Studio I

ARCH 4011/ 6053 Senior Design Studio and Options III Studio

ARCH 4012 Senior Design Studio

ARCH 6024 Graduate Core Design Studio I

ARCH 6053 Options III Design Studio

Educational Credentials:

B.Arch., Middle East Technical University, 2007

M.S. in Digital Design and Fabrication, Georgia Institute of Technology, 2010

Teaching Experience:

Graduate Teaching Assistant, Georgia Institute of Technology, 2010 - present

Professional Experience:

Senior Design Architect, Hatirli Architecture/Turkey 2007-2009

Licenses/Registration:

Turkey

Name: Judy O'Buck Gordon

Courses Taught (Two academic years prior to current visit):

ARCH 4219/2211 Construction Technology & Design Integration I, (co-instructor), Fall, 2012
ARCH 6051 Architecture Options Studio I, *Project: The Urban Patch, Atlanta*, Fall, 2012
ARCH 4023 Architecture Core Studio III, *Friends Meeting House, Atlanta*, Spring, 2012
ARCH 3011 Architecture Design Studio III, Fall, 2011
ARCH 3012 Architecture Design Studio IV, *Altered Motion: Ethereal Constructions*, Spring, 2011
ARCH 6051 Architecture Options Studio I, *Ephemeral Bodyscapes: The Terpsichorean Center*, Fall, 2010

Educational Credentials:

Master of Architecture, Columbia University, New York, New York, 1986
Bachelor of Environmental Design, Miami University, Oxford, Ohio, 1979
Diploma Unit 8 (attended), The Architectural Association, London, England, UK, 1978

Teaching Experience:

Senior Lecturer, Part Time, Georgia Institute of Technology, Atlanta, 1998-present
Focus Studio Instructor, Part Time, Southern Polytechnic State University, Marietta, Georgia, Fall 2009
Instructor, Part Time, Lehigh University, Lehigh, Pennsylvania, Fall 1993
Instructor, Part Time, New York Institute of Technology, Westbury and Central Islip, New York, 1987-1990
Graduate Teaching Assistant, Columbia University, New York, New York, 1985-86

Professional Experience:

Principal, O Architects, LLC, Atlanta, Georgia, 2003-Present
Partner, Axio Design, LLC, Atlanta, Georgia, 2002-2003
Partner, The Design Collaborative, kaisen, Atlanta, Georgia, 2000-2002
Associate, Swanke Hayden Connell Architects Inc., New York, New York, 1992-1997
Architect, Kohn, Pedersen, Fox, Conway Associates, Inc., New York, New York, 1991-1992
Designer/Architect dePolo/Dunbar, Inc., New York, New York, 1989-1991
Architectural Designer, Aldo Rossi: Studio di Architettura, New York, New York, 1988-1989

Licenses/Registration:

New York
Georgia
Pennsylvania
LEED AP

Selected Publications and Recent Research:

The Making of an Architectural Idea, paper, ICERI2010: International Conference of Education, Research and Innovation, Madrid, Spain, November, 2010, ICERI2010 Abstracts CD, ISBN: 978-84-614- 2438-2, Abstract; ICERI2010 Proceedings CD, ISBN: 978-84-614-2439-9, Paper
Adaptive Reuse: Biomimetic Living Wall, with William Jackson, selected for Poster Session, Energy Forum on Solar Building Skins, Bressanone, Italy, December, 2010
Part 1: *Understanding Tectonics and Sustainable Tectonics: Sidwell Friends Middle School*"; Part 2: *"4 + 1 = 3; Four Elevations and the Roof = Three Case Studies*, Lecture, Ecole d'Ingénieur Polytechnique Feminine (EPF), Sceaux, France, May 2010
The Making of an Idea, paper, MADE: Design Education & the Art of Making, Charlotte, NC, March, 2010 Conference proceedings, published Fall 2010
Kozmo Restaurant, Johns Creek, GA, print and web: *Jezebel*, pp. 24-26, April 2009

Professional Memberships:

NCARB, 2001 - present

Name: David Ernest Green, AIA, LEED AP BD+C

Courses Taught (Two academic years prior to current visit):

ARCH 6051 Design Studio
ARCH 6052 Design Studio
ARCH 8843 Regulatory Frameworks and the Built Environment
ARCH 6051 Design Studio
ARCH 6052 Design Studio
ARCH 8843 Regulatory Frameworks and the Built Environment

Educational Credentials:

B.Science, Georgia Institute of Technology, 1987
M.Arch., Georgia Institute of Technology, 1991

Teaching Experience:

Visiting Instructor, Georgia Institute of Technology, 1992-2008
Professor of the Practice, Georgia Institute of Technology, 2008-present

Professional Experience:

Intern, Cooper Carry, 1988-1989
Intern, Smith Dalia Architects, 1991-1995
Partner, Brock Green Architects, 1995-2004
Principal, Lord Aeck Sargent, 2004-2008
Principal Perkins+Will, 2008-present
Director, AREA Research, 2011-present

Licenses/Registration:

Georgia, Florida, South Carolina

Selected Publications and Recent Research:

Projecting Returns on Transit Investment: A research proposal for analyzing and evaluating investments made in and around MARTA stations and projecting the returns. (Perkins+Will Research Journal, 2012)

Professional Memberships:

The American Institute of Architects (State AIA Board-current), The Urban Land Institute (District Council Board-current), The American Planning Association, The Congress for the New Urbanism

Name: Timothy Harrison, Registered Architect

Courses Taught (Two academic years prior to current visit):

ARCH 2011 Architecture Design Studio I
ARCH 3011 Architecture Design studio III
ARCH 3241 Fundamentals of Structures
ARCH 4022 Core III Design Studio

Educational Credentials:

B.S.E., Structural Engineering, Duke University, 1989 (Minor: Architectural History)
M.Arch., Harvard University, 1994

Teaching Experience:

Part-Time Lecturer, Georgia Institute of Technology, 1997, 2005-present
Visiting Faculty, Boston Architectural Center, 1993-1994.

Professional Experience:

Principal, Timothy Harrison Architect, 2005-present
Senior Project Architect, Mack Scogin Merrill Elam Architects / Scogin Elam and Bray, 1995-2006
Intern Architect, James Kimo Griggs, Architect, 1994-1995

Licenses/Registration:

Georgia, since 1999 (License No. 9744)

Selected Publications and Recent Research:

Inaugural Exhibit Catalog Essay for Art in Freedom Park. "Speculations: Undiscovered Treasure in Atlanta's Largest Park." October 2005.

Published work with Mack Scogin Merrill Elam Architects:

Architectural Record, "Wang Campus Center, Massachusetts." July 2006.

Architecture, "Night and Day." December 2004.

Architectural Record, "MSME Mediates Between the Man-made and the Natural." November 2002.

Architectural Record, "Drain It Right: Wetlands for Managing Runoff." August 2001

Architecture, "Tight Bookkeeping." February 2000.

Professional Memberships:

The American Institute of Architects, 2001-2006

Name: Lauren Hickman

Courses Taught:

ARCH 2011: Architectural Design Studio I

ARCH 4420: Intro to Design Computing

Educational Credentials:

B.Arch., B.F.A. Rhode Island School of Design, 2007

M.S.A.A.D., Columbia University, 2012

Teaching Experience:

Lecturer, Georgia Tech College of Architecture, Atlanta, 2012-present

Professional Experience:

Intern, Wayne Troyer Architects, New Orleans, LA 2012

Intern, Spackman, Mossop + Michaels, New Orleans, LA 2010-2011

Intern, Billes Partners, New Orleans, LA 2008-2010

Name: Dr. Laura H. Hollengreen

Courses Taught (Two academic years prior to current visit):

ARCH 2111: History I: History of Architecture, Antiquity to the Eighteenth Century (undergrad)
ARCH 4105/6105: History I: History of Architecture, Antiquity to the Eighteenth Century (grad)
ARCH 4114/6114: Medieval Architecture
ARCH 4143/6143: Museums: History, Theory, Design
ARCH 4823 HP: Special Topics Honors Class: The Physics and Metaphysics of Premodern Architecture
ARCH 4823 LH1/8823 LH1: Special Topics: Landscapes of War
ARCH 4823 LH2/8823 LH2: How Do We Dwell? Hists. and Theos. of Env. Behavior and Design
ARCH 4927: Greece and Italy Prep
COA 3116/6116: Art and Architecture in Italy II

Educational Credentials:

A.B., Princeton University, 1985
M.A., University of California, Berkeley, 1989
Ph.D., University of California, Berkeley, 1998

Teaching Experience:

Lecturer, University of California, Riverside, 1995
Lecturer, University of Arizona, 1995-1996, 1999-2000
Instructor, University of California, Berkeley, 1997
Instructor, University of Arizona, 1999
Assistant Professor, University of Arizona, 2000-2006
Associate Professor, University of Arizona, 2006-2009
Associate Professor, Georgia Institute of Technology, 2009-present

Selected Publications and Recent Research:

“Royal Intellect, Clerical Judgment, and the Drama of Communication at Chartres Cathedral,” submitted to *Speculum*, journal of the Medieval Academy of America
Meet Me at the Fair: A World’s Fair Reader, ed. Laura Hollengreen, Celia Pearce, Rebecca Rouse, and Bobby Schweizer (ETC Press, forthcoming in Spring 2013)
Translatio, or the Transmission of Culture, ed. Laura H. Hollengreen, *Arizona Studies in the Middle Ages and the Renaissance* 13 (Brepols, 2008)

Professional Memberships:

College Art Association and Southeast College Art Conference
International Center of Medieval Art
Medieval Academy of America
Society of Architectural Historians and Southeast Chapter, SAH

Herman H. Howard

Courses Taught (Two academic years prior to current visit):

None

Education:

University of Southern California – 1981 – Bachelor of Arts in Architecture

Columbia University, NYC – 1983 – Master of Architecture of Science in Building Design

Teaching Experience:

Georgia Institute of Technology

Southern Polytechnic State University

Architecture + Urban Design Studio's / 1997 – 1998

Professional Experience:

STUDIO **h** Urban

CEO/President June 2011 - Present

Laminin Group:

Co-Founding Partner June 2011 – Present

HOK – Atlanta, GA – October 2005 - June 2011

Vice President / Regional Practice Leader – Aviation + transportation Group

Turner Associates

Director of Urban Design / 2002 – 2005

Licenses / Registration:

None

Selected Publications and Recent Research:

None

Professional Memberships:

National Organization of Minority Architects & Urban Land Institute

George B. Johnston, PhD, AIA
Professor and Chair

Courses Taught

Arch 6XXX Theory of Architecture I

EDUCATION

| | |
|--------------------------|---|
| Doctor of Philosophy | Emory University. American Studies/Cultural History. 2006 |
| Master of Architecture | Rice University, 1984 |
| Bachelor of Architecture | Mississippi State University, 1979 |

Administrative Positions at Georgia Tech

| | | |
|----------------------------|--------------------------------------|----------------------|
| Chair | School of Architecture | 2011-Present |
| Interim Chair | School of Architecture | 2010-Present |
| Director | Professional Program in Architecture | 2009 (July-December) |
| Interim Associate Director | Architecture Program | 2006 (July-December) |
| Interim Director | Architecture Program | 2000 (July-December) |
| Associate Director | Architecture Program | 1996-2003 |
| Interim Associate Director | Architecture Program | 1995-1996 |

Academic Positions

| | | |
|---------------------|--------------------------------------|------------------------|
| Professor | Georgia Tech College of Architecture | 2010-Present |
| Associate Professor | Georgia Tech College of Architecture | 1991-2010 |
| Assistant Professor | Georgia Tech College of Architecture | 1984-1991 |
| Visiting Instructor | Rice University | 1984 (Spring Semester) |

Professional Positions

| | | |
|-------------------------|---|-----------------------|
| Principal | Johnston+Dumais Architects | 1992-Present |
| Staff Architect | Parker & Scogin Architects (Atlanta) | 1985 (June-July) |
| Staff Architect | Makover-Levy Architects (Houston) | 1984 (January-August) |
| Intern Architect | Ledbetter Associates Architects (Corinth, Mississippi) | 1979-1982 |
| Historic Sites Surveyor | Mississippi Department of Archives & History | 1979 (June-August) |

Licenses/Registration

| | | |
|----------------------|---|--------------|
| Registered Architect | States of Mississippi & Georgia NCARB Certificate Holder | 1984-Present |
|----------------------|---|--------------|

Selected Publications and Recent Research

“Professional Practice: Can Professionalism Be Taught in School?” in *Architecture School: Three Centuries of Educating Architects in North America* edited by Joan Ockman (The MIT Press, 2012).

Drafting Culture: A Social History of Architectural Graphic Standards (The MIT Press, 2008)

“Drafting Manuals and Manual Training: Rouillion and Ramsey's *Architectural Details*.” *Journal of Architectural Education* 58, no. 4 (May 2005).

Name: Sabir Khan

Courses Taught (Two academic years prior to current visit):

ARCH 3012 / ARCH 4012. Junior / Senior Elective Studio
ARCH 4128. Barcelona: Architecture, Design, Material Culture
ARCH 8803. Atlanta Beltline Urban Design Workshop
COA 1060. Introduction to the Designed and Built Environment
COA 4803. City Literacy: What Makes a Great City Great
COA 4699. Undergraduate Research: Design Think Design Do
ID 4843 / ME 4803 / LCC 4906. Interdisciplinary Design

Educational Credentials:

M.ARCH. Rice University, 1987
BA. Princeton University, 1983

Teaching Experience:

Associate Professor, Georgia Institute of Technology, 2001-present
Assistant Professor, Georgia Institute of Technology, 1995-2001
Assistant Professor, Georgia Institute of Technology, 1990-1992

Professional Experience:

Principal, Cottle Khan Architects, Atlanta, 1995-present
Project Architect, Leers Weinzapfel Associates, Boston, 1989-1990
Architectural Designer, Woo & Williams, Cambridge, 1987-1989

Licenses/Registration:

Massachusetts

Selected Publications and Recent Research:

GT FIRE Fund for Transformative Research and Education Grant. Proposal: "Societal Engagement, Social Innovation: An Expanded Vision for Service Learning". PI. \$36,000. Awarded March 2012.

Symposium Chair and Organizer. "Outer City / Inner Suburb: Physical, Social, and Cultural Landscapes of Immigration in Paris and Atlanta". Atlanta, November 2011.

"One Hundred Years of Rice : Contemporary Responses to Tradition". *Cite* 86. Summer 2011.

"Workshop Tourism". *B-sides Tourism*. Monograph on the 2011 International Summer Workshop. Barcelona, 2011.

GT FIRE Fund for Transformative Research and Education Grant. \$38,000. To develop and test first course in an Institute-wide Interdisciplinary Design Minor. Awarded April 2011.

Symposium Chair and Organizer. "Grand Plans / Everyday Lives : Le Grand Paris / Atlanta BeltLine". Atlanta, December 2010.

"Beginnings and Disciplinarity in Design Education". Editor. *Selected Papers from the Twentyfourth International Conference on Beginning Design*. March 2008.

Robert Wood Johnson Foundation. Model Curriculum for the Design of Healthcare Environments Development Grant. \$95,000. Advisory Committee Member. The grant supported the development of a graduate-level multidisciplinary curriculum through a collaboration between the College of Architecture and the Emory University School of Nursing. Awarded February 2007.

"Geographies of Disaster: The Earthquake and the Line of Control in Kashmir". *Log* 7. 2006.

Steelcase WorkSpace Futures Research Grant. \$25,000. Co-Investigator. The grant supported inter-disciplinary project-based research and design workshops looking at hospital spaces, with the first focusing on the *Patient Room of the Future*. Awarded August 2006.

"Memory Work: The Reciprocal Framing of Self and Place in Émigré Autobiographies". Chapter in *Memory and Architecture*, edited by Eleni Bastea. University of New Mexico Press. 2004.

"Road Kill on the Gallery Floor". Essay on *Axis Mexico: Common Objects and Cosmopolitan Actions*, San Diego Museum of Art. *Aula: Architecture and Urbanism in Las Americas* 4. Summer 2004.

Name: Robin E Lackey

Courses Taught:

ARCH 3011 Design Studio III, Fall 2012

Educational Credentials:

B.S. Environmental Design, University of Missouri, 2000

M Arch, University of Pennsylvania, 2003

Teaching Experience:

Part Time Lecturer, Georgia Institute of Technology, 2012-present

Professional Experience:

Architect, Beyer Blinder Belle Architects, New York, NY 2005-2006

Project Architect, PKSB Architects, New York, NY 2004-2005, 2006-2010

Licenses/Registration:

Licensed Architect, New York

LEED Accredited Professional, Building Design and Construction

NCARB Certified

Name: W. Jude LeBlanc

Courses Taught (Two academic years prior to current visit):

Fall 2010

Arch 3011JL Arch Design Studio III, co-coordinator w Charles Rudolph
ARCH 2211 RL Construction Tech I, co-taught with Charles Rudolph

Spring 2010

Arch 6052JL Arch Options Studio—Health Clinic
Arch 4129JL Form and Narrative—Cross Media Analysis

Fall 2011

ARCH 3011JL Arch Design Studio III, co-coordinator
ARCH 4219CR, 221 RL Construction Tech I, co-taught with Charles Rudolph

Spring 2011

ARCH 4023 GR Arch Core Studio III—co-taught with Gernot Reither
ARCH 4129JL, 6129 JL Form and Narrative—Cross Media Analysis

Fall 2012

Arch 3011JL Arch Design Studio III, co-coordinator
ARCH 2211 RL Construction Tech I, co-taught with Charles Rudolph

Educational Credentials:

B.Arch., University of Houston, 1980
M. Arch., Harvard University, 1982

Teaching Experience:

Assistant Professor, University of Virginia, 1986-1992
Associate Professor, Harvard University, Graduate School of Design, 1992-1998
Associate Professor, Georgia Institute of Technology, 1998-present

Professional Experience:

Skidmore, Owings and Merrill, New York, New York, 1982-1983
Gwathmey Siegel and Associates, New York, New York, 1983-1984
Robert A. M. Stern Architects, New York, New York, 1984-1986
W. Jude LeBlanc Architect, 1986-present

Licenses/Registration:

NCARB, Georgia

Selected Publications and Recent Research:

-“Incremental Urbanism: New Models for the Redesign of America’s Commercial Strips”, *Harvard Design Magazine*, Fall 2004/Winter2005, Number 21, w Michael Gamble.
-Progressive Architecture Awards Citation, Scupper Houses, in assoc. w Brian Andrews, *Architecture*, 1999.
-"Wall Housing-Highway Type", Japan Architect/Shinkenchiku Residential Design Competition, Place, published in "The Japan Architect", 20, winter, 1995-1994.
-*Eighteen Houses*, editor and contributor to compilation of single-family house designs by architects affiliated with the University of Virginia. Distributed by Princeton Architectural Press, 1992.
-Current research projects:
-Narrative structure in the films of Alfred Hitchcock
-Formal methods in the paintings of Johannes Vermeer

Professional Memberships:

Institute of Classical Architecture

Frederick M. Pearsall

Courses Taught

ARCH 6051 Architectural Options Studio I
ARCH 3012/4012 Architecture Design Studio III/IV
ARCH 4803/8803 Visual Practice
ARCH 4227/6227 Ecology and Architecture

Educational Credentials:

A.B. Art History *cum laude*, University of North Carolina-Chapel Hill, 1973
M.Arch Program, University of Pennsylvania, Philadelphia, PA 1973-76

Teaching Experience:

Lecturer, School of Architecture, Georgia Institute of Technology, 1993-1998
Lecturer, Department of Art History, Emory University, 2006-2008

Professional Experience:

Intern, Venturi, Rauch and Scott Brown, Architects and Planners, Philadelphia, PA, 1974-1976
Intern, Hayes & Howell, Southern Pines, NC, 1977
Freelance consultant, Frederick Pearsall, New York, NY, 1978-1982
Principal, Romm + Pearsall/Architects and Planners, 1983-present

Selected Publications:

Work from "LAGI Competition" Prize-Winners [ARCH 3012-4012/Spring 2012] coverage:
Thaddeus Pawlowski, Mitchell Joachim, LAGI Ann Rosenthal, Heather Roger, Eloise Hirsh, Andreas Kipar. *Regenerative Infrastructures: Freshkills Park NYC, Land Art Generator Initiative*, May 2013.
ISBN: 978-3-7913-5286-2
Tafline Laylin, "Piezoelectric Energy-Generating "Scene Sensor" Wins the 2012 Land Art Generator Initiative Competition for Freshkills Park," Inhabitat NYC, Oct 26, 20. <http://inhabitat.com/nyc/piezoelectric-energy-generating-scene-sensor-wins-the-2012-land-art-generator-initiative-competition-for-freshkills-park/>
"Winners announced of the 2012 Land Art Generator Initiative Competition for Freshkills Park," <http://www.archdaily.com/tag/land-art-generator-initiative/>
Damian Holmes, "2012 LAGI competition winners announced," Oct 29, 2012. [http://worldlandscapearchitect.com/2012-lagi-announces-winners/Wind Sensor Proposed for New York](http://worldlandscapearchitect.com/2012-lagi-announces-winners/Wind-Sensor-Proposed-for-New-York)
Blaine Brownell. "Two artists' proposed wind sensor would also generate energy." *Architect Magazine*, Nov 1, 2012. <http://www.architectmagazine.com/technology/wind-sensor-proposed-for-new-york.aspx>
Ed Bacon Competition, "Transect" Competition Prize-Winners [ARCH6051/Fall 2011] coverage:
<http://hosted.verticalresponse.com/637528/c52b3dd23f/503770909/a1e8f92872/>
<http://planphilly.com/event/center-architecture-2011-ed-bacon-prize-winners-and-awards-ceremony>
<http://philadelphiacfa.org/competitions-bacon-student-design.php>
<http://www.behance.net/gallery/WEAVE-2011-Ed-Bacon-Student-Design-Competition/3511513>
Work from "Integrating Habitats" Competition Prize-Winners [ARCH 6051/Fall 2007] coverage:
<http://www.oregonmetro.gov/index.cfm/go/by.web/id=28839>
http://library.oregonmetro.gov/files/livinggraft_no11_web.pdf
<http://www.oregonmetro.gov/index.cfm/go/by.web/id/27944/print/true>
Center for Civil and Human Rights Project, Atlanta, GA coverage:
<http://www.cchrpartnership.org/FromtheDirector/tabid/1873/EntryID/128/Default.aspx>
http://www.worldarchitecturenews.com/index.php?fuseaction=wanappln.projectview&upload_id=11285
http://www.archpaper.com/e-board_rev.asp?News_ID=3324&PagePosition=38
<http://arch-n-black.blogspot.com/2009/04/diller-scofidio-renfro-stanley-beaman.html>
http://www.e-architect.co.uk/america/georgia_architecture.htm
<http://architecture-now2.blogspot.com/2009/03/center-for-civil-and-human-rights.html>

Name: John Peponis (Ph.D.)

Courses Taught:

ARCH6131: Theory and Criticism I (Module: Program, Type, Function)

COA8630: Architecture, Space and Culture

ARCH6228: Analytical Investigations in Urban Design

ARCH8102: Introduction to Architectural Research 3 (Module: Theories of Design)

Educational Credentials:

Ph.D. 1983 University College, University of London. Architecture

M.Sc. 1977 University College, University of London. Architecture

B.Sc. 1976 University College, University of London. Architecture

Teaching Experience:

Professor May 2004 - Georgia Institute of Technology

Associate Professor Sep.1989 – Apr.2004 Georgia Institute of Technology

Professional Experience:

Consultant Architect, Kokkinou and Kourkoulas Architects (<http://www.kokkinoukourkoulas.com/>)
1990-

Licenses/Registration:

Member, Technical Chamber of Greece -registered Architect-Engineer, 1982-present

Selected Publications and Recent Research since 2010:

8) Peponis J, 2012, "Building layouts as cognitive data: purview and purview interface" *Cognitive Critique* **6** 11-51 http://www.cogcrit.umn.edu/docs/Peponis_v6.pdf

7) Christova P, Scoppa M, Peponis J, Georgopoulos A, 2012, "Exploring small city maps" *Experimental Brain Research* **223** 207-217(<http://www.springerlink.com/content/hg0h497173122502/>

6) Shop and Trade Mixed Use Development. Published in *Space Magazine* **524** July 2011, 48-53 (Seoul, South Korea) <http://www.vmspace.com/eng/>

5) Ozbil A, Peponis J, Stone B, 2011, "Understanding the link between street connectivity, land use and pedestrian flows" *Urban Design International* **16** 125-141 <http://www.palgrave-journals.com/udi/journal/v16/n2/abs/udi20112a.html>

4) Zamani P, Peponis J, 2010, "Co-visibility and pedagogy: innovation and challenge at the High Museum of Art" *Journal of Architecture* **15** 6 853-

879 <http://www.informaworld.com/smpp/content~db=all~content=a930313418~frm=abslink?words=peponis>

3) Peponis J, Bellal T, 2010, "Fallingwater: the interplay between space and shape" *Environment and Planning (B): Planning and Design* **37** 982-1001 <http://www.envplan.com/abstract.cgi?id=b36052>

2) Carpenter A, Peponis J, 2010, "Poverty and connectivity: crossing the tracks" *Journal of Space Syntax* **1** 108-120 http://joss.bartlett.ucl.ac.uk/index.php/joss/article/viewFile/23/pdf_10

1) Wineman J, Peponis J, 2010, "Constructing spatial meaning. Spatial affordances in museum design" *Environment and Behavior* **42** 1 86-109 <http://eab.sagepub.com/content/42/1/86.abstract>

Name: Zachary Tate Porter

Courses Taught (Two academic years prior to current visit):

ARCH 6026 Core II Studio

ARCH 6420 Design Computing: Media and Modeling II

Educational Credentials:

B.A. in Arch., University of North Carolina at Charlotte, 2009

M.Arch., University of North Carolina at Charlotte, 2011

Ph.d, Georgia Institute of Technology (in-progress)

Professional Experience:

Intern, Graham Group Architecture, Pawley's Island, South Carolina 2007

Selected Publications and Recent Research:

ACSA 2010 National Conference Published Paper: "Interfacing Architecture | Collapsing the Distance Between Design and Experience" (Co-Authored with Nicholas Ault and Eric Sauda)

ACSA 2011 National Conference Published Paper: "Architectural Fractures: Computation and Form in the Work of Le Corbusier and John Hejduk"

Gernot Riether, Asst. Prof., Dipl. Ing. Arch. M.S.**Courses Taught** (academic year 2011-12)

Arch 3012 Arch Design IV

Arch 4012 Arch Design VI

Arch 4803 Materials: Plastic, Seminar

Arch 8902 Crystal Palace, Independent Study

Arch 4420, 8803 Intro to Design Computing

Arch 2011 Arch Design II

Educational Credentials:

Dipl. Ing., University of Innsbruck, 1998

M.S. AAD Columbia University, 2000

Teaching Experience:

Adjunct Assistant Professor, New York Institute of Technology, 2002-2006

Adjunct Assistant Professor, Barnard and Columbia Colleges at Columbia University 2003-2004

Assistant Professor Georgia Institute of Technology, 2006-present

Professional Experience:

Assistant, Schwärzler Architects, Schwaz, Austria, Summer 1991, part time 1992-1994

Assistant, Brandt & Oldenbourg Architects, Munich, Germany, Summer 1994, 1995

Project Designer, Jesse Reiser and Nanako Umemoto, New York, NY, 2000-2001

Project Designer, Lindy Roy, New York, NY, 2001-2002

Project Designer, EYP, Einhorn Yaffee Prescott, New York, NY, 2002-2005

Licenses/Registration:

Den Haag, The Netherlands, License Number 1.020615.005

Selected Publications and Recent Research:Selected Published Papers in Peer Reviewed Journals (academic year 2011-12)

1. Riether G., Baerlecken D., (2012), "Digital Girih," IJAC, Vol. 10, Nr. 1, p. 1-12

2. Riether G., (2011), "AIA Pavilion, a flexible system of cellular building blocks," VIRUS, n. 6.

3. Riether G., (2011), "Towards digitally integrated urban places," Kybernetes, Vol. 40, 7/8, p. 1117-1124

4. Riether G., (2011), "AIA Pavilion, System Interactions," Journal of Green Building, Vol. 6, Nr.2, p. 29-35

Selected Published Papers in Peer Reviewed Proceedings (academic year 2011-12)

1. Riether G. (2012) "Dynamic material beh. for Lightw. Str.," eCAADe 2012, Prague, Czech Rep., p.181-190

2. Riether G. (2012) "Nuit Blanche Pavilion," AAG 2012, Centre Pompidou, Paris, France, p.199-204

3. Riether G. (2011) "Adaptation" ACADIA 2011, University of Calgary Alberta, Canada, p.52-57

Selected Published Projects in Architecture Magazines (academic year 2011-12)

1. Schittlich C. (2012) "Pavilion in New Orleans," DETAIL, Vo. 52, 6 Prefabrication, p. 613, p. 642-644, p.723

2. Gheoghe A. (2012) "AIA Pavilion," architektur aktuell, Nr. 385, p.20-22

3. Bruehl T. (2012) "Material World," gb&d (Green Building and Design), Vol. 3, Nr. 15, p.144-145

4. Platz D. (2011) "Individuelle Geometrie," ARCHITEKTUR & BAUFORUM, SKIN, Nr. 2, title, p.1-6

5. Riether G. (2011) "AIA Pavilion," CONCEPT, Vol. 148, p.50-57

6. Rob G., (2011) "AIA Pavilion, New Orleans," The Architectural Review, Nr. 1371, p.84, 85

Selected Published Projects in Books (academic year 2011-12)

1. Angelini R. (2011). "Architettura e Information Technology," Mancosu Editore, p.228-232

Selected Research Projects (academic year 2011-12)

1. "Skin," co PI, selected, Traverse Video, Toulouse, France, 4-5/2012

2. "Nuit Blanche," co PI, invited by the Cultural Ministry of Paris, Nuit Blanche, Paris, France, 10/2011

3. "MainX24 Pavilion," PI, invited, Chattanooga TN, 11/2011

Professional Memberships:ACADIA, international network of digital design researchers and professionals,

Name: Stuart Romm, AIA**Courses Taught (Two academic years prior to current visit):**

ARCH 4011 Architecture Design Studio V
ARCH 2012 Architecture Design Studio II
ARCH 6051 Architecture Options Studio I
ARCH 7090 Masters Project Studio
ARCH 8843 Special Topics - Practice
ARCH 4315 Professional Practice

Educational Credentials:

B.Arch., Cornell University, 1974

Teaching Experience:

Studio Instructor, Georgia Institute of Technology, 1982-1991
Senior Lecturer, Georgia Institute of Technology, 1992-2011
Professor of the Practice, Georgia Institute of Technology, 2012-present

Professional Experience:

Principal, Praxis3 Architecture, Atlanta, GA, 1997-present
Partner, Romm + Pearsall Architects, Atlanta, GA, 1982-present
Principal, Stuart Romm / Architect, Atlanta, GA, 1979-1981
Intern Architect, John Portman & Associates, Atlanta, GA & Los Angeles, CA, 1974-1978

Licenses/Registration:

Registered Architect: Georgia (initial), California, Florida, Illinois, Kentucky, New Jersey, Tennessee, Texas

Selected Publications and Recent Research:

- 2011 UNC Charlotte, School of Architecture: Practice Panel "Digital Inquiry + Practice"
Presenter/Panelist: "Mediated Public Space"
with Peter Wong, moderator, plus Nick Senske and Jordan Williams
- 2010 AIA Georgia, Citation Design Award: Fire Station No. 2, Decatur, GA
(LP3 Architecture, Stuart Romm, lead designer)
- 2009 AIA Honor Award, South Atlantic Region: Renaissance Walk at Sweet Auburn, Atlanta
(Praxis3, J.W. Robinson & Associates, Romm + Pearsall, Stuart Romm, lead designer)
- 2009 Greenprints 2009 "Sustainable Communities by Design", Atlanta
Presenter/Panelist: "City of the Future"
with Eric Bishop, David Hamilton, and Todd Hill
- 2008 National Prize Winner, History Channel's "City of the Future - Design and Engineering
Challenge", team: EDAW, Praxis3, BNIM, Metcalf & Eddy
- 2006 "Designing Domesticity" Symposium, Georgia Tech, Atlanta
Presenter/Panelist: "552 Hardendorf"
with Benjamin Flowers, moderator, and Sabir Khan, David Yocum
- 2006 Atlanta Regional Housing Forum, Atlanta Regional Commission
Presenter/Panelist: "Livable Space: Housing Design and Regulations"
with Larry Keating and Andrea Korber
- 2002 CIB Tokyo Conference 2002 "Urban Regeneration and Placemaking for the 21st Century",
Tokyo, Japan.
Presenter: "Psychological Parameters in the Formation of Place" (co-authored article with
Harris Dimitropoulos).

Professional Memberships:

Certificate: National Council of Architectural Registration Boards
Accredited Professional: LEED (Leadership in Energy and Environmental Design), Member AIA

Name: Charles F. Rudolph

Courses Taught

ARCH 2211 Construction Technology and Design Integration I
ARCH 4220 Construction Technology and Design Integration II
ARCH 3011 Third Year Undergraduate Design Studio
ARCH 4021 Core I Design Studio
ARCH 6052 Options II Design Studio
ARCH 6053 Options III Design Studio
Summer 2011 Career Discovery in Architecture Program (2 weeks)

Educational Experience:

Master of Science/Building Design Columbia University, New York, New York May 1989
Bachelor of Architecture Rice University, Houston, Texas May 1983
Bachelor of Arts/Art and Art History Rice University, Houston, Texas May 1981

Teaching Experience:

Associate Professor with Tenure, Architecture Program, February 2000
Assistant Professor, Architecture Program, May 1995
Adjunct Instructor, Architecture Program, August 1992-May 1995

Professional Experience

Pei, Cobb, Freed & Partners, New York, NY 1989-1992
Peter Wheelwright & Associates, Architects, New York, NY 1986-1988
Ryall + Bishop Architects, New York, NY 1986
Michael Underhill A.I.A., Houston, Texas 1983-1986
R.M. Kliment and Frances Halsband, Architects, New York, NY 1981-1982
Wittenberg, Deloney & Davidson Architects, Little Rock, Arkansas 1978 (summer)

Licenses/Registration:

Architect. State of New York. #6271, 1997-2001 (re-activating status)

Selected Publications and Recent Research:

Rudolph, Charles F., "Critical Regionalism to Critical Realism: Notes on a Transition"
International Conference: Regional Architecture and Identity, November 13-15, 2007, Tunis,
Tunisia
Center for the Study of Architecture in the Arab Region (CSAAR).
Rudolph, Charles F., Co-PI (Castro-Lacouture, Daniel. PI, and Yang, Perry. Co-PI). NSF / EFRI-Seed
Proposal.
Emerging Frontiers in Research Innovation "EFRI-SEED: Feasibility of Algae-Powered Houses".
Funded by NSF July 2012-2015, \$825,000.

Name: Vikram Sami, LEED BD+C

Courses Taught (Two academic years prior to current visit):

ARCH 4231 Environmental Systems

Educational Credentials:

GD.Arch., Academy of Architecture, Mumbai, 1997

M.S. Bldg Des., Arizona State University, 2003

Teaching Experience:

Adjunct Faculty, Georgia Institute of Technology, 2005-2008, 2012

Professional Experience:

Sustainable Design Analyst, Perkins+Will, March 2010 – Present

Associate, Senior Building Performance Analyst, Lord Aeck Sargent, Sept 2004 – March 2010

Sustainable Design Consultant, ENSAR Group Inc, June 2003 – September 2004.

Licenses/Registration:

Selected Publications and Recent Research:

- *Modeling thermal comfort delivered by wind towers using computational fluid dynamics* ; MS Thesis, Arizona State University (2003)
- [Applying Computational Fluid Dynamics to Analyze Natural Ventilation and Human Comfort in Buildings](#); ASES 2003, Austin, TX
- *Casa Campos - Optimizing Ventilation & Comfort in a Traditional Spanish Residential Courtyard using Computational Fluid Dynamics*; PLEA, Santiago, Chile
- *Calculating an Optimal Sun Angle for Window Shading*; ASES 2004, Portland, OR
- *Photovoltaic Reincarnation*; ASES 20005, Orlando, FL
- *Examining The Role Of Full Field Solutions In Analyzing Passive Solar Architecture*; ASES 2006; Denver, CO
- *A Concise Method For Determining Optimal Glazing Specifications*; ASES 2006, Denver, CO.
- [A Simultaneous Modeling Methodology to Analyze Passive Solar Performance of Trombe Walls](#); PLEA 2006, Geneva, Switzerland.
- *Optimizing Passive Solar Design Using Cutting Edge Tools*; Rethinking Sustainable Construction, 2006; Sarasota, FL.
- *Laboratories 2030: Implications of the 2030 Challenge for the Research Building Sector*; Labs 21, Charleston, SC
- [Passive Solar on the Blue Ridge Parkway](#); ED+C Magazine May 1st 2008 Cover Article.
- *Chhaya 2.0 - Using A Dynamic Balance Point To Extend The Passive Season*; ASES 2008, San Diego, CA.
- *Laboratories 2030: Implications of the 2030 Challenge for the Research Building Sector*; ASES 2008, San Diego, CA.
- *Crystallized Pedagogy: Using the Built Environment to Teach Sustainability*; ASES 2008, San Diego, CA.
- *The Blue Ridge parkway visitor centre: correlating building simulation with measured performance in passive solar design*; ASES 2008, San Diego, CA.
- [Chhaya 2.0: Using a Dynamic Balance Point to Extend the Passive Season](#); PLEA 2009, Quebec, Canada.
- *Building Information Modeling (BIM) & Sustainability - Using Design Technology for Daylight Modeling (Technical Paper)*; Solar 2010 Conference, Phoenix, AZ

Professional Memberships:

ASHRAE

USGBC

Name: Jonathan Shaw

Courses Taught (Two academic years prior to current visit):

ARCH 8803 Online Visualization Environments

ARCH 4420 Introduction to Design Computing

Educational Credentials:

B.A. Art, Kennesaw State University, 1997

B.S, Math, Kennesaw State University, 1998

M.S. Arch., Georgia Institute of Technology, 2000

Teaching Experience:

Instructor, Georgia Institute of Technology, 2004-present

Professional Experience:

Intern, Zachary W. Henderson A.I.A., Inc., Roswell, GA 1999

Research Scientist, College of Computing GVU Center, Georgia Institute of Technology, 2000-2003

Research Scientist, Imagine Lab/Digital Building Lab, Georgia Institute of Technology, 2003-present

Selected Publications and Recent Research:

Virtual Home Modification Education Assistant, 3 year \$600,000 NIDRR Grant, 2012-2015

"Collaborative City Modeling" Erik Palmquist, Jonathan Shaw, (2008) Education and Research in Computer Aided Architectural Design in Europe Conference, Antwerp, Belgium

"Designing Universally: Integration of CAD, Motion Capture and DHM to simulate wheelchair users in a retail checkout station." Jason C. Quick, C.M. Sundaram, Jonathan Shaw, (2005) Digital Human Modeling for Design and Engineering Symposium, Iowa City, Iowa.

Name: Jihan Sherman

Courses Taught (Two academic years prior to current visit):

ARCH 2011 Design I

ARCH 2012 Design II

COA 1011 Fundamentals of Design and the Built Environment I

COA 1012 Fundamentals of Design and the Built Environment II

Educational Credentials:

BS Architecture, Georgia Institute of Technology, 2005

MArch, Georgia Institute of Technology, 2007

Teaching Experience:

Adjunct Instructor, Georgia Institute of Technology, Common First Year, 2008-2012

Adjunct Instructor, Georgia Institute of Technology, School of Architecture, 2011-2012

Associate Academic Professional, Common First Year Curriculum Coordinator, Georgia Institute of Technology, Atlanta, GA 2012-present

Professional Experience:

Intern Architect III, Lord, Aeck & Sargent, Atlanta, GA, 2007- 2011

Licenses/Registration:

N/A

Selected Publications and Recent Research:

N/A

Professional Memberships:

The American Institute of Architects

LEED AP, BD + C, USGBC, 2008

David C. Yocum, AIA

Recent Courses Taught:

COA 6053: Architecture Options Studio III
COA 6052: Architecture Options Studio II
COA 6051: Architecture Options Studio I

Educational Credentials:

M.Arch., Harvard University, 1997
B.A., Dartmouth College, 1992

Teaching Experience:

Professor of the Practice in Architecture, Georgia Tech College of Architecture, 2012-Present
Paul Rudolph Fellow, , Auburn University School of Architecture, 2012
Visiting Professor of Practice in Architecture, Georgia Tech College of Architecture, 2010-2011
Lecturer, Georgia Tech College of Architecture, 2006-2010

Professional Experience:

Director, BLDGS, Atlanta GA, 2006-present
Senior Project Architect, Mack Scogin Merrill Elam Architects, Inc., Atlanta, GA, 2003-2005
Project Architect / Manager, Mack Scogin Merrill Elam Architects, Atlanta, GA, 1997-2003
Intern Architect, Payette Associates, Boston, MA, 1997
Intern Architect, Sandro Marpillero Architect, New York, NY, 1996
Intern Architect, Thompson and Wood Architects, Cambridge, MA, 1994
Part-Time Intern, Banwell White Arnold Hemberger and Partners, Architects, Hanover, NH, 1989-1992

Licenses/Registration:

Georgia

Recent Publications and Awards:

Atlanta Journal-Constitution, "MetHome Spotlights Atlanta Architects" October 28, 2009
Atlanta Journal-Constitution, "Visual Arts: Up Against a Wall – and Then Beyond" December 2008
The New York Times, Sunday Magazine, "Second Life" March 2, 2008
Atlanta Journal-Constitution, "Dilapidated Atlanta Building Transformed Into Award Winner" June 2008
2010 Georgia AIA Honor Design Award, for Florian-Hart Residence and Ansley Glass House
2008 Atlanta Urban Design Commission Award for Adaptive Re-use, for Villa de Murph
2007 Georgia AIA Award of Merit, for Whitespace Gallery
2007 National AIA Small Project Design Award, for Villa de Murph

Professional Memberships:

The American Institute of Architects

Craig M. Zimring, PhD

Courses Taught (Two academic years prior to current visit):

COA8000 B/Arch 8902 Introduction to Doctoral Research
ARCH 7060 CZ Critical Positions
ARCH 8812 Evidence-Based Design
COA8823 CZ Advanced Readings: Research Methods
COA8823 DZ/Arch 6271 Healthcare Design of the Future
Arch8999 Prep Doctoral Dissertation

Educational Credentials:

Ph.D., Environmental Psychology, Univ. of Mass at Amherst, 1978
M.S., Psychology, Univ. of Mass at Amherst, 1978
B.S., Psychology, Univ. of Michigan, 1973

Teaching Experience:

Professor of Architecture and of Psychology, Georgia Institute of Technology, 2000-Present
Associate Professor of Architecture and of Psychology, Georgia Institute of Technology, 1983-2000
Assistant Professor of Architecture and of Psychology, Georgia Institute of Technology, 1978-1983

Selected Publications and Recent Research:

(note: 78 publications not listed here) C. Zimring et al (in press, 2013). Evidence-based Design of Healthcare Facilities: Opportunities for Research and Practice in Infection Prevention. *Inf Control Hosp Epidem.*

Zimring, C., & Seo, H. B. (2012). Making Acuity-Adaptable Units Work: Lessons From the Field. *Herd-Health Environments Research & Design Journal*, 5(3), 115-128.

Ryherd, E.E., Okcu, S., Ackerman, J., Zimring, C., Persson, K., & Wayne, P.D. (2012). Noise Pollution in Hospitals: Impacts on Staff. *JCOM*, 19(11).

Zimring, C., & DuBose, J. (2011). Healthy Health Care Settings. In H. F. R. J. In A. Danneberg (Ed.), *Designing and Building for Health, Well-Being and Sustainability* (pp. 203-215). Washington, DC: Island Press.

Lu, Y., & Zimring, C. (2011). Can Intensive Care Staff See Their Patients? An Improved Visibility Analysis Methodology. *Environment and Behavior*.

Callahan, C. W., & Zimring, C. (2011). Finally "Deliberate by Design:" Milestones in the Delivery of Health Care for US Military Family Members. *Military Medicine*, 176(8), 858-864.

Henriksen, K., Isaacson, S., Sadler, B. L., & Zimring, C. M. (2007). The role of the physical environment in crossing the quality chasm *The Joint Commission Journal on Quality and Patient Safety*, 33(11 Supplement), 68-80.

(Note: \$4m in research in last 6 years not listed here)

Healthy Hospital Lighting. The program of study is focused on evaluating the outcomes for patients and staff from implementing a dynamic lighting system in healthcare spaces.

Understanding the Role of Healthcare Facility Design in the Acquisition and Prevention of HAIs. In collaboration with Emory Healthcare and RTI International, and funded by AHRQ, this project sees to develop a conceptual framework and literature review to describe the role of the physical environment in the acquisition of healthcare acquired infections.

Creating World Class Healthcare Facilities for America's Military. This project structures an innovation center, design checklist, community portal and conducts baseline research on falls, noise, nurse injuries.

APPENDIX 8: School of Architecture data portfolio



Georgia Institute
of Technology

Academic Program Review - Data Portfolio

School of Architecture:

Bachelor of Science in Architecture

Master of Science in Architecture

Doctor of Philosophy with a Major in Architecture

Office of Institutional Research and Planning

Fall 2012

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Purpose

The Office of Institutional Research and Planning (IRP) has been charged with assisting in the Academic Program Review (APR) process. The purpose of the APR process is to conduct a strategic evaluation of each academic program every five years. The role of IRP is to provide a data portfolio at the onset of the review to aid in the self-study process. As such, a portfolio for the School of Architecture is being provided which includes data on students, faculty, staff, finance, and space. Programs include: B.S. in Architecture, M.S. in Architecture and PhD with a Major in Architecture. Data reflect the most recent five years or most recent five fiscal years: July 1, 2008 through June 28, 2012 unless otherwise indicated.

Explanatory Notes

First-Time Freshman Admissions Data by Fall Term – Shows the number of freshman students who applied, were admitted and enrolled in the School of Architecture by Fall Term over the past five years.

First-Time Freshman Admissions Yield by Gender – Shows the admissions yield (total enrolled divided by total admitted) by gender over the past five years.

First-Time Freshman Enrollment Demographics – Shows the enrollment of first-time freshmen over the past five years based on race-ethnicity and citizenship.

First-Time Freshman SAT Scores & High School GPA– shows the average SAT scores for entering First-Time Freshmen, along with average high school GPAs. Some data have been suppressed due to FERPA guidelines.

Undergraduate Transfer Admissions Data by Fall Term – shows number of transfers who applied, were admitted and were enrolled in the School of Architecture by Fall Term over the past five years.

Undergraduate Transfer Enrollment Demographics – Shows the enrollment of transfer students over the past five years based on race-ethnicity and citizenship.

Undergraduate Enrollment Demographics with Class – shows undergraduate enrollment by class with demographic data over the past five fall terms for the entire College of Architecture.

Graduate Admissions Data by Fall Entry Term – shows the number of graduate students who applied, were admitted and enrolled in the College of Architecture over the past five years.

Graduate Admissions Yield by Gender – Shows the admissions yield (total enrolled divided by total admitted) by gender over the past five years.

GRE Scores for Entering Graduate Students – shows the average GRE scores of newly enrolled School of Architecture graduate students. Detail is provided for graduate admission and enrollment information at both the Masters and Doctoral level on subsequent pages.

Graduate Enrollment Demographics with Class – shows the demographics and class distribution of School of Architecture graduate students.

Graduate Enrollment Trend – demonstrates the trend in graduate enrollment and gender over the past five years.

Semester Credit Hours by Fiscal Year with Level Detail – shows the number of credit hours taken each year that are attached to the School of Architecture.

College Semester Credit Hours by School – shows the number of credit hours offered each year within the School of Architecture, providing the break-out by schools.

College Semester Credit Hours by Level– shows the number of credit hours offered each year within the School of Architecture, providing the break-out by undergraduate or graduate level.

Georgia Institute of Technology Semester Credit Hours by Level – shows the total number of credit hours offered at Georgia Tech.

Courses Taken by Undergraduate and Graduate Level School of Architecture Majors – Shows the number of credit hours taken by students with majors in the School of Architecture. The data provide detail by level, college, and subject of the courses taken.

Degrees Conferred: FY 2008 – FY 2012 – shows the number of degrees awarded from FY 2008 to the Summer and Fall terms of FY 2012 by level. The degree year is defined as the summer, fall, and spring terms.

Degrees Conferred by Fiscal Year – graphically illustrates the distribution of degrees by level awarded from FY 2008 to the Summer and Fall terms of FY 2012.

Percentage of Total School of School of Architecture Degrees Conferred by Fiscal Year & Degree Level – shows the distribution of degrees conferred over the past five years by degree level.

Staff Profile – Shows the number of staff in the School of Architecture at Spring 2012 by title along with demographic information. All included staff is associated with Deptid 492.

Faculty Profile – shows the number of faculty in the School of Architecture at Spring 2012 by title along with demographic information. All included faculty is associated with Deptid 492.

Student Employee Profile – shows demographics of student employees in the School of Architecture at Spring 2012. All included student employees are associated with Deptid 492.

Space Data – shows the type of space assigned to School of Architecture.

- Allocation categories comprised of the following:
 - Classrooms/Class Laboratory: Apartment, Class Lab Service, Class Laboratory, Specialized Classroom
 - Conference/Lounge: Conference Room, Open Stack Study Room, Study Service
 - Offices: Academic Office, Graduate Assistant Office, Library Processing Room, Non-Academic Office, Office Corridor, Office Service, Office Storage, Post Doc Office, Professional Admin Office
 - Research/Laboratory: Exhibition, Open Laboratory, Open Laboratory Service, Research/Non Class lab
 - Service/Shop Area: Office Rest room, Shop, Shop Service

Budget Summary: Fiscal Year 2008- 2012 – Data shows the budget associated with the financial department of College of Architecture (included Financial Deptids 480, 490 and 492) for the past five fiscal years. Note that all College of Architecture schools were included in Financial Deptid 480, “College of Architecture,” until FY 2011, at which point the Schools of Industrial Design, Architecture, Music, and Building Construction were assigned individual deptids and budget line items.

State Instructional Expenditures – shows state expenditures associated with the instruction program code (11110) for the financial department of School of Architecture (Financial Deptid 492).

Appendix A:

Table A1. Georgia Tech Freshman Admissions Data by College and Major: Fall 2012– lists Fall 2012 freshman admissions data for all colleges and majors at Georgia Tech.

Table A2. Georgia Tech Transfer Admissions Data by College and Major: Fall 2012– lists Fall 2012 transfer admissions data for all colleges and majors at Georgia Tech.

Table A3. Georgia Tech Graduate Admissions Data by College and Major: Fall 2012– lists Fall 2012 graduate admissions data for all colleges and majors at Georgia Tech.

Table A4. Courses Taken by Undergraduate and Graduate Level Majors: Fiscal Year 2012 – shows the departments in which School of Architecture majors took courses during FY 2012.

Table A5. Institutional Degrees Conferred by Level and College: Fiscal Years 2008 – 2012– shows the number of degrees conferred by level, by college at Georgia Tech.

Table A6. Space Usage Data by Building – shows the building name and square footage of each category of space allotted to the College of Architecture as of Fall 2012.

Table A7. and A8. Employees by Name and Job Title– lists the names and job title of each employee with the School of Architecture (Dept ID 492) identified as their home department in Fall 2012.

Table A9. and A10. Faculty – lists the names and job title of each faculty member with the School of Architecture (Dept ID 492) identified as their home department in Fall 2012.

Table A11. Budget Detail: Fiscal Years 2008 – 2012 – provides additional budget detail for the College of Architecture for the period FY2008 – 2012.

Table A12. Teaching Load for the College of Architecture – shows the number of credit hours taught in the College of Architecture regardless of faculty home department

Table A13. and Table A14. Research Awards Summary Data – summarize the number and amount of FY2012 research awards by College of Architecture department and the entire Institute.

Table A15. Retention Rates by College – summarizes retention rates by college for the past ten freshman cohorts.

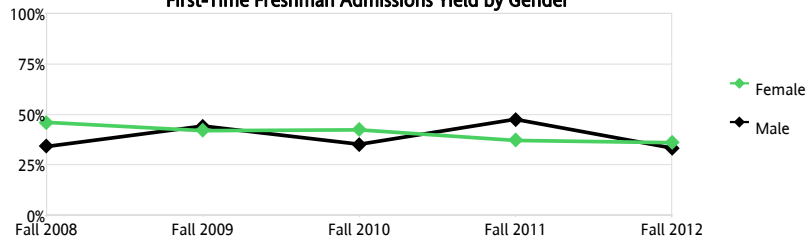
Table A16. Graduate Rates by College - summarizes graduation rates by college for the past ten freshman cohorts.

Georgia Institute of Technology
Office of Institutional Research and Planning
School of Architecture
Fall 2012

First-Time Freshmen Admissions Data by Fall Entry Term

| Major | Gender | Entry Term | Applied | % of Applied Accepted | Accepted | Enrolled | % of Applied Enrolled | % of Accepted Enrolled |
|------------------|-----------|------------|---------|-----------------------|----------|----------|-----------------------|------------------------|
| Pre-Architecture | Female | Fall 2008 | 229 | 48.5% | 111 | 51 | 22.3% | 45.9% |
| | | Fall 2009 | 255 | 51.4% | 131 | 55 | 21.6% | 42.0% |
| | | Fall 2010 | 228 | 46.5% | 106 | 45 | 19.7% | 42.5% |
| | | Fall 2011 | 244 | 45.1% | 110 | 41 | 16.8% | 37.3% |
| | | Fall 2012 | 176 | 48.9% | 86 | 31 | 17.6% | 36.0% |
| | Male | Fall 2008 | 320 | 38.4% | 123 | 42 | 13.1% | 34.1% |
| | | Fall 2009 | 305 | 38.7% | 118 | 52 | 17.0% | 44.1% |
| | | Fall 2010 | 279 | 27.6% | 77 | 27 | 9.7% | 35.1% |
| | | Fall 2011 | 226 | 27.0% | 61 | 29 | 12.8% | 47.5% |
| | | Fall 2012 | 161 | 26.1% | 42 | 14 | 8.7% | 33.3% |
| Total | Fall 2008 | 549 | 42.6% | 234 | 93 | 16.9% | 39.7% | |
| | Fall 2009 | 560 | 44.5% | 249 | 107 | 19.1% | 43.0% | |
| | Fall 2010 | 507 | 36.1% | 183 | 72 | 14.2% | 39.3% | |
| | Fall 2011 | 470 | 36.4% | 171 | 70 | 14.9% | 40.9% | |
| | Fall 2012 | 337 | 38.0% | 128 | 45 | 13.4% | 35.2% | |

First-Time Freshman Admissions Yield by Gender



*See appendix table A1 for Institutional data.

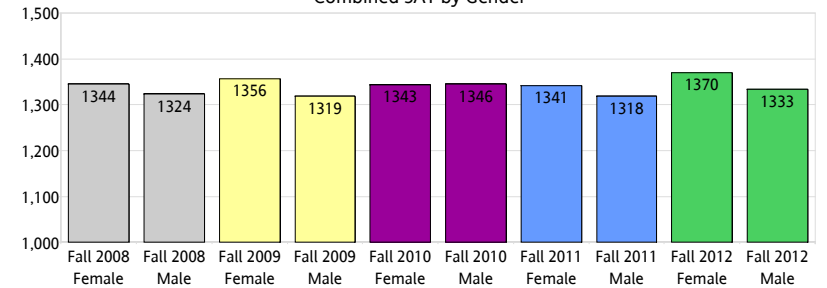
Entering First-Time Freshmen SAT Scores

| Entry Term | Female | | | Male | | | Program |
|------------|--------|--------|--------------|------|--------|--------------|--------------|
| | Math | Verbal | Combined SAT | Math | Verbal | Combined SAT | Combined SAT |
| Fall 2008 | 680 | 665 | 1344 | 687 | 637 | 1324 | 1335 |
| Fall 2009 | 696 | 660 | 1356 | 678 | 641 | 1319 | 1338 |
| Fall 2010 | 677 | 666 | 1343 | 695 | 650 | 1346 | 1344 |
| Fall 2011 | 685 | 656 | 1341 | 687 | 631 | 1318 | 1332 |
| Fall 2012 | 685 | 685 | 1370 | 710 | 623 | 1333 | 1358 |

| Entry Term | Asian | | Black | | Hisp | | Pac Islr | | Two or More | | White | | Intl | | Unk | |
|------------|-------|-----|-------|---|------|-----|----------|---|-------------|---|-------|-----|------|-----|-----|---|
| | M | V | M | V | M | V | M | V | M | V | M | V | M | V | M | V |
| Fall 2008 | 699 | 650 | ■ | ■ | ■ | ■ | | | | | 681 | 663 | ■ | ■ | | |
| Fall 2009 | 710 | 645 | ■ | ■ | 698 | 660 | | | ■ | ■ | 677 | 665 | 748 | 564 | ■ | ■ |
| Fall 2010 | ■ | ■ | ■ | ■ | 608 | 630 | | | ■ | ■ | 684 | 673 | ■ | ■ | ■ | ■ |
| Fall 2011 | 685 | 620 | ■ | ■ | ■ | ■ | | | ■ | ■ | 679 | 662 | 782 | 597 | | |
| Fall 2012 | ■ | ■ | ■ | ■ | 654 | 634 | | | ■ | ■ | 703 | 689 | ■ | ■ | | |

*Some data have been suppressed due to FERPA.

Combined SAT by Gender



First-Time Freshmen Enrollment Demographics

| Entry Term | Asian | Black | Hisp | Pac Islr | Two or More | Unk. | White | Intl | Total | Female | Male |
|------------|-------|-------|------|----------|-------------|------|-------|------|-------|--------|------|
| Fall 2008 | 9 | 5 | 8 | | | | 68 | 3 | 93 | 51 | 42 |
| Fall 2009 | 12 | 4 | 12 | | 1 | 2 | 66 | 10 | 107 | 55 | 52 |
| Fall 2010 | 5 | 3 | 4 | | 4 | 1 | 51 | 4 | 72 | 45 | 27 |
| Fall 2011 | 8 | 5 | 5 | | 2 | | 44 | 6 | 70 | 41 | 29 |
| Fall 2012 | 5 | 2 | 7 | | 2 | | 27 | 2 | 45 | 31 | 14 |

Entering First-Time Freshmen Average High School GPA

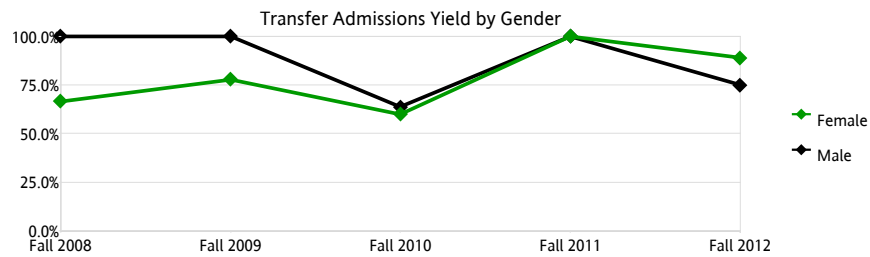
| Entry Term | Asian | Black | Hisp | Pac Islr | Two or More | Unk | White | Intl | Total | Female | Male |
|------------|-------|-------|------|----------|-------------|-----|-------|------|-------|--------|------|
| Fall 2008 | 3.56 | ■ | 3.82 | | | | 3.83 | ■ | 3.78 | 3.81 | 3.75 |
| Fall 2009 | 3.73 | ■ | 3.83 | | ■ | ■ | 3.81 | 3.65 | 3.79 | 3.85 | 3.73 |
| Fall 2010 | ■ | ■ | ■ | | ■ | ■ | 3.91 | ■ | 3.86 | 3.89 | 3.82 |
| Fall 2011 | 3.91 | ■ | ■ | | ■ | | 3.92 | 3.82 | 3.87 | 3.87 | 3.86 |
| Fall 2012 | ■ | ■ | 3.96 | | ■ | | 3.90 | ■ | 3.91 | 3.92 | 3.91 |

*Some data have been suppressed due to FERPA.

Georgia Institute of Technology
Office of Institutional Research and Planning
School of Architecture
Fall 2012

Transfer Admissions Data by Fall Entry Term

| Major | Gender | Entry Term | Applied | % of Applied Accepted | Accepted | Enrolled | % of Applied Enrolled | % of Accepted Enrolled |
|------------------|-----------|------------|---------|-----------------------|----------|----------|-----------------------|------------------------|
| Pre-Architecture | Female | Fall 2008 | 29 | 20.7% | 6 | 4 | 13.8% | 66.7% |
| | | Fall 2009 | 38 | 23.7% | 9 | 7 | 18.4% | 77.8% |
| | | Fall 2010 | 43 | 11.6% | 5 | 3 | 7.0% | 60.0% |
| | | Fall 2011 | 21 | 38.1% | 8 | 8 | 38.1% | 100.0% |
| | | Fall 2012 | 26 | 34.6% | 9 | 8 | 30.8% | 88.9% |
| | Male | Fall 2008 | 61 | 11.5% | 7 | 7 | 11.5% | 100.0% |
| | | Fall 2009 | 59 | 20.3% | 12 | 12 | 20.3% | 100.0% |
| | | Fall 2010 | 55 | 20.0% | 11 | 7 | 12.7% | 63.6% |
| | | Fall 2011 | 36 | 41.7% | 15 | 15 | 41.7% | 100.0% |
| | | Fall 2012 | 23 | 17.4% | 4 | 3 | 13.0% | 75.0% |
| Total | Fall 2008 | 90 | 14.4% | 13 | 11 | 12.2% | 84.6% | |
| | Fall 2009 | 97 | 21.6% | 21 | 19 | 19.6% | 90.5% | |
| | Fall 2010 | 98 | 16.3% | 16 | 10 | 10.2% | 62.5% | |
| | Fall 2011 | 57 | 40.4% | 23 | 23 | 40.4% | 100.0% | |
| | Fall 2012 | 49 | 26.5% | 13 | 11 | 22.4% | 84.6% | |



*See appendix table A2 for Institutional data.

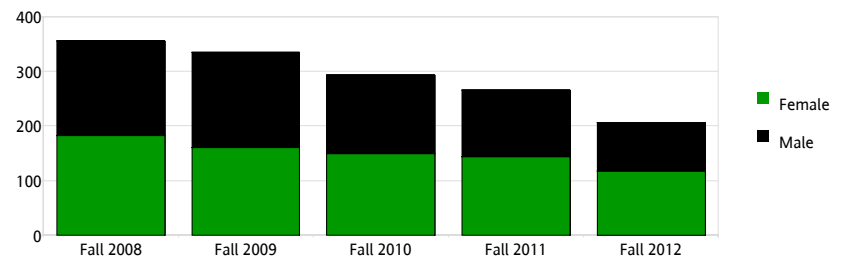
Undergraduate Enrollment Demographics with Class

| Term | Class | Asian | Black | Hisp | Pac Islr | Two or More | Unk | White | Intl | Total | Female | Male |
|-----------|--------------|-------|-----------|-----------|-----------|-------------|----------|----------|------------|-----------|------------|------------|
| Fall 2008 | Freshman | 9 | 7 | 10 | | | | 76 | 4 | 106 | 60 | 46 |
| | Sophomore | 13 | 5 | | 1 | | 1 | 58 | 11 | 89 | 42 | 47 |
| | Junior | 9 | 5 | 4 | | 1 | | 40 | 4 | 63 | 28 | 35 |
| | Senior | 23 | 9 | 2 | | 5 | | 58 | 1 | 98 | 53 | 45 |
| | Total | | 54 | 26 | 16 | 1 | 6 | 1 | 232 | 20 | 356 | 183 |
| Fall 2009 | Freshman | 10 | 3 | 12 | | | 2 | 60 | 12 | 99 | 51 | 48 |
| | Sophomore | 7 | 3 | 8 | | | | 48 | 4 | 70 | 37 | 33 |
| | Junior | 9 | 4 | 1 | 1 | | 1 | 54 | 10 | 80 | 34 | 46 |
| | Senior | 16 | 6 | 5 | | 4 | | 51 | 4 | 86 | 38 | 48 |
| | Total | | 42 | 16 | 26 | 1 | 4 | 3 | 213 | 30 | 335 | 160 |
| Fall 2010 | Freshman | 6 | 3 | 4 | | 4 | 1 | 53 | 6 | 77 | 46 | 31 |
| | Sophomore | 7 | 1 | 5 | | 1 | | 39 | 7 | 60 | 37 | 23 |
| | Junior | 5 | 2 | 6 | | | | 40 | 4 | 57 | 26 | 31 |
| | Senior | 14 | 5 | 2 | 1 | 2 | 1 | 63 | 11 | 99 | 40 | 59 |
| | Total | | 32 | 11 | 17 | 1 | 7 | 2 | 195 | 28 | 293 | 149 |
| Fall 2011 | Freshman | 7 | 6 | 7 | | 3 | | 43 | 6 | 72 | 44 | 28 |
| | Sophomore | 7 | 3 | 6 | | 1 | | 44 | 2 | 63 | 33 | 30 |
| | Junior | 6 | 3 | 5 | | | | 36 | 6 | 56 | 32 | 24 |
| | Senior | 9 | 4 | 7 | 1 | 2 | | 47 | 4 | 74 | 35 | 39 |
| | Total | | 29 | 16 | 25 | 1 | 6 | | 170 | 18 | 265 | 144 |
| Fall 2012 | Freshman | 2 | 3 | 6 | | 1 | | 23 | 4 | 39 | 26 | 13 |
| | Sophomore | 5 | 5 | 5 | | 1 | | 21 | 8 | 45 | 27 | 18 |
| | Junior | 4 | 1 | 5 | | 1 | | 41 | 1 | 53 | 29 | 24 |
| | Senior | 11 | 4 | 7 | | 2 | | 38 | 7 | 69 | 35 | 34 |
| | Total | | 22 | 13 | 23 | | 5 | | 123 | 20 | 206 | 117 |

Transfer Enrollment Demographics

| Entry Term | Asian | Black | Hisp | Two or More | Unk | White | Intl | Total | Gender | |
|------------|-------|-------|------|-------------|-----|-------|------|-------|--------|------|
| | | | | | | | | | Female | Male |
| Fall 2008 | 2 | 1 | | | | 7 | 1 | 11 | 4 | 7 |
| Fall 2009 | 2 | 1 | 3 | | | 12 | 1 | 19 | 7 | 12 |
| Fall 2010 | | | 1 | 1 | | 7 | 1 | 10 | 3 | 7 |
| Fall 2011 | 5 | 4 | 2 | | | 11 | 1 | 23 | 8 | 15 |
| Fall 2012 | 4 | 1 | 1 | | | 3 | 2 | 11 | 8 | 3 |

Undergraduate Enrollment Trend by Gender

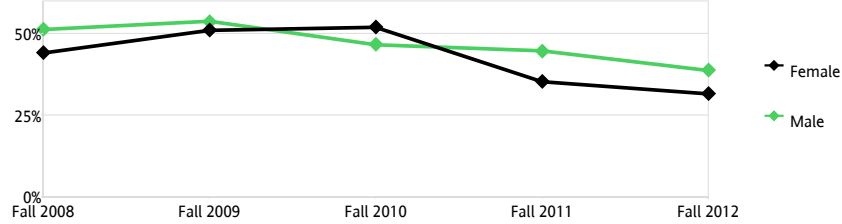


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Graduate Admissions Data by Fall Entry Term - Masters Program

| Major | Gender | Entry Term | Applied | % of Applied Accepted | Accepted | Enrolled | % of Applied Enrolled | % of Accepted Enrolled |
|--------------|-----------|------------|---------|-----------------------|----------|----------|-----------------------|------------------------|
| Architecture | Female | Fall 2008 | 86 | 39.5% | 34 | 15 | 17.4% | 44.1% |
| | | Fall 2009 | 118 | 39.8% | 47 | 24 | 20.3% | 51.1% |
| | | Fall 2010 | 112 | 44.6% | 50 | 26 | 23.2% | 52.0% |
| | | Fall 2011 | 65 | 78.5% | 51 | 18 | 27.7% | 35.3% |
| | | Fall 2012 | 70 | 81.4% | 57 | 18 | 25.7% | 31.6% |
| | Male | Fall 2008 | 87 | 47.1% | 41 | 21 | 24.1% | 51.2% |
| | | Fall 2009 | 116 | 35.3% | 41 | 22 | 19.0% | 53.7% |
| | | Fall 2010 | 113 | 53.1% | 60 | 28 | 24.8% | 46.7% |
| | | Fall 2011 | 69 | 68.1% | 47 | 21 | 30.4% | 44.7% |
| | | Fall 2012 | 69 | 71.0% | 49 | 19 | 27.5% | 38.8% |
| Total | Fall 2008 | 173 | 43.4% | 75 | 36 | 20.8% | 48.0% | |
| | Fall 2009 | 234 | 37.6% | 88 | 46 | 19.7% | 52.3% | |
| | Fall 2010 | 225 | 48.9% | 110 | 54 | 24.0% | 49.1% | |
| | Fall 2011 | 134 | 73.1% | 98 | 39 | 29.1% | 39.8% | |
| | Fall 2012 | 139 | 76.3% | 106 | 37 | 26.6% | 34.9% | |

Graduate Admissions Yield by Gender



*See appendix table A3 for Institutional data.

GRE Scores for Entering Graduate Students - Architecture Masters Program**

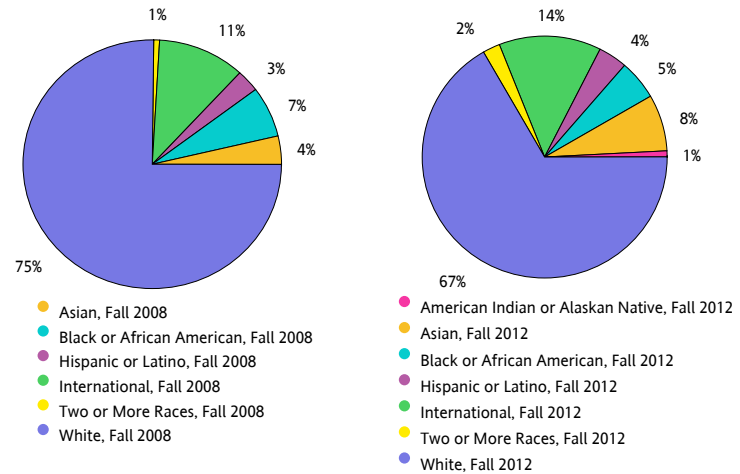
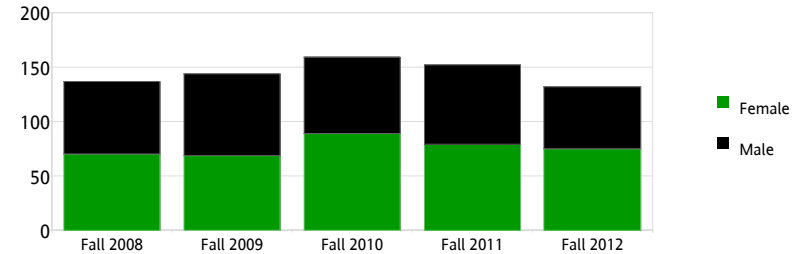
| Entry Term | Female | | | Male | | | Total | | |
|------------|--------|-------|-------|--------|-------|-------|--------|-------|-------|
| | Verbal | Quant | Essay | Verbal | Quant | Essay | Verbal | Quant | Essay |
| Fall 2008 | 154 | 153 | 4.3 | 154 | 153 | 4.1 | 154 | 153 | 4.2 |
| Fall 2009 | 153 | 153 | 3.9 | 150 | 152 | 3.6 | 152 | 153 | 3.8 |
| Fall 2010 | 151 | 151 | 3.6 | 149 | 150 | 3.6 | 150 | 150 | 3.6 |
| Fall 2011 | 151 | 151 | 3.9 | 151 | 154 | 3.8 | 151 | 153 | 3.9 |
| Fall 2012 | 153 | 153 | 4.0 | 153 | 157 | 3.4 | 153 | 155 | 3.7 |

**Scores prior to Fall 2012 have been re-centered to reflect Fall 2012 GRE Verbal and Quantitative scaling changes.

Graduate Enrollment Demographics - Architecture Masters Program

| Term | Amer. Ind. | Asian | Two or More | Black | Hisp | White | Intl | Total | Female | | Male | |
|-----------|------------|-------|-------------|-------|------|-------|------|-------|--------|-----|------|-----|
| Fall 2008 | | 5 | 1 | 9 | 4 | 103 | 15 | 137 | 70 | 51% | 67 | 49% |
| Fall 2009 | | 8 | 2 | 15 | 5 | 94 | 20 | 144 | 69 | 48% | 75 | 52% |
| Fall 2010 | 1 | 10 | 2 | 19 | 6 | 102 | 19 | 159 | 89 | 56% | 70 | 44% |
| Fall 2011 | 2 | 12 | 3 | 12 | 6 | 100 | 17 | 152 | 79 | 52% | 73 | 48% |
| Fall 2012 | 1 | 10 | 3 | 7 | 5 | 88 | 18 | 132 | 75 | 57% | 57 | 43% |

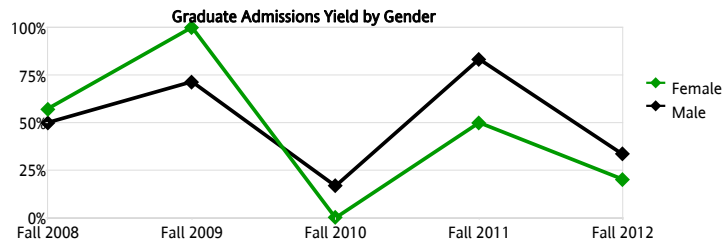
Graduate Enrollment Trend - Masters Program



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Graduate Admissions Data by Fall Entry Term - Doctoral Program

| Major | Gender | Entry Term | Applied | % of Applied Accepted | Accepted | Enrolled | % of Applied Enrolled | % of Accepted Enrolled |
|--------------|-----------|------------|---------|-----------------------|----------|----------|-----------------------|------------------------|
| Architecture | Female | Fall 2008 | 27 | 25.9% | 7 | 4 | 14.8% | 57.1% |
| | | Fall 2009 | 30 | 10.0% | 3 | 3 | 10.0% | 100.0% |
| | | Fall 2010 | 24 | 33.3% | 8 | | | |
| | | Fall 2011 | 20 | 20.0% | 4 | 2 | 10.0% | 50.0% |
| | | Fall 2012 | 19 | 26.3% | 5 | 1 | 5.3% | 20.0% |
| | Male | Fall 2008 | 28 | 28.6% | 8 | 4 | 14.3% | 50.0% |
| | | Fall 2009 | 48 | 14.6% | 7 | 5 | 10.4% | 71.4% |
| | | Fall 2010 | 49 | 24.5% | 12 | 2 | 4.1% | 16.7% |
| | | Fall 2011 | 35 | 17.1% | 6 | 5 | 14.3% | 83.3% |
| | | Fall 2012 | 31 | 9.7% | 3 | 1 | 3.2% | 33.3% |
| Total | Fall 2008 | 55 | 27.3% | 15 | 8 | 14.5% | 53.3% | |
| | Fall 2009 | 78 | 12.8% | 10 | 8 | 10.3% | 80.0% | |
| | Fall 2010 | 73 | 27.4% | 20 | 2 | 2.7% | 10.0% | |
| | Fall 2011 | 55 | 18.2% | 10 | 7 | 12.7% | 70.0% | |
| | Fall 2012 | 50 | 16.0% | 8 | 2 | 4.0% | 25.0% | |



*See appendix table A3 for Institutional data.

GRE Scores for Entering Graduate Students - Doctoral Program**

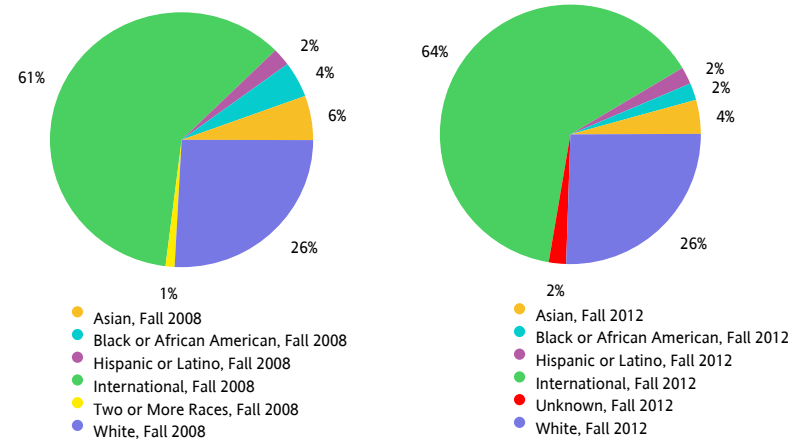
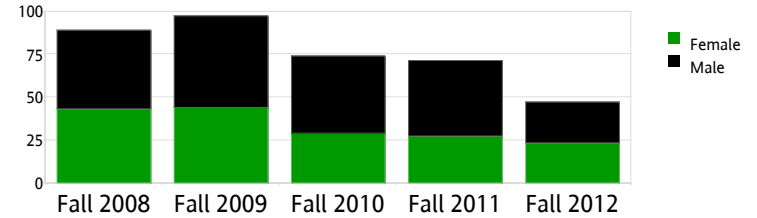
| Entry Term | Female | | | Male | | | Total | | |
|------------|--------|-------|-------|--------|-------|-------|--------|-------|-------|
| | Verbal | Quant | Essay | Verbal | Quant | Essay | Verbal | Quant | Essay |
| Fall 2008 | 154 | 161 | 4.2 | | | | 154 | 161 | 4.2 |
| Fall 2009 | 151 | 161 | 3.8 | | | | 151 | 161 | 3.8 |
| Fall 2010 | | | | | | | | | |
| Fall 2011 | 152 | 159 | 3.4 | | | | 152 | 159 | 3.4 |
| Fall 2012 | | | | | | | | | |

**Scores prior to Fall 2012 have been re-centered to reflect Fall 2012 GRE Verbal and Quantitative scaling changes.

Graduate Enrollment Demographics - Doctoral Program

| Term | Asian | Black | Hisp | Two or More | Unk | White | Intl | Total | Female | Male |
|-----------|-------|-------|------|-------------|-----|-------|------|-------|--------|------|
| Fall 2008 | 5 | 4 | 2 | 1 | | 23 | 54 | 89 | 43 | 46 |
| Fall 2009 | 6 | 3 | 1 | 1 | | 28 | 58 | 97 | 44 | 53 |
| Fall 2010 | 5 | 5 | 2 | | | 21 | 41 | 74 | 29 | 45 |
| Fall 2011 | 3 | 4 | 3 | | | 19 | 42 | 71 | 27 | 44 |
| Fall 2012 | 2 | 1 | 1 | | 1 | 12 | 30 | 47 | 23 | 24 |

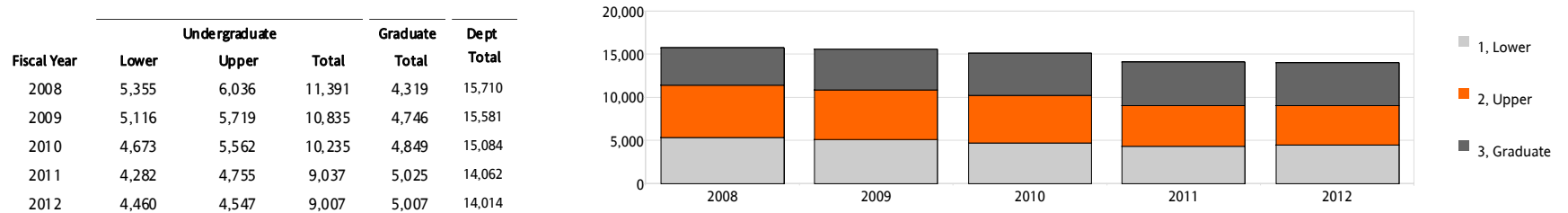
Graduate Enrollment Trend



*Some data suppressed due to FERPA.

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College of Architecture Semester Credit Hours by Fiscal Year with Level Detail



College Semester Credit Hours by School

| College | School | 2008 | 2009 | 2010 | 2011 | 2012 |
|-------------------------|-----------------------|--------|--------|--------|--------|--------|
| College of Architecture | Architecture | 15,710 | 15,581 | 15,084 | 14,062 | 14,014 |
| | Building Construction | 5,096 | 5,415 | 5,172 | 5,158 | 4,464 |
| | City Planning | 3,061 | 2,995 | 3,634 | 3,625 | 3,710 |
| | Industrial Design | 4,619 | 4,836 | 4,948 | 5,036 | 5,143 |
| | Music | 3,134 | 3,649 | 3,841 | 3,414 | 3,613 |
| | Total | | 31,620 | 32,476 | 32,679 | 31,295 |

College of Architecture Semester Credit Hours by Level

| Fiscal Year | Undergraduate | | | Graduate Total | Total |
|-------------|---------------|--------|--------|----------------|--------|
| | Lower | Upper | Total | | |
| 2008 | 8,483 | 13,856 | 22,339 | 9,281 | 31,620 |
| 2009 | 8,255 | 13,522 | 21,777 | 10,699 | 32,476 |
| 2010 | 7,924 | 13,505 | 21,429 | 11,250 | 32,679 |
| 2011 | 7,396 | 12,404 | 19,800 | 11,495 | 31,295 |
| 2012 | 7,584 | 12,138 | 19,722 | 11,222 | 30,944 |

Georgia Institute of Technology Semester Credit Hours by Level

| Fiscal Year | Undergraduate | | | Graduate Total | GT Total |
|-------------|---------------|---------|---------|----------------|----------|
| | Lower | Upper | Total | | |
| 2008 | 219,043 | 160,972 | 380,015 | 213,389 | 593,404 |
| 2009 | 219,026 | 169,050 | 388,076 | 219,447 | 607,522 |
| 2010 | 224,735 | 179,427 | 404,162 | 228,086 | 632,248 |
| 2011 | 226,604 | 183,286 | 409,890 | 232,610 | 642,500 |
| 2012 | 232,375 | 184,862 | 417,237 | 234,322 | 651,558 |

**Courses Taken by Undergraduate and Graduate Level
School of Architecture Majors: Fiscal Year 2012**

Undergraduate Level by College

| College | Course Credit Hrs | Pct Course Credit Hrs |
|--------------|-------------------|-----------------------|
| Architecture | 5,260 | 76% |
| Computing | 130 | 2% |
| Engineering | 91 | 1% |
| Ivan Allen | 570 | 8% |
| Management | 117 | 2% |
| Sciences | 641 | 9% |
| Registrar | 73 | 1% |
| Total | 6,882 | 100% |

Graduate Level by College

| College | Course Credit Hrs | Pct Course Credit Hrs |
|--------------|-------------------|-----------------------|
| Architecture | 4,697 | 94% |
| Computing | 25 | 0% |
| Engineering | 95 | 2% |
| Ivan Allen | 23 | 0% |
| Management | 36 | 1% |
| Sciences | 40 | 1% |
| Registrar | 104 | 2% |
| Total | 5,020 | 100% |

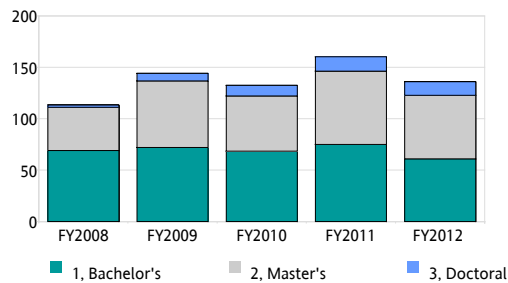
*See appendix table A4 for school level detail.

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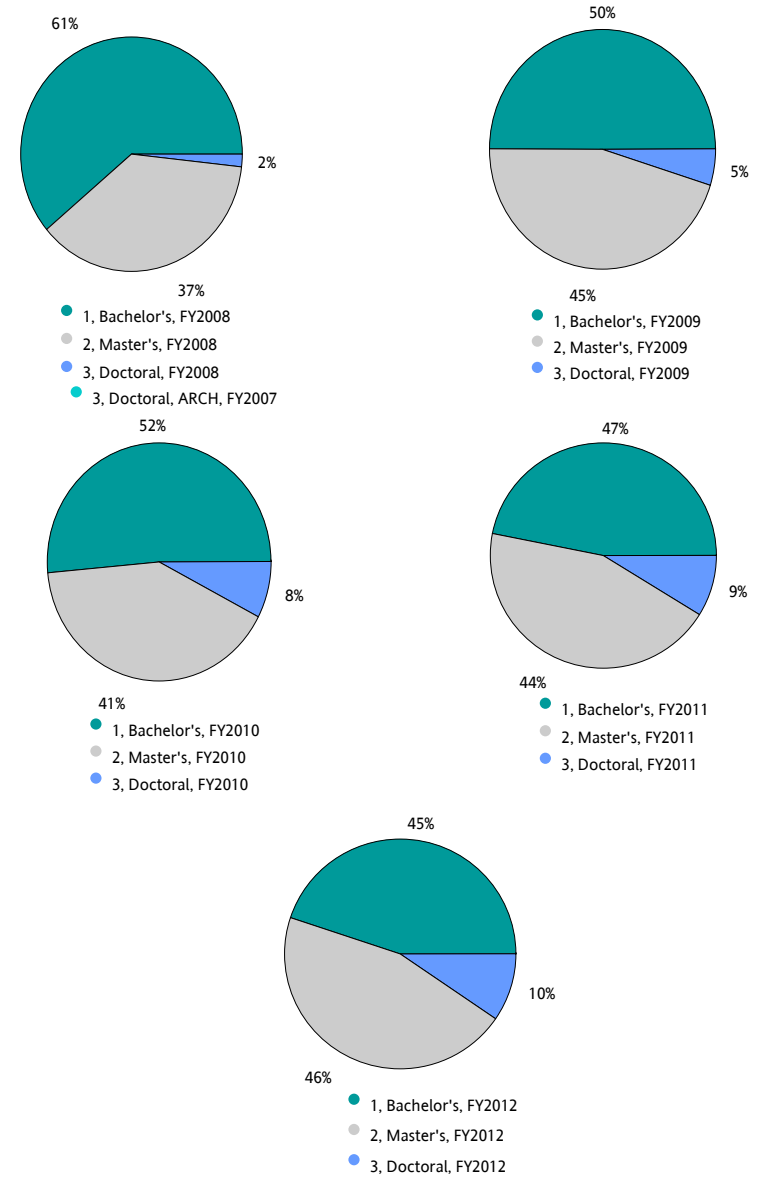
School of Architecture Degrees Conferred: FY2008 - FY2012

| | Amer Ind | Asian | Black | Hisp | Pac Islr | Two or More | Unk | White | Intl | Total | Female | Male | | |
|--------|--------------|-----------|-----------|----------|----------|-------------|----------|-----------|-----------|------------|-----------|------------|-----------|------------|
| FY2008 | BS | 6 | 3 | 5 | | 1 | | 51 | 3 | 69 | 37 | 54% | 32 | 46% |
| | MS | 5 | 3 | 1 | | | | 22 | 11 | 42 | 24 | 57% | 18 | 43% |
| | PhD | | 1 | | | | | | 1 | 2 | 1 | 50% | 1 | 50% |
| | Total | 11 | 7 | 6 | | 1 | | 73 | 15 | 113 | 62 | 55% | 51 | 45% |
| FY2009 | BS | 15 | 7 | 4 | | 1 | | 45 | | 72 | 38 | 53% | 34 | 47% |
| | MS | 1 | 4 | 1 | | | | 47 | 12 | 65 | 28 | 43% | 37 | 57% |
| | PhD | | 1 | | | | | 3 | 3 | 7 | 3 | 43% | 4 | 57% |
| | Total | 16 | 12 | 5 | | 1 | | 95 | 15 | 144 | 69 | 48% | 75 | 52% |
| FY2010 | BS | 13 | 7 | 4 | | 2 | | 41 | 1 | 68 | 32 | 47% | 36 | 53% |
| | MS | 1 | 1 | 3 | | 1 | | 44 | 4 | 54 | 18 | 33% | 36 | 67% |
| | PhD | 1 | | | | | | 4 | 5 | 10 | 6 | 60% | 4 | 40% |
| | Total | 15 | 8 | 7 | | 3 | | 89 | 10 | 132 | 56 | 42% | 76 | 58% |
| FY2011 | BS | 13 | 4 | | | | 1 | 50 | 7 | 75 | 30 | 40% | 45 | 60% |
| | MS | 5 | 9 | 2 | | | | 43 | 12 | 71 | 41 | 58% | 30 | 42% |
| | PhD | | 1 | | | | | 4 | 9 | 14 | 7 | 50% | 7 | 50% |
| | Total | 18 | 14 | 2 | | | 1 | 97 | 28 | 160 | 78 | 49% | 82 | 51% |
| FY2012 | BS | 1 | 4 | 2 | 5 | 1 | 1 | 41 | 6 | 61 | 31 | 51% | 30 | 49% |
| | MS | 1 | 6 | 5 | 3 | | 1 | 38 | 8 | 62 | 25 | 40% | 37 | 60% |
| | PhD | | 1 | | | | | 3 | 9 | 13 | 4 | 31% | 9 | 69% |
| | Total | 2 | 11 | 7 | 8 | 1 | 2 | 82 | 23 | 136 | 60 | 44% | 76 | 56% |

Degrees Conferred by Fiscal Year



Percentage of Total School of Architecture Degrees Conferred by Fiscal Year & Degree Level



*See appendix table A5 for Institutional data.

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Staff Profile

| Jobtitle | Asian | Black | Hispanic | White | Total | Female | Male |
|------------------------------|----------|----------|----------|-----------|-----------|-----------|-----------|
| Academic Advising Mgr | | | 1 | | 1 | 1 | |
| Academic Advisor I | | | | 1 | 1 | 1 | |
| Academic Assistant II | | | | 1 | 1 | 1 | |
| Admin Professional | | | | 1 | 1 | 1 | |
| Affiliate | 1 | | | 8 | 9 | 4 | 5 |
| Asst Dir-Admin Ops | | | | 1 | 1 | 1 | |
| Inst Paper Science & Tech | 1 | | | | 1 | | 1 |
| Part-Time Lecturer | 1 | 1 | | 5 | 7 | 2 | 5 |
| Postdoctoral Fellow | 1 | | | | 1 | 1 | |
| Research Associate II | | | | 1 | 1 | 1 | |
| Senior Lecturer | | | | 4 | 4 | 1 | 3 |
| Temporary Lecturer | | | | 1 | 1 | 1 | |
| Visiting Assistant Professor | | | | 2 | 2 | 1 | 1 |
| Total | 4 | 1 | 1 | 25 | 31 | 16 | 15 |

* See appendix table A7 & A8 for details

Faculty Profile

| Faculty Jobtitle | Asian | White | Total | Female | Male |
|---------------------|----------|-----------|-----------|----------|-----------|
| Assistant Professor | | 4 | 4 | | 4 |
| Associate Professor | 2 | 9 | 11 | 1 | 10 |
| Professor | | 12 | 12 | 1 | 11 |
| School Chair | | 1 | 1 | | 1 |
| Total | 2 | 26 | 28 | 2 | 26 |

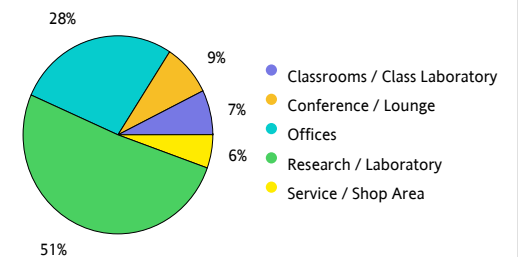
* See appendix table A9 & A10 for details

Student Employee Profile

| Jobtitle | Asian | Hisp | White | Unk | Total | Female | Male |
|-----------------------------|-----------|----------|-----------|----------|-----------|-----------|-----------|
| Graduate Assistant | | | 2 | | 2 | 1 | 1 |
| Graduate Research Assistant | 7 | 1 | 14 | | 22 | 10 | 12 |
| Graduate Teaching Assistant | 2 | 1 | 10 | 1 | 14 | 9 | 5 |
| Student Assistant | 1 | | 2 | | 3 | 3 | |
| Total | 10 | 2 | 28 | 1 | 41 | 23 | 18 |

Space Data

| Category | Area (sf) |
|-------------------------------|---------------|
| Classrooms / Class Laboratory | 5,881 |
| Conference / Lounge | 6,829 |
| Offices | 22,105 |
| Research / Laboratory | 40,951 |
| Service / Shop Area | 4,416 |
| Total | 80,182 |



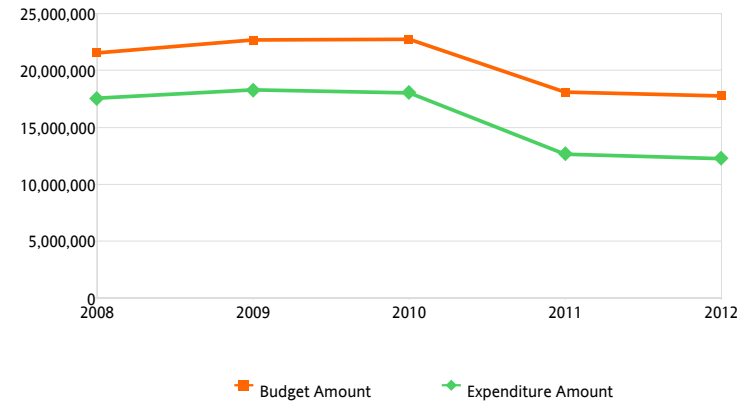
* See appendix table A6 for details.

Georgia Institute of Technology
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Budget Summary: Fiscal Year 2008 - 2012

| Fiscal Year | Project Type | Budget Amount | Encumbrance Amount | Expenditure Amount | Balance |
|-------------|--------------|---------------------|--------------------|---------------------|--------------------|
| 2008 | State | \$12,808,209 | \$118,615 | \$13,463,046 | -\$773,452 |
| | Sponsored | \$8,752,335 | \$167,544 | \$4,077,739 | \$4,507,052 |
| | Total | \$21,560,543 | \$286,159 | \$17,540,784 | \$3,733,600 |
| 2009 | State | \$13,108,372 | \$230,821 | \$13,517,724 | -\$640,174 |
| | Sponsored | \$9,545,120 | \$285,370 | \$4,739,142 | \$4,520,608 |
| | Total | \$22,653,492 | \$516,191 | \$18,256,866 | \$3,880,434 |
| 2010 | State | \$13,048,230 | \$110,939 | \$13,491,911 | -\$554,620 |
| | Sponsored | \$9,685,123 | \$251,265 | \$4,562,210 | \$4,871,648 |
| | Total | \$22,733,352 | \$362,205 | \$18,054,120 | \$4,317,028 |
| 2011 | State | \$8,705,685 | \$568,005 | \$8,811,540 | -\$673,860 |
| | Sponsored | \$9,366,841 | \$61,302 | \$3,863,677 | \$5,441,862 |
| | Total | \$18,072,526 | \$629,307 | \$12,675,217 | \$4,768,002 |
| 2012 | State | \$9,377,727 | \$116,749 | \$8,981,977 | \$279,001 |
| | Sponsored | \$8,395,264 | \$32,340 | \$3,275,815 | \$5,087,109 |
| | Total | \$17,772,991 | \$149,089 | \$12,257,793 | \$5,366,110 |

Total Expense Budget Summary: College of Architecture

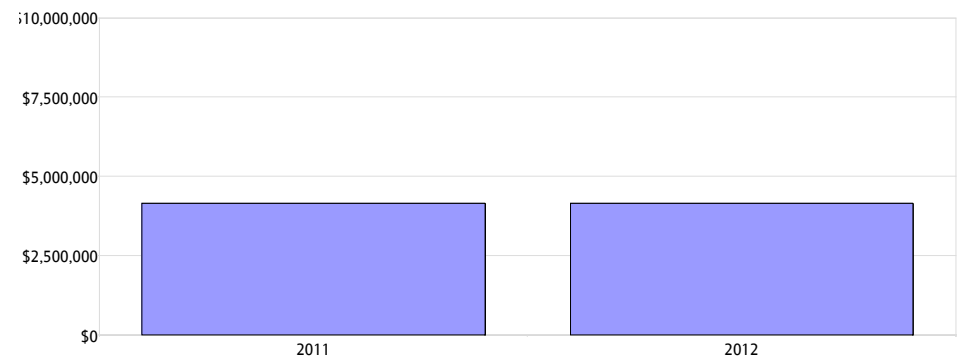


*See appendix table A11 for details.

**College of Architecture State Instructional Expenditures:
Fiscal Years 2008 - 2012**

| Financial Deptname | 2008 | 2009 | 2010 | 2011 | 2012 |
|--------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Architecture, College of | \$11,955,124 | \$12,540,035 | \$12,343,656 | \$104,752 | \$385,684 |
| AWPL B Budget | \$237,107 | \$474,103 | \$263,513 | \$18,139 | \$238 |
| Center for Music Technology | | | | \$41,660 | \$66,695 |
| College of Architecture | | | | \$3,009,012 | \$3,658,855 |
| Digital Building Lab | | | | \$256,677 | \$158,323 |
| Geographic Info Systems, Ctr | | | \$13,379 | \$0 | \$0 |
| Sch of City and Regional Plan | | | | \$1,245,114 | \$1,425,658 |
| School of Architecture | | | | \$4,151,816 | \$4,146,413 |
| School of Bulding Construction | | | | \$1,487,539 | \$1,380,579 |
| School of Industrial Design | | | | \$1,110,340 | \$1,181,885 |
| School of Music | | | | \$1,050,064 | \$1,017,898 |
| Total | \$12,192,231 | \$13,014,139 | \$12,620,548 | \$12,475,112 | \$13,422,228 |

State Instructional Expenditures: School of Architecture



*Before FY2011, state instructional expenditures for all schools/departments within College of Architecture were included.

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APPENDIX A

Table A1. Georgia Tech Freshman Admissions Data by College and Major: Fall 2012

| Entry Term | College | Major | Applied | % of Applied Accepted | Accepted | Enrolled | % of Applied Enrolled | % of Accepted Enrolled |
|--------------|------------------------------|--------------------------------|--------------|-----------------------|--------------|--------------|-----------------------|------------------------|
| Fall 2012 | Architecture | Pre-Architecture | 337 | 38.0% | 128 | 45 | 13.4% | 35.2% |
| | | Pre-Building Construction | 12 | 33.3% | 4 | 4 | 33.3% | 100.0% |
| | | Pre-Industrial Design | 117 | 50.4% | 59 | 29 | 24.8% | 49.2% |
| | | Total | 466 | 41.0% | 191 | 78 | 16.7% | 40.8% |
| | Computing | Computer Science | 1,192 | 52.2% | 622 | 209 | 17.5% | 33.6% |
| | | Total | 1,192 | 52.2% | 622 | 209 | 17.5% | 33.6% |
| | Engineering | Aerospace Engineering | 1,029 | 57.5% | 592 | 245 | 23.8% | 41.4% |
| | | Biomedical Engineering | 1,588 | 70.9% | 1,126 | 411 | 25.9% | 36.5% |
| | | Chemical and Biomolecular Eng | 922 | 67.7% | 624 | 208 | 22.6% | 33.3% |
| | | Civil Engineering | 482 | 46.7% | 225 | 77 | 16.0% | 34.2% |
| | | Computer Engineering | 707 | 45.0% | 318 | 114 | 16.1% | 35.8% |
| | | Electrical Engineering | 826 | 53.5% | 442 | 128 | 15.5% | 29.0% |
| | | Environmental Engineering | 291 | 59.5% | 173 | 53 | 18.2% | 30.6% |
| | | Industrial Engineering | 414 | 61.1% | 253 | 140 | 33.8% | 55.3% |
| | | Materials Science & Engr | 202 | 58.9% | 119 | 52 | 25.7% | 43.7% |
| | | Mechanical Engineering | 1,701 | 53.0% | 901 | 345 | 20.3% | 38.3% |
| | | Nuclear & Radiological Engr | 135 | 52.6% | 71 | 15 | 11.1% | 21.1% |
| | | Undeclared Coll of Engr | 1,240 | 63.7% | 790 | 306 | 24.7% | 38.7% |
| | Total | 9,537 | 59.1% | 5,634 | 2,094 | 22.0% | 37.2% | |
| | Ivan Allen | Applied Lang/Intercultural St | 25 | 72.0% | 18 | 11 | 44.0% | 61.1% |
| | | Computational Media | 121 | 34.7% | 42 | 28 | 23.1% | 66.7% |
| | | Econ & Int'l Affairs | 60 | 48.3% | 29 | 12 | 20.0% | 41.4% |
| | | Economics | 103 | 31.1% | 32 | 8 | 7.8% | 25.0% |
| | | Global Econ/Mod Lang | 9 | 33.3% | 3 | 1 | 11.1% | 33.3% |
| | | History, Technology, & Society | 37 | 48.6% | 18 | 8 | 21.6% | 44.4% |
| | | Int'l Affairs & Mod Lang | 96 | 60.4% | 58 | 36 | 37.5% | 62.1% |
| | | International Affairs | 81 | 50.6% | 41 | 15 | 18.5% | 36.6% |
| | | Public Policy | 37 | 43.2% | 16 | 12 | 32.4% | 75.0% |
| | | Science, Technology, & Culture | 34 | 50.0% | 17 | 8 | 23.5% | 47.1% |
| | Undeclared Ivan Allen Coll | 76 | 56.6% | 43 | 20 | 26.3% | 46.5% | |
| | Total | 679 | 46.7% | 317 | 159 | 23.4% | 50.2% | |
| | Management | Business Administration | 661 | 40.5% | 268 | 158 | 23.9% | 59.0% |
| | | Total | 661 | 40.5% | 268 | 158 | 23.9% | 59.0% |
| Sciences | Applied Mathematics | 326 | 43.3% | 141 | 41 | 12.6% | 29.1% | |
| | Applied Physics | 41 | 39.0% | 16 | 5 | 12.2% | 31.3% | |
| | Biochemistry | 176 | 54.5% | 96 | 34 | 19.3% | 35.4% | |
| | Biology | 693 | 50.2% | 348 | 124 | 17.9% | 35.6% | |
| | Chemistry | 214 | 48.6% | 104 | 40 | 18.7% | 38.5% | |
| | Discrete Mathematics | 12 | 66.7% | 8 | 2 | 16.7% | 25.0% | |
| | Earth & Atmospheric Sciences | 37 | 43.2% | 16 | 6 | 16.2% | 37.5% | |
| | Physics | 228 | 48.7% | 111 | 38 | 16.7% | 34.2% | |
| | Psychology | 155 | 31.0% | 48 | 17 | 11.0% | 35.4% | |
| | Undeclared Coll of Sciences | 300 | 43.7% | 131 | 38 | 12.7% | 29.0% | |
| | Total | 2,182 | 46.7% | 1,019 | 345 | 15.8% | 33.9% | |
| Total | | 14,717 | 54.7% | 8,051 | 3,043 | 20.7% | 37.8% | |

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Table A2. Georgia Tech Transfer Admissions Data by College and Major: Fall 2012

| Entry Term | College | Major | Applied | % of Applied Accepted | Accepted | Enrolled | % of Applied Enrolled | % of Accepted Enrolled |
|--------------------------------|-------------------------------|-------------------------------|--------------|-----------------------|--------------|--------------|-----------------------|------------------------|
| Fall 2012 | Architecture | Pre-Architecture | 49 | 26.5% | 13 | 11 | 22.4% | 84.6% |
| | | Pre-Building Construction | 10 | 20.0% | 2 | 2 | 20.0% | 100.0% |
| | | Pre-Industrial Design | 24 | 45.8% | 11 | 10 | 41.7% | 90.9% |
| | | Total | 83 | 31.3% | 26 | 23 | 27.7% | 88.5% |
| Computing | Computational Media | 1 | | | | | | |
| | Computer Science | 172 | 34.3% | 59 | 43 | 25.0% | 72.9% | |
| | Total | 173 | 34.1% | 59 | 43 | 24.9% | 72.9% | |
| Engineering | Aerospace Engineering | 108 | 47.2% | 51 | 42 | 38.9% | 82.4% | |
| | Biomedical Engineering | 78 | 33.3% | 26 | 18 | 23.1% | 69.2% | |
| | Chemical and Biomolecular Eng | 132 | 53.0% | 70 | 48 | 36.4% | 68.6% | |
| | Civil Engineering | 157 | 50.3% | 79 | 64 | 40.8% | 81.0% | |
| | Computer Engineering | 97 | 44.3% | 43 | 31 | 32.0% | 72.1% | |
| | Electrical Engineering | 240 | 41.7% | 100 | 76 | 31.7% | 76.0% | |
| | Environmental Engineering | 29 | 48.3% | 14 | 12 | 41.4% | 85.7% | |
| | Industrial Engineering | 111 | 55.0% | 61 | 50 | 45.0% | 82.0% | |
| | Materials Science & Engr | 31 | 38.7% | 12 | 9 | 29.0% | 75.0% | |
| | Mechanical Engineering | 281 | 52.7% | 148 | 125 | 44.5% | 84.5% | |
| | Nuclear & Radiological Engr | 22 | 54.5% | 12 | 5 | 22.7% | 41.7% | |
| | Total | 1286 | 47.9% | 616 | 480 | 37.3% | 77.9% | |
| | Ivan Allen | Applied Lang/Intercultural St | 2 | | | | | |
| Computational Media | | 24 | 33.3% | 8 | 7 | 29.2% | 87.5% | |
| Econ & Int'l Affairs | | 11 | 9.1% | 1 | 1 | 9.1% | 100.0% | |
| Economics | | 28 | 3.6% | 1 | 1 | 3.6% | 100.0% | |
| Global Econ/Mod Lang | | 7 | 28.6% | 2 | 2 | 28.6% | 100.0% | |
| History, Technology, & Society | | 5 | 20.0% | 1 | 1 | 20.0% | 100.0% | |
| Int'l Affairs & Mod Lang | | 8 | 12.5% | 1 | | | | |
| International Affairs | | 13 | 15.4% | 2 | 1 | 7.7% | 50.0% | |
| Public Policy | | 6 | 33.3% | 2 | 2 | 33.3% | 100.0% | |
| Science, Technology, & Culture | | 11 | 27.3% | 3 | 3 | 27.3% | 100.0% | |
| Total | 115 | 18.3% | 21 | 18 | 15.7% | 85.7% | | |
| Management | Business Administration | 141 | 19.9% | 28 | 25 | 17.7% | 89.3% | |
| | Total | 141 | 19.9% | 28 | 25 | 17.7% | 89.3% | |
| Sciences | Applied Mathematics | 43 | 32.6% | 14 | 10 | 23.3% | 71.4% | |
| | Applied Physics | 1 | | | | | | |
| | Biochemistry | 31 | 51.6% | 16 | 8 | 25.8% | 50.0% | |
| | Biology | 44 | 31.8% | 14 | 11 | 25.0% | 78.6% | |
| | Chemistry | 21 | 33.3% | 7 | 7 | 33.3% | 100.0% | |
| | Discrete Mathematics | 2 | 50.0% | 1 | | | | |
| | Earth & Atmospheric Sciences | 2 | | | | | | |
| | Physics | 34 | 23.5% | 8 | 6 | 17.6% | 75.0% | |
| | Psychology | 17 | 11.8% | 2 | 2 | 11.8% | 100.0% | |
| | Total | 195 | 31.8% | 62 | 44 | 22.6% | 71.0% | |
| Total | | 1993 | 40.7% | 812 | 633 | 31.8% | 78.0% | |

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Table A3. Georgia Tech Graduate Admissions Data by College and Major: Fall 2012

| Entry Term | College | Major | Applied | % of Applied Accepted | Accepted | Enrolled | % of Applied Enrolled | % of Accepted Enrolled |
|----------------------------|---------------------------------|---------------------------------|--------------|-----------------------|--------------|--------------|-----------------------|------------------------|
| Fall 2012 | Architecture | Architecture | 190 | 60.5% | 115 | 40 | 21.1% | 34.8% |
| | | Building Construction | 63 | 79.4% | 50 | 28 | 44.4% | 56.0% |
| | | City & Regional Planning | 47 | 10.6% | 5 | 3 | 6.4% | 60.0% |
| | | City Planning | 152 | 65.8% | 100 | 32 | 21.1% | 32.0% |
| | | Industrial Design | 48 | 52.1% | 25 | 20 | 41.7% | 80.0% |
| | | Music Technology | 53 | 47.2% | 25 | 12 | 22.6% | 48.0% |
| | | Urban Design | 25 | 52.0% | 13 | 6 | 24.0% | 46.2% |
| | | Total | 578 | 57.6% | 333 | 141 | 24.4% | 42.3% |
| | Computing | Algor, Combntcrs & Optimization | 33 | 27.3% | 9 | 1 | 3.0% | 11.1% |
| | | Bioengineering | 3 | | | | | |
| Bioinformatics | | 7 | 28.6% | 2 | | | | |
| Computational Sci & Engr | | 105 | 31.4% | 33 | 16 | 15.2% | 48.5% | |
| Computer Science | | 1,725 | 18.6% | 320 | 162 | 9.4% | 50.6% | |
| Human-Centered Computing | | 78 | 21.8% | 17 | 5 | 6.4% | 29.4% | |
| Human-Computer Interaction | | 131 | 36.6% | 48 | 23 | 17.6% | 47.9% | |
| Information Security | | 121 | 44.6% | 54 | 29 | 24.0% | 53.7% | |
| Robotics | | 67 | 11.9% | 8 | 3 | 4.5% | 37.5% | |
| Total | 2,270 | 21.6% | 491 | 239 | 10.5% | 48.7% | | |
| Engineering | Algor, Combntcrs & Optimization | 5 | 40.0% | 2 | 1 | 20.0% | 50.0% | |
| | Aerospace Engineering | 560 | 30.7% | 172 | 95 | 17.0% | 55.2% | |
| | Applied Systems Engineering | 41 | 92.7% | 38 | 31 | 75.6% | 81.6% | |
| | Bioengineering | 307 | 16.3% | 50 | 17 | 5.5% | 34.0% | |
| | Bioinformatics | 5 | | | | | | |
| | Biomedical Engineering | 171 | 25.1% | 43 | 30 | 17.5% | 69.8% | |
| | BMED Joint Emory/PKU | 22 | 59.1% | 13 | 11 | 50.0% | 84.6% | |
| | Chemical Engineering | 534 | 21.5% | 115 | 47 | 8.8% | 40.9% | |
| | Civil Engineering | 649 | 35.9% | 233 | 91 | 14.0% | 39.1% | |
| | Computational Sci & Engr | 34 | 17.6% | 6 | 3 | 8.8% | 50.0% | |
| | Electrical & Computer Engr | 2,193 | 21.0% | 460 | 287 | 13.1% | 62.4% | |
| | Engineering Sci & Mechanics | 3 | | | | | | |
| | Environmental Engineering | 232 | 31.0% | 72 | 25 | 10.8% | 34.7% | |
| | Health Systems | 15 | 46.7% | 7 | 2 | 13.3% | 28.6% | |
| | Industrial Engineering | 496 | 18.1% | 90 | 49 | 9.9% | 54.4% | |
| | International Logistics | 2 | 50.0% | 1 | 1 | 50.0% | 100.0% | |
| | Materials Science & Engr | 395 | 21.0% | 83 | 37 | 9.4% | 44.6% | |
| | Mechanical Engineering | 1,061 | 33.3% | 353 | 183 | 17.2% | 51.8% | |
| | Medical Physics | 63 | 46.0% | 29 | 8 | 12.7% | 27.6% | |
| | Nuclear & Radiological Engr | 91 | 42.9% | 39 | 14 | 15.4% | 35.9% | |
| | Operations Research | 205 | 29.3% | 60 | 24 | 11.7% | 40.0% | |
| | Paper Science Engineering | 7 | 14.3% | 1 | 1 | 14.3% | 100.0% | |
| | Polymers | 12 | | | | | | |
| | Quanta/Computation Fin | 254 | 36.2% | 92 | 27 | 10.6% | 29.3% | |
| | Robotics | 92 | 28.3% | 26 | 3 | 3.3% | 11.5% | |
| | Statistics | 24 | 25.0% | 6 | 3 | 12.5% | 50.0% | |
| Supply Chain Engineering | 95 | 76.8% | 73 | 50 | 52.6% | 68.5% | | |
| Total | 7,568 | 27.3% | 2,064 | 1,040 | 13.7% | 50.4% | | |
| Ivan Allen | Digital Media | 68 | 52.9% | 36 | 13 | 19.1% | 36.1% | |
| | Economics | 173 | 43.4% | 75 | 16 | 9.2% | 21.3% | |
| | Hist & Soc of Tech & Sciences | 20 | 15.0% | 3 | 1 | 5.0% | 33.3% | |
| | Human-Computer Interaction | 28 | 28.6% | 8 | 3 | 10.7% | 37.5% | |

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| Entry Term | College | Major | Applied | % of Applied Accepted | Accepted | Enrolled | % of Applied Enrolled | % of Accepted Enrolled |
|------------|------------------------------------|---------------------------------|---------------|-----------------------|--------------|--------------|-----------------------|------------------------|
| | | Int'l Affairs, Sci. & Techny | 18 | 22.2% | 4 | 2 | 11.1% | 50.0% |
| | | International Affairs | 64 | 68.8% | 44 | 23 | 35.9% | 52.3% |
| | | Public Policy | 94 | 33.0% | 31 | 9 | 9.6% | 29.0% |
| | | Public Policy/Joint Progrm | 22 | 18.2% | 4 | 3 | 13.6% | 75.0% |
| | | Total | 487 | 42.1% | 205 | 70 | 14.4% | 34.1% |
| | Management | Business Administration | 488 | 49.2% | 240 | 155 | 31.8% | 64.6% |
| | | Management | 226 | 26.5% | 60 | 44 | 19.5% | 73.3% |
| | | Management of Technology | 75 | 78.7% | 59 | 43 | 57.3% | 72.9% |
| | | MBA-Global Business | 77 | 81.8% | 63 | 53 | 68.8% | 84.1% |
| | | Quanta/Computation Fin | 198 | 9.6% | 19 | 16 | 8.1% | 84.2% |
| | | Total | 1,064 | 41.4% | 441 | 311 | 29.2% | 70.5% |
| | Sciences | Algor, Combntrcs & Optimization | 30 | 23.3% | 7 | 1 | 3.3% | 14.3% |
| | | Applied Physi ology | 10 | 50.0% | 5 | 4 | 40.0% | 80.0% |
| | | Bioinformatics | 70 | 50.0% | 35 | 17 | 24.3% | 48.6% |
| | | Biology | 126 | 21.4% | 27 | 20 | 15.9% | 74.1% |
| | | Chemistry | 273 | 35.2% | 96 | 66 | 24.2% | 68.8% |
| | | Computational Sci & Engr | 34 | 26.5% | 9 | 2 | 5.9% | 22.2% |
| | | Earth & Atmospheric Sciences | 130 | 39.2% | 51 | 28 | 21.5% | 54.9% |
| | | Human-Computer Interaction | 17 | 29.4% | 5 | 4 | 23.5% | 80.0% |
| | | Mathematics | 139 | 30.9% | 43 | 13 | 9.4% | 30.2% |
| | | Physics | 184 | 56.5% | 104 | 41 | 22.3% | 39.4% |
| | | Prosthetics & Orthotics | 32 | 46.9% | 15 | 11 | 34.4% | 73.3% |
| | | Psychology | 162 | 15.4% | 25 | 12 | 7.4% | 48.0% |
| | | Quanta/Computation Fin | 362 | 11.0% | 40 | 10 | 2.8% | 25.0% |
| | | Statistics | 48 | 33.3% | 16 | 3 | 6.3% | 18.8% |
| | | Total | 1,617 | 29.6% | 478 | 232 | 14.3% | 48.5% |
| | Georgia Tech Graduate Total | | 13,584 | 29.5% | 4,012 | 2,033 | 15.0% | 50.7% |

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Table A4. Courses Taken by Students in School of Architecture: Fiscal Year 2012

| College | Department | Subject | Undergraduate Level | | Graduate Level | |
|--------------|--------------------------------|---------|---------------------|-----------------------|---------------------|-----------------------|
| | | | Course Credit Hours | Pct Course Credit Hrs | Course Credit Hours | Pct Course Credit Hrs |
| Architecture | Dept/Architecture | ARCH | 4,563 | 66% | 2,920 | 58% |
| | | COA | 244 | 4% | 1,349 | 27% |
| | Dept/Building Construction | BC | 77 | 1% | 296 | 6% |
| | | ID | 3 | 0% | | |
| | Dept/City Planning | CP | 237 | 3% | 114 | 2% |
| | Dept/Industrial Design | ID | 112 | 2% | 18 | 0% |
| | Dept/Music | MUSI | 24 | 0% | | |
| <i>Total</i> | | | 5,260 | 76% | 4,697 | 94% |
| Computing | Dept/Computer Science | CS | 130 | 2% | 22 | 0% |
| | | CSE | | | 3 | 0% |
| | <i>Total</i> | | | 130 | 2% | 25 |
| Engineering | College of Engineering | COE | 10 | 0% | | |
| | Sch/Aerospace Engineering | AE | | | 4 | 0% |
| | Sch/Civil & Environmental Engr | CEE | 63 | 1% | 19 | 0% |
| | Sch/Electrical & Computer Engr | ECE | | | 3 | 0% |
| | Sch/Industrial & Systems Engr | HS | | | 6 | 0% |
| | | ISYE | | | 51 | 1% |
| | Sch/Materials Science & Engr | MSE | 9 | 0% | | |
| | Sch/Mechanical Engineering | ME | 9 | 0% | 12 | 0% |
| <i>Total</i> | | | 91 | 1% | 95 | 2% |
| Ivan Allen | Sch/Economics | ECON | 24 | 0% | 6 | 0% |
| | Sch/Hist, Technology & Society | HIST | 15 | 0% | | |
| | | HTS | 147 | 2% | 3 | 0% |
| | | SOC | 9 | 0% | | |
| | Sch/International Affairs | INTA | 18 | 0% | | |
| | Sch/Literature, Comm & Culture | ENGL | 33 | 0% | | |
| | | LCC | 34 | 0% | 6 | 0% |
| | Sch/Modern Languages | CHIN | 34 | 0% | | |
| | | FREN | 129 | 2% | | |
| | | GRMN | 27 | 0% | | |
| | | JAPN | 18 | 0% | | |
| | | RUSS | 4 | 0% | | |
| | Sch/Public Policy | SPAN | 63 | 1% | | |
| | | PHIL | | | 2 | 0% |
| POL | | 3 | 0% | | | |
| PST | | 3 | 0% | | | |
| PUBP | | 9 | 0% | 6 | 0% | |
| <i>Total</i> | | | 570 | 8% | 23 | 0% |
| Management | Sch/Management | ACCT | 6 | 0% | | |
| | | MGT | 111 | 2% | 36 | 1% |
| | <i>Total</i> | | | 117 | 2% | 36 |
| Sciences | Sch/Applied Physiology | HPS | 82 | 1% | | |
| | Sch/Biology | BIOL | 3 | 0% | | |
| | Sch/Chemistry and Biochemistry | CHEM | 12 | 0% | | |
| | Sch/Earth & Atmospheric Sci | EAS | 193 | 3% | | |
| | Sch/Mathematics | MATH | 108 | 2% | 9 | 0% |
| | Sch/Physics | PHYS | 153 | 2% | | |
| | Sch/Psychology | PSYC | 90 | 1% | 31 | 1% |
| <i>Total</i> | | | 641 | 9% | 40 | 1% |
| Registrar | Ctr. Enh of Teaching&Learning | CETL | 12 | 0% | 14 | 0% |
| | Dept/Registrar | COOP | | | 90 | 2% |
| | | DOPP | 1 | 0% | | |
| | | GT | 3 | 0% | | |
| | | INTN | 57 | 1% | | |
| <i>Total</i> | | | 73 | 1% | 104 | 2% |
| Total | | | 6,882 | 100% | 5,020 | 100% |

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Table A5. Institutional Degrees Coferred by Level and College: Fiscal Years 2008-2012

| Degree Level | Fiscal Year | Architecture | Computing | Engineering | Ivan Allen | Management | Sciences | Georgia Tech |
|--------------|-------------|--------------|-----------|-------------|------------|------------|----------|--------------|
| Bachelor's | FY2008 | 168 | 169 | 1,459 | 195 | 340 | 252 | 2,583 |
| | FY2009 | 165 | 187 | 1,543 | 183 | 361 | 256 | 2,695 |
| | FY2010 | 148 | 179 | 1,644 | 241 | 388 | 242 | 2,842 |
| | FY2011 | 161 | 234 | 1,745 | 242 | 410 | 270 | 3,062 |
| | FY2012 | 148 | 222 | 1,663 | 219 | 349 | 272 | 2,873 |
| Master's | FY2008 | 104 | 184 | 820 | 86 | 130 | 105 | 1,429 |
| | FY2009 | 158 | 298 | 1,034 | 83 | 190 | 113 | 1,876 |
| | FY2010 | 186 | 218 | 948 | 75 | 223 | 120 | 1,770 |
| | FY2011 | 191 | 271 | 987 | 77 | 251 | 111 | 1,888 |
| | FY2012 | 192 | 179 | 1,036 | 92 | 320 | 105 | 1,924 |
| Doctoral | FY2008 | 2 | 32 | 327 | 14 | 11 | 81 | 467 |
| | FY2009 | 7 | 31 | 332 | 11 | 7 | 102 | 490 |
| | FY2010 | 10 | 40 | 263 | 15 | 6 | 82 | 416 |
| | FY2011 | 14 | 33 | 294 | 14 | 8 | 86 | 449 |
| | FY2012 | 14 | 47 | 308 | 15 | 4 | 93 | 481 |

Table A6. Space Detail

| Building Name | Category | Area (sf) |
|----------------------------|-------------------------------|---------------|
| 490 TENTH STREET | Offices | 5,940 |
| ARCHITECTURE (EAST) | Classrooms / Class Laboratory | 36 |
| | Conference / Lounge | 420 |
| | Offices | 8,462 |
| | Research / Laboratory | 8,616 |
| | Service / Shop Area | 4,416 |
| ARCHITECTURE (WEST) | Classrooms / Class Laboratory | 3,994 |
| | Conference / Lounge | 5,847 |
| | Offices | 4,798 |
| | Research / Laboratory | 11,011 |
| HEFFERNAN, PAUL H. HOUSE | Classrooms / Class Laboratory | 1,851 |
| | Conference / Lounge | 208 |
| | Offices | 848 |
| HINMAN, THOMAS P. ADDITION | Offices | 625 |
| | Research / Laboratory | 10,225 |
| HINMAN, THOMAS P. RESEARCH | Conference / Lounge | 354 |
| | Offices | 1,432 |
| | Research / Laboratory | 11,099 |
| Total | | 80,182 |

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Table A7. Employees by Name: Fall 2012

| Name | Jobtitle | cnt |
|-------------------------------|------------------------------|-----------|
| Alkanoglu,Volkan | Visiting Assistant Professor | 1 |
| Andre, Lucie Miller | Asst Dir-Admin Ops | 1 |
| Bonner, Jennifer R | Visiting Assistant Professor | 1 |
| Branum, Cassie Diane | Part-Time Lecturer | 1 |
| Choi, Young-Seon | Postdoctoral Fellow | 1 |
| Cinquemani, Amanda | Academic Assistant II | 1 |
| Denham, Megan Elizabeth | Research Associate II | 1 |
| Duncan, Lane Mitchell | Senior Lecturer | 1 |
| Farrow, Robert J | Part-Time Lecturer | 1 |
| Gordon, Judy O | Senior Lecturer | 1 |
| Gravel, Karen Mahoney | Affiliate | 1 |
| Harrison, Timothy A | Part-Time Lecturer | 1 |
| Hickman, Lauren Elaine | Temporary Lecturer | 1 |
| Howard, Herman Hansen | Part-Time Lecturer | 1 |
| Jackson, William Jonathon | Affiliate | 1 |
| Kahya, Guzin Yeliz | Affiliate | 1 |
| King, Samantha E | Admin Professional Sr | 1 |
| Lackey, Robin Eloise-Phillips | Part-Time Lecturer | 1 |
| Lewitt, Erik Warren | Affiliate | 1 |
| Mojdehi, Mariam | Affiliate | 1 |
| O'Kelley, James Garner | Affiliate | 1 |
| Pearsall, Frederick M | Senior Lecturer | 1 |
| Pereira, Brenda Luz | Academic Advising Mgr | 1 |
| Pyburn, Jack Harris | Part-Time Lecturer | 1 |
| Romm, Stuart M | Senior Lecturer | 1 |
| Sami, Vikram S | Part-Time Lecturer | 1 |
| So h, Sarah Sungah | Affiliate | 1 |
| Tucker, Melissa Robin | Academic Advisor I | 1 |
| Williams, Jeffrey Fisher | Affiliate | 1 |
| Williams, Jordan Webster | Affiliate | 1 |
| Yu, Youngdong | Inst Paper Science & Tech | 1 |
| Total | | 31 |

Table A8. Employees by Job Title: Fall 2012

| Jobtitle | Name | cnt |
|------------------------------|-------------------------------|-----------|
| Academic Advising Mgr | Pereira, Brenda Luz | 1 |
| Academic Advisor I | Tucker, Melissa Robin | 1 |
| Academic Assistant II | Cinquemani, Amanda | 1 |
| Admin Professional Sr | King, Samantha E | 1 |
| Affiliate | Gravel, Karen Mahoney | 1 |
| | Jackson, William Jonathon | 1 |
| | Kahya, Guzin Yeliz | 1 |
| | Lewitt, Erik Warren | 1 |
| | Mojdehi, Mariam | 1 |
| | O'Kelley, James Garner | 1 |
| | So h, Sarah Sungah | 1 |
| | Williams, Jeffrey Fisher | 1 |
| | Williams, Jordan Webster | 1 |
| Asst Dir-Admin Ops | Andre, Lucie Miller | 1 |
| Inst Paper Science & Tech | Yu, Youngdong | 1 |
| Part-Time Lecturer | Branum, Cassie Diane | 1 |
| | Farrow, Robert J | 1 |
| | Harrison, Timothy A | 1 |
| | Howard, Herman Hansen | 1 |
| | Lackey, Robin Eloise-Phillips | 1 |
| | Pyburn, Jack Harris | 1 |
| | Sami, Vikram S | 1 |
| Postdoctoral Fellow | Choi, Young-Seon | 1 |
| Research Associate II | Denham, Megan Elizabeth | 1 |
| Senior Lecturer | Duncan, Lane Mitchell | 1 |
| | Gordon, Judy O | 1 |
| | Pearsall, Frederick M | 1 |
| | Romm, Stuart M | 1 |
| Temporary Lecturer | Hickman, Lauren Elaine | 1 |
| Visiting Assistant Professor | Alkanoglu, Volkan | 1 |
| | Bonner, Jennifer R | 1 |
| Total | | 31 |

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A9. Faculty by Name

| Name | Faculty Jobtitle | cnt |
|---------------------------|---------------------|-----------|
| Al-Had dad,Tristan F | Assistant Professor | 1 |
| Andreotti,Li bero | Professor | 1 |
| Augenbroe,Godfried L | Professor | 1 |
| Baerlecken,Daniel Michael | Assistant Professor | 1 |
| Bafna,Sonit | Associate Professor | 1 |
| Bell,Brian A | | 1 |
| Brown,Jason Britton | Assistant Professor | 1 |
| Cottle,Mark H | Associate Professor | 1 |
| Dimitropoulos,Harris | Associate Professor | 1 |
| Dunham-Jones,Ellen | Professor | 1 |
| Eastman,Charles | Professor | 1 |
| Economou,Athanasios | Associate Professor | 1 |
| Flowers,Benjamin Sitton | Associate Professor | 1 |
| Gamble,Michael | | 1 |
| Gentry,T Russell | Associate Professor | 1 |
| Green,David Ernest | | 1 |
| Hollengreen,Laura Holden | Associate Professor | 1 |
| Johnston,George Barnett | School Chair | 1 |
| Khan,Sab ir | Associate Professor | 1 |
| LeBlanc,W Jude Jude | Associate Professor | 1 |
| Peponis,John | | 1 |
| Riether,Gernot | Assistant Professor | 1 |
| Rudolph,Charles F | Associate Professor | 1 |
| Simmons,Marc Anthony | | 1 |
| Spuijbroek,Lars Mathias M | Professor | 1 |
| Yang,Perry P J | Associate Professor | 1 |
| Yocum,David | | 1 |
| Zimring,Craig M | Professor | 1 |
| Total | | 28 |

A10. Faculty by Jobtitle

| Faculty Jobtitle | Name | cnt |
|---------------------|---------------------------|-----------|
| Assistant Professor | Al-Had dad,Tristan F | 1 |
| | Baerlecken,Daniel Michael | 1 |
| | Brown,Jason Britton | 1 |
| | Riether,Gernot | 1 |
| Associate Professor | Bafna,Sonit | 1 |
| | Cottle,Mark H | 1 |
| | Dimitropoulos,Harris | 1 |
| | Economou,Athanasios | 1 |
| | Flowers,Benjamin Sitton | 1 |
| | Gentry,T Russell | 1 |
| | Hollengreen,Laura Holden | 1 |
| | Khan,Sab ir | 1 |
| | LeBlanc,W Jude Jude | 1 |
| | Rudolph,Charles F | 1 |
| | Yang,Perry P J | 1 |
| Professor | Andreotti,Li bero | 1 |
| | Augenbroe,Godfried L | 1 |
| | Bell,Brian A | 1 |
| | Dunham-Jones,Ellen | 1 |
| | Eastman,Charles | 1 |
| | Gamble,Michael | 1 |
| | Green,David Ernest | 1 |
| | Peponis,John | 1 |
| | Simmons,Marc Anthony | 1 |
| | Spuijbroek,Lars Mathias M | 1 |
| | Yocum,David | 1 |
| | Zimring,Craig M | 1 |
| School Chair | Johnston,George Barnett | 1 |
| Total | | 28 |

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Table A11. Budget Detail: Fiscal Years 2008-2012

| Fiscal Year | Project Type | Source | Budget Amount | Encumbrance Amount | Expenditure Amount | Balance |
|--------------------------|---------------------|-------------------------------|----------------------|---------------------------|---------------------------|----------------|
| 2008 | State | General Operations | \$12,654,065 | \$111,106 | \$12,522,821 | \$20,137 |
| | | Agency / Student Activities | \$0 | \$0 | \$793,801 | -\$793,801 |
| | | Departmental Sales & Services | \$154,144 | \$7,508 | \$146,424 | \$212 |
| | Sponsored | Departmental Sales & Services | \$0 | \$0 | \$0 | \$0 |
| | | Restricted - Ext - Federal | \$1,593,076 | \$138,349 | \$739,836 | \$714,891 |
| | | Restricted - Ext - GTF | \$3,513,614 | \$6,812 | \$1,386,948 | \$2,119,854 |
| | | Restricted - Ext - GTRC | \$74,558 | \$0 | \$54,324 | \$20,235 |
| | | Restricted - Ext - Local | \$303,269 | \$0 | \$102,220 | \$201,048 |
| | | Restricted - Ext - Private | \$2,641,285 | \$13,524 | \$1,449,293 | \$1,178,469 |
| | | Restricted - Ext - State | \$626,533 | \$8,860 | \$345,118 | \$272,555 |
| Total | | \$21,560,543 | \$286,159 | \$17,540,784 | \$3,733,600 | |
| 2009 | State | General Operations | \$12,966,911 | \$192,083 | \$12,727,166 | \$47,662 |
| | | Agency / Student Activities | \$0 | \$3,600 | \$691,627 | -\$695,227 |
| | | Departmental Sales & Services | \$141,461 | \$35,138 | \$98,931 | \$7,392 |
| | Sponsored | Departmental Sales & Services | \$0 | \$0 | \$0 | \$0 |
| | | Restricted - Ext - Federal | \$2,477,374 | \$15,100 | \$1,297,059 | \$1,165,216 |
| | | Restricted - Ext - GTF | \$3,762,712 | \$191,859 | \$1,261,375 | \$2,309,478 |
| | | Restricted - Ext - GTRC | \$112,728 | \$0 | \$69,268 | \$43,460 |
| | | Restricted - Ext - Local | \$201,048 | \$0 | \$153,992 | \$47,056 |
| | | Restricted - Ext - Private | \$2,667,755 | \$78,411 | \$1,670,179 | \$919,165 |
| | | Restricted - Ext - State | \$323,501 | \$0 | \$287,269 | \$36,232 |
| Total | | \$22,653,492 | \$516,191 | \$18,256,866 | \$3,880,434 | |
| 2010 | State | General Operations | \$12,832,067 | \$110,303 | \$12,730,279 | -\$8,516 |
| | | Agency / Student Activities | \$0 | \$0 | \$546,266 | -\$546,266 |
| | | Departmental Sales & Services | \$166,183 | \$636 | \$165,415 | \$132 |
| | Sponsored | Research Consortium | \$49,980 | \$0 | \$49,950 | \$30 |
| | | Departmental Sales & Services | \$0 | \$0 | \$0 | \$0 |
| | | Restricted - Ext - Federal | \$2,981,450 | \$222,161 | \$1,486,076 | \$1,273,213 |
| | | Restricted - Ext - GTF | \$3,425,613 | \$2,606 | \$1,098,775 | \$2,324,232 |
| | | Restricted - Ext - GTRC | \$257,819 | \$0 | \$48,668 | \$209,151 |
| | | Restricted - Ext - Local | \$61,653 | \$0 | \$51,653 | \$10,000 |
| | | Restricted - Ext - Private | \$2,666,943 | \$26,498 | \$1,665,776 | \$974,668 |
| Restricted - Ext - State | \$291,645 | \$0 | \$211,261 | \$80,384 | | |
| Total | | \$22,733,352 | \$362,205 | \$18,054,120 | \$4,317,028 | |
| 2011 | State | General Operations | \$8,671,577 | \$568,005 | \$8,204,283 | -\$100,711 |
| | | Agency / Student Activities | \$0 | \$0 | \$545,797 | -\$545,797 |
| | | Departmental Sales & Services | \$34,108 | \$0 | \$61,460 | -\$27,352 |
| | Sponsored | Departmental Sales & Services | \$0 | \$0 | \$0 | \$0 |
| | | Restricted - Ext - Federal | \$3,246,189 | \$56,861 | \$1,379,396 | \$1,809,933 |
| | | Restricted - Ext - GTF | \$3,266,370 | \$4,441 | \$738,076 | \$2,523,852 |
| | | Restricted - Ext - GTRC | \$379,061 | \$0 | \$66,741 | \$312,320 |
| | | Restricted - Ext - Local | \$10,000 | \$0 | \$1,688 | \$8,313 |
| | | Restricted - Ext - Private | \$2,166,928 | \$0 | \$1,404,413 | \$762,515 |
| | | Restricted - Ext - State | \$298,293 | \$0 | \$273,363 | \$24,930 |
| Total | | \$18,072,526 | \$629,307 | \$12,675,217 | \$4,768,002 | |
| 2012 | State | General Operations | \$9,334,645 | \$116,749 | \$8,580,612 | \$637,284 |
| | | Agency / Student Activities | \$0 | \$0 | \$358,251 | -\$358,251 |
| | | Departmental Sales & Services | \$43,082 | \$0 | \$43,114 | -\$32 |
| | Sponsored | Departmental Sales & Services | \$39,827 | \$0 | \$0 | \$39,827 |
| | | Departmental Sales & Services | \$0 | \$0 | \$0 | \$0 |

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| Fiscal Year | Project Type | Source | Budget Amount | Encumbrance Amount | Expenditure Amount | Balance |
|-------------|--------------|----------------------------|---------------------|--------------------|---------------------|--------------------|
| | | Restricted - Ext - Federal | \$2,841,993 | \$17,084 | \$1,385,166 | \$1,439,742 |
| | | Restricted - Ext - GTF | \$3,155,689 | \$3,237 | \$518,933 | \$2,633,519 |
| | | Restricted - Ext - GTRC | \$368,111 | \$0 | \$52,934 | \$315,177 |
| | | Restricted - Ext - Local | \$8,313 | \$0 | \$8,313 | \$0 |
| | | Restricted - Ext - Private | \$1,956,402 | \$12,018 | \$1,285,540 | \$658,843 |
| | | Restricted - Ext - State | \$24,930 | \$0 | \$24,929 | \$0 |
| | Total | | \$17,772,991 | \$149,089 | \$12,257,793 | \$5,366,110 |

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Table A12. Teaching Load for the School of Architecture Faculty

| Name | Jobtitle | Level | 2008 | 2009 | 2010 | 2011 | 2012 | Total |
|----------------------------|------------------------------|----------|------|------|------|------|------|-------|
| | | Upper | 58 | | | | | 58 |
| | | Graduate | 30 | | | | | 30 |
| | | Total | 88 | | | | | 88 |
| Akins II, Edwin Eugene | Part-Time Lecturer | Upper | 12 | | | | | 12 |
| | | Graduate | 88 | | | | | 88 |
| | | Total | 100 | | | | | 100 |
| | Senior Lecturer | Upper | | 65 | | | | 65 |
| | | Graduate | | 70 | | | | 70 |
| | | Total | | 135 | | | | 135 |
| Al-Had dad, Tristan F | Assistant Professor | Upper | | | | 10 | 82 | 92 |
| | | Graduate | | | | 216 | 153 | 369 |
| | | Total | | | | 226 | 235 | 461 |
| | Visiting Assistant Professor | Lower | | 48 | | | | 48 |
| | | Upper | 89 | 123 | 8 | | | 220 |
| | | Graduate | 72 | 12 | 95 | | | 179 |
| | | Total | 161 | 183 | 102 | | | 446 |
| Alkan, Ozgur Basak | Part-Time Lecturer | Lower | | | 26 | | | 26 |
| | | Total | | | 26 | | | 26 |
| Allen, Douglas C | Associate Dean-Academic | Upper | | 312 | 468 | 339 | 218 | 1,337 |
| | | Graduate | | 51 | 93 | 212 | 182 | 538 |
| | | Total | | 363 | 561 | 551 | 400 | 1,875 |
| | Dean Academic | Upper | 388 | 34 | | | | 422 |
| | | Graduate | 33 | 30 | | | | 63 |
| | | Total | 421 | 64 | | | | 485 |
| | Professor Emeritus | Upper | | | | | 84 | 84 |
| | | Graduate | | | | | 31 | 31 |
| | | Total | | | | | 115 | 115 |
| Andreotti, Libero | Professor | Upper | 171 | 224 | 136 | 129 | 17 | 676 |
| | | Graduate | | | | | 188 | 188 |
| | | Total | 171 | 224 | 136 | 129 | 204 | 864 |
| Antunez, Carina | Graduate Teaching Assistant | Lower | 199 | 146 | 96 | 52 | | 493 |
| | | Upper | | 77 | 39 | | | 116 |
| | | Graduate | | 9 | 24 | | | 33 |
| | | Total | 199 | 232 | 159 | 52 | | 642 |
| Ashuri, Baabak | Assistant Professor | Graduate | | | 2 | 31 | 65 | 98 |
| | | Total | | | 2 | 31 | 65 | 98 |
| Augenbroe, Godfried L | Associate Professor | Graduate | 220 | 295 | 269 | 336 | 24 | 1,144 |
| | | Total | 220 | 295 | 269 | 336 | 24 | 1,144 |
| | Professor | Graduate | | | | | 227 | 227 |
| | | Total | | | | | 227 | 227 |
| Baerlecken, Daniel Michael | Assistant Professor | Lower | | | | | 108 | 108 |
| | | Upper | | | | 55 | | 55 |
| | | Graduate | | | | 132 | 87 | 219 |
| | | Total | | | | 187 | 195 | 382 |
| | Visiting Assistant Professor | Upper | | 122 | 21 | | | 143 |
| | | Graduate | | 63 | 140 | | | 203 |
| | | Total | | 185 | 161 | | | 346 |
| Bafna, Sonit | Assistant Professor | Upper | 6 | | | | | 6 |
| | | Graduate | 152 | | | | | 152 |
| | | Total | 158 | | | | | 158 |
| | Associate Professor | Upper | | 1 | 18 | 36 | 104 | 159 |
| | | Graduate | | 169 | 175 | 170 | 161 | 674 |

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| Name | Jobtitle | Level | 2008 | 2009 | 2010 | 2011 | 2012 | Total |
|---------------------------|------------------------------|----------|------|------|------|------|------|-------|
| | | Total | | 170 | 193 | 206 | 265 | 833 |
| Balfour, Alan H | Dean Academic | Lower | | | | | 156 | 156 |
| | | Graduate | | | | 4 | | 4 |
| | | Total | | | | 4 | 156 | 160 |
| Bayer, Charlene W | Principal Research Scientist | Upper | | 3 | | | | 3 |
| | | Graduate | 9 | 27 | | | | 36 |
| | | Total | 9 | 30 | | | | 39 |
| Bedarida, Marc JL | Affiliate | Upper | | | 29 | | | 29 |
| | | Total | | | 29 | | | 29 |
| | Part-Time Lecturer | Upper | 62 | 56 | 3 | 69 | | 189 |
| | | Total | 62 | 56 | 3 | 69 | | 189 |
| Bell, Brian A | Part-Time Lecturer | Upper | | | | | 10 | 10 |
| | | Graduate | | | 78 | 30 | 36 | 144 |
| | | Total | | | 78 | 30 | 46 | 154 |
| Bennett, Quinn | Part-Time Lecturer | Upper | 45 | 24 | | | | 69 |
| | | Graduate | 10 | | | | | 10 |
| | | Total | 55 | 24 | | | | 79 |
| Bernal, Marcelo Heriberto | Graduate Assistant | Upper | | | | 24 | 42 | 66 |
| | | Total | | | | 24 | 42 | 66 |
| | Graduate Teaching Assistant | Lower | | | | | 28 | 28 |
| | | Upper | | | | | 15 | 15 |
| | | Graduate | | | | | 12 | 12 |
| | | Total | | | | | 55 | 55 |
| Bonner, Jennifer R | Part-Time Lecturer | Upper | | | 12 | | | 12 |
| | | Graduate | | | 99 | | | 99 |
| | | Total | | | 111 | | | 111 |
| Bowen, Brian | Professor of the Practice | Upper | 36 | 36 | 30 | 33 | 33 | 168 |
| | | Graduate | 30 | | 27 | 24 | 30 | 111 |
| | | Total | 66 | 36 | 57 | 57 | 63 | 279 |
| Branum, Cassie Diane | Affiliate | Graduate | | | | | 1 | 1 |
| | | Total | | | | | 1 | 1 |
| | Part-Time Lecturer | Graduate | | | | 10 | 6 | 16 |
| | | Total | | | | 10 | 6 | 16 |
| Bri lakis, Ioannis | Assistant Professor | Graduate | | | 14 | 20 | | 34 |
| | | Total | | | 14 | 20 | | 34 |
| Brown, Jason B | Graduate Teaching Assistant | Upper | 336 | 324 | 396 | | | 1,056 |
| | | Graduate | | | 18 | | | 18 |
| | | Total | 336 | 324 | 414 | | | 1,074 |
| | Part-Time Lecturer | Upper | | | | 162 | | 162 |
| | | Graduate | | | | 24 | | 24 |
| | | Total | | | | 186 | | 186 |
| Brown, Jason Britton | Assistant Professor | Upper | | | | 258 | 411 | 669 |
| | | Graduate | | | | 3 | 54 | 57 |
| | | Total | | | | 261 | 465 | 726 |
| Cai, Hui | Graduate Teaching Assistant | Lower | | 32 | 73 | 39 | | 144 |
| | | Total | | 32 | 73 | 39 | | 144 |
| Carpo, Mario | Professor | Lower | | | 97 | | | 97 |
| | | Upper | | | 21 | 63 | 22 | 106 |
| | | Graduate | | 15 | 41 | 47 | 32 | 135 |
| | | Total | | 15 | 159 | 110 | 54 | 338 |
| Castro-Lacouture, Daniel | Assistant Professor | Graduate | | 14 | | | | 14 |
| | | Total | | 14 | | | | 14 |
| | Associate Professor | Graduate | | | 25 | 45 | | 69 |
| | | Total | | | 25 | 45 | | 69 |
| | School Chair-Academic | Graduate | | | | | 13 | 13 |

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| Name | Jobtitle | Level | 2008 | 2009 | 2010 | 2011 | 2012 | Total |
|------------------------------|------------------------------|----------|------|------|------|------|------|-------|
| | | Total | | | | | 13 | 13 |
| Chini nis,Stephen P | Research Scientist I | Upper | | | 15 | | | 15 |
| | | Total | | | 15 | | | 15 |
| Choi, Yo ung-Seon | Graduate Teaching Assistant | Lower | | | | | 43 | 43 |
| | | Total | | | | | 43 | 43 |
| | Postdoctoral Fellow | Lower | | | | | 20 | 20 |
| | | Total | | | | | 20 | 20 |
| Choud hary,Ruchi | Assistant Professor | Upper | 141 | | | | | 141 |
| | | Graduate | 41 | | | | | 41 |
| | | Total | 182 | | | | | 182 |
| Collins,Jeffrey Moora | Part-Time Lecturer | Upper | | | 65 | | | 65 |
| | | Total | | | 65 | | | 65 |
| Contant,Cheryl K | Professor | Graduate | 4 | | | | | 4 |
| | | Total | 4 | | | | | 4 |
| Cottle,Mark H | Associate Professor | Lower | | | 52 | | | 52 |
| | | Upper | 54 | 66 | 6 | 50 | 3 | 179 |
| | | Graduate | 204 | 87 | 210 | 231 | 107 | 839 |
| | | Total | 258 | 153 | 268 | 281 | 110 | 1,070 |
| Craig,Robert M | Professor | Lower | 99 | 113 | 107 | 33 | | 352 |
| | | Upper | 122 | 122 | 134 | 315 | 150 | 842 |
| | | Graduate | 24 | 52 | 31 | 45 | 31 | 183 |
| | | Total | 245 | 286 | 272 | 393 | 181 | 1,377 |
| Crawford,Helen Ferguson | Part-Time Lecturer | Lower | | | | 67 | 63 | 130 |
| | | Total | | | | 67 | 63 | 130 |
| Dagenhart,Richard L | Associate Professor | Upper | 91 | 63 | 72 | 34 | 55 | 314 |
| | | Graduate | 223 | 355 | 353 | 433 | 222 | 1,586 |
| | | Total | 314 | 418 | 425 | 467 | 277 | 1,900 |
| Deaton-Crooks,Ryan Henderson | Part-Time Lecturer | Lower | 44 | 48 | | | | 92 |
| | | Upper | 72 | 65 | | | | 137 |
| | | Graduate | 5 | | | | | 5 |
| | | Total | 121 | 113 | | | | 234 |
| Debo,Thomas N | Professor Emeritus | Upper | | | | 18 | | 18 |
| | | Graduate | | | | 3 | 9 | 12 |
| | | Total | | | | 21 | 9 | 30 |
| Diana,Carla Y | Visiting Assistant Professor | Graduate | 12 | | | | | 12 |
| | | Total | 12 | | | | | 12 |
| Dimitropoulos,Harris | Associate Professor | Lower | | | | 44 | | 44 |
| | | Upper | 89 | 100 | 134 | 119 | 122 | 563 |
| | | Graduate | 72 | 75 | 3 | 24 | 78 | 252 |
| | | Total | 161 | 175 | 137 | 187 | 200 | 859 |
| Do,Yi-Luen Ellen | Associate Professor | Upper | | | 3 | 5 | 1 | 9 |
| | | Graduate | 132 | 180 | 167 | 135 | 87 | 700 |
| | | Total | 132 | 180 | 170 | 140 | 88 | 709 |
| Dobbins,Michael A | Professor of the Practice | Graduate | | 84 | 7 | 6 | 9 | 106 |
| | | Total | | 84 | 7 | 6 | 9 | 106 |
| | Visiting Associate Professor | Upper | 55 | | | | | 55 |
| | | Graduate | 12 | | | | | 12 |
| | | Total | 67 | | | | | 67 |
| Dogu,Mehmet S | Part-Time Lecturer | Upper | | | 70 | | | 70 |
| | | Total | | | 70 | | | 70 |
| Dowling,Elizabeth M | Professor | Lower | 206 | 180 | | | | 386 |
| | | Upper | 300 | 253 | 251 | | | 804 |
| | | Graduate | 161 | 142 | 120 | | | 423 |
| | | Total | 667 | 575 | 372 | | | 1,613 |
| Drummond,William J | Associate Professor | Graduate | 22 | | 30 | | | 52 |

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| Name | Jobtitle | Level | 2008 | 2009 | 2010 | 2011 | 2012 | Total |
|-------------------------------|------------------------------|----------|------|------|------|------|------|-------|
| | | Total | 22 | | 30 | | | 52 |
| Ducree, Richard Allen | Part-Time Lecturer | Lower | 56 | | | | | 56 |
| | | Total | 56 | | | | | 56 |
| Duncan, Lane | Part-Time Lecturer | Upper | 89 | 42 | | | | 131 |
| | | Total | 89 | 42 | | | | 131 |
| Duncan, Lane Mitchell | Part-Time Lecturer | Upper | | | 135 | 105 | 90 | 330 |
| | | Graduate | | | | 3 | | 3 |
| | | Total | | | 135 | 108 | 90 | 333 |
| Dunham-Jones, Ellen | Associate Professor | Upper | 2 | 1 | 9 | | | 12 |
| | | Graduate | 33 | 43 | 144 | | | 219 |
| | | Total | 35 | 44 | 153 | | | 232 |
| | Professor | Upper | | | | 72 | 16 | 88 |
| | | Graduate | | | | 135 | 140 | 275 |
| | | Total | | | | 207 | 156 | 363 |
| Dusseault, Ruth A | Visiting Assistant Professor | Upper | 93 | 84 | 190 | 102 | 108 | 577 |
| | | Graduate | | | | | 3 | 3 |
| | | Total | 93 | 84 | 190 | 102 | 111 | 580 |
| Dvi-Vardhana, Jeffrey Michael | Part-Time Lecturer | Lower | 30 | | | | | 30 |
| | | Total | 30 | | | | | 30 |
| Eastman, Charles | Professor | Upper | | 12 | 6 | | | 18 |
| | | Graduate | 251 | 275 | 209 | 234 | 214 | 1,184 |
| | | Total | 251 | 287 | 215 | 234 | 214 | 1,202 |
| Economou, Athanassios | Associate Professor | Lower | | 44 | | | | 44 |
| | | Upper | 342 | 149 | 211 | 169 | 59 | 930 |
| | | Graduate | 46 | 74 | 58 | 51 | 205 | 432 |
| | | Total | 387 | 267 | 268 | 220 | 264 | 1,406 |
| Edwards III, Mercer Boyd | Academic Professional | Graduate | | | | | 3 | 3 |
| | | Total | | | | | 3 | 3 |
| Elliott, Michael L | Associate Professor | Graduate | 89 | 45 | 61 | 35 | 45 | 275 |
| | | Total | 89 | 45 | 61 | 35 | 45 | 275 |
| England, Danny E | Part-Time Lecturer | Lower | 140 | 44 | | | | 184 |
| | | Upper | 113 | 113 | | | | 225 |
| | | Total | 253 | 157 | | | | 409 |
| Etienne, Harley F | Assistant Professor | Upper | | | | 3 | | 3 |
| | | Total | | | | 3 | | 3 |
| Farrow, Robert J | Adjunct Professor | Graduate | | | 9 | | | 9 |
| | | Total | | | 9 | | | 9 |
| | Part-Time Lecturer | Upper | | | | 15 | 3 | 18 |
| | | Graduate | | | | 24 | 117 | 141 |
| | | Total | | | | 39 | 120 | 159 |
| Flowers, Benjamin Sitton | Assistant Professor | Lower | 97 | 110 | 104 | 282 | | 593 |
| | | Upper | 101 | 134 | 82 | 78 | 1 | 395 |
| | | Graduate | 42 | 78 | 37 | 113 | | 270 |
| | | Total | 239 | 322 | 222 | 473 | 1 | 1,257 |
| | Associate Professor | Lower | | | | | 312 | 312 |
| | | Upper | | | | | 124 | 124 |
| | | Graduate | | | | | 85 | 85 |
| | | Total | | | | | 521 | 521 |
| Frank, Timothy M | Part-Time Lecturer | Lower | 78 | 84 | | | | 162 |
| | | Total | 78 | 84 | | | | 162 |
| Frank, Timothy Martin | Part-Time Lecturer | Lower | | | 174 | 156 | | 330 |
| | | Total | | | 174 | 156 | | 330 |
| French, Steven P | Associate Dean-Academic | Graduate | | | | | 39 | 39 |
| | | Total | | | | | 39 | 39 |
| | Professor | Graduate | 93 | 85 | 41 | 27 | 1 | 246 |

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| Name | Jobtitle | Level | 2008 | 2009 | 2010 | 2011 | 2012 | Total |
|--------------------------|-----------------------------|----------|------|------|------|------|------|-------|
| | | Total | 93 | 85 | 41 | 27 | 1 | 246 |
| Gamble,Michael | Assoc Chair-Academic | Upper | | | | 58 | 21 | 79 |
| | | Graduate | | | | 87 | 161 | 247 |
| | | Total | | | | 144 | 182 | 326 |
| | Associate Professor | Upper | 129 | 126 | 119 | 53 | | 425 |
| | | Graduate | 118 | 168 | 132 | | | 418 |
| | | Total | 247 | 294 | 250 | 53 | | 843 |
| Gentry,T Russell | Associate Professor | Upper | 164 | 269 | 302 | 172 | 273 | 1,179 |
| | | Graduate | 99 | 138 | 111 | 169 | 137 | 653 |
| | | Total | 263 | 406 | 413 | 341 | 410 | 1,832 |
| Gerondelis,Ann | Academic Professional | Lower | | 24 | | | | 24 |
| | | Total | | 24 | | | | 24 |
| Gerondelis,Ann I | Academic Professional | Lower | | | 90 | 17 | 177 | 284 |
| | | Total | | | 90 | 17 | 177 | 284 |
| Ghaffari,Shabnam | Graduate Teaching Assistant | Lower | | | 30 | 42 | | 72 |
| | | Total | | | 30 | 42 | | 72 |
| Glaser,Michael D | Part-Time Lecturer | Lower | 45 | | | | | 45 |
| | | Total | 45 | | | | | 45 |
| Goodman,Joseph Neal | Research Engineer II | Upper | | | | | 27 | 27 |
| | | Graduate | | | | | 12 | 12 |
| | | Total | | | | | 39 | 39 |
| Gordon,Judy O | Senior Lecturer | Upper | 125 | 115 | 130 | 117 | 115 | 602 |
| | | Graduate | | | | 90 | | 90 |
| | | Total | 125 | 115 | 130 | 207 | 115 | 692 |
| Gravel,Karen Mahoney | Part-Time Lecturer | Upper | | | | | 39 | 39 |
| | | Graduate | | | | | 21 | 21 |
| | | Total | | | | | 60 | 60 |
| Gravel,Ryan A | Part-Time Lecturer | Upper | 60 | | | | | 60 |
| | | Total | 60 | | | | | 60 |
| Green,David Ernest | Professor of the Practice | Upper | | 116 | 52 | 48 | 9 | 225 |
| | | Graduate | | 66 | 174 | 75 | 201 | 516 |
| | | Total | | 182 | 226 | 123 | 210 | 741 |
| | Senior Lecturer | Upper | 115 | | | | | 115 |
| | | Graduate | 99 | 63 | | | | 162 |
| Total | 214 | 63 | | | | | 277 | |
| Hambright,Sallie Rebecca | Part-Time Lecturer | Upper | | | | 6 | | 6 |
| | | Graduate | | | | 93 | | 93 |
| | | Total | | | | 99 | | 99 |
| Harp,Alan | Research Scientist II | Upper | 14 | 8 | 12 | | | 33 |
| | | Graduate | 14 | 3 | 15 | | | 32 |
| | | Total | 27 | 11 | 27 | | | 65 |
| Harrison,Timothy | Part-Time Lecturer | Upper | 50 | 45 | | | | 95 |
| | | Total | 50 | 45 | | | | 95 |
| Harrison,Timothy A | Part-Time Lecturer | Lower | | | | 52 | | 52 |
| | | Upper | | | | 204 | 236 | 440 |
| | | Graduate | | | 93 | | 1 | 94 |
| | | Total | | | 93 | 256 | 237 | 586 |
| Henry,Kelly | Graduate Teaching Assistant | Upper | 21 | | | | | 21 |
| | | Graduate | 15 | 15 | | | | 30 |
| | | Total | 36 | 15 | | | | 51 |
| Hollengreen,Laura Holden | Associate Professor | Lower | | | 100 | 318 | 342 | 760 |
| | | Upper | | | 72 | 93 | 191 | 356 |
| | | Graduate | | | 20 | 71 | 47 | 137 |
| | | Total | | | 191 | 482 | 581 | 1,254 |
| Howard,Herman | Lecturer | Upper | 5 | | | | | 5 |

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| Name | Jobtitle | Level | 2008 | 2009 | 2010 | 2011 | 2012 | Total |
|----------------------------|-----------------------------|----------|------|------|------|------|------|-------|
| | | Graduate | 2 | | | | | 2 |
| | | Total | 7 | | | | | 7 |
| | Part-Time Lecturer | Upper | | 6 | | | | 6 |
| | | Graduate | | 1 | | | | 1 |
| | | Total | | 7 | | | | 7 |
| Howard,Herman Hansen | Affiliate | Upper | | | 6 | | | 6 |
| | | Graduate | | | 2 | | | 2 |
| | | Total | | | 8 | | | 8 |
| | Part-Time Lecturer | Upper | | | 14 | | | 14 |
| | | Graduate | | | 2 | | | 2 |
| | | Total | | | 15 | | | 15 |
| Hsu,Frances C | Assistant Professor | Upper | 2 | 69 | 152 | 87 | | 310 |
| | | Graduate | 122 | 106 | 42 | 111 | | 380 |
| | | Total | 124 | 175 | 194 | 198 | | 690 |
| Hunsicker,Carrie Elizabeth | Part-Time Lecturer | Lower | | | | 92 | | 92 |
| | | Total | | | | 92 | | 92 |
| Hyun,Myung Seok | Graduate Teaching Assistant | Lower | 83 | 106 | 101 | | | 290 |
| | | Total | 83 | 106 | 101 | | | 290 |
| Immergluck,Daniel W | Associate Professor | Graduate | | 12 | 9 | 27 | | 48 |
| | | Total | | 12 | 9 | 27 | | 48 |
| | Professor | Graduate | | | | | 22 | 22 |
| | | Total | | | | | 22 | 22 |
| Irizarry,Javier | Assistant Professor | Graduate | | | | | 15 | 15 |
| | | Total | | | | | 15 | 15 |
| Jackson,William Jonathon | Part-Time Lecturer | Lower | | 52 | | 44 | | 96 |
| | | Upper | | | 130 | 55 | | 185 |
| | | Graduate | | 66 | | | | 66 |
| | | Total | | 118 | 130 | 99 | | 347 |
| Jarrett,Christopher | Associate Director-Acad | Lower | | 52 | | | | 52 |
| | | Upper | 19 | 157 | | | | 176 |
| | | Graduate | 70 | 92 | | | | 162 |
| | | Total | 89 | 301 | | | | 390 |
| Jenkins,Alexander McLean | Part-Time Lecturer | Lower | | | | | 46 | 46 |
| | | Total | | | | | 46 | 46 |
| Johnson,Katherine Wright | Graduate Teaching Assistant | Lower | | | | | 26 | 26 |
| | | Total | | | | | 26 | 26 |
| Johnston,George Barnett | Associate Professor | Upper | 75 | 116 | | | | 191 |
| | | Graduate | 90 | 141 | 126 | | | 357 |
| | | Total | 165 | 257 | 126 | | | 548 |
| | Professor | Upper | | | | 1 | | 1 |
| | | Graduate | | | | 33 | | 33 |
| | | Total | | | | 34 | | 34 |
| | School Chair-Academic | Upper | | | | 3 | 28 | 31 |
| | | Graduate | | | | 12 | 93 | 105 |
| | | Total | | | | 15 | 121 | 136 |
| Jundanian,Thomas Keith | Graduate Research Assistant | Lower | 80 | | | | | 80 |
| | | Total | 80 | | | | | 80 |
| | Graduate Teaching Assistant | Lower | 48 | 96 | | | | 144 |
| | | Total | 48 | 96 | | | | 144 |
| Kangari,Roozbeh | Professor | Graduate | | 9 | 5 | 49 | | 63 |
| | | Total | | 9 | 5 | 49 | | 63 |
| Kasali,Altug | Graduate Teaching Assistant | Lower | | | | 26 | | 26 |
| | | Total | | | | 26 | | 26 |
| Kean,Lee A | Part-Time Lecturer | Upper | 102 | 100 | | | | 202 |
| | | Total | 102 | 100 | | | | 202 |

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| Name | Jobtitle | Level | 2008 | 2009 | 2010 | 2011 | 2012 | Total | |
|--------------------------|------------------------------|-----------------------------|----------|-------|-------|------|------|-------|-----|
| Khan,Sabir | Associate Dean-Academic | Lower | 1,054 | 943 | 887 | 612 | | 3,496 | |
| | | Upper | 255 | 267 | 196 | 312 | 225 | 1,255 | |
| | | Graduate | 16 | 15 | 25 | 7 | | 63 | |
| | | Total | 1,325 | 1,225 | 1,108 | 931 | 225 | 4,814 | |
| | Associate Professor | Lower | | | | | | 429 | 429 |
| | | Upper | | | | | | 152 | 152 |
| | | Graduate | | | | | | 11 | 11 |
| | | Total | | | | | | 592 | 592 |
| | Kuo,Chung-Lun | Graduate Teaching Assistant | Lower | 40 | | | | | 40 |
| | | | Total | 40 | | | | | 40 |
| LaCrosse,Jonathan Wills | Part-Time Lecturer | Graduate | 42 | 27 | 36 | | | 105 | |
| | | Total | 42 | 27 | 36 | | | 105 | |
| Lange,Christian Johannes | Lecturer | Upper | 11 | | | | | 11 | |
| | | Graduate | 48 | | | | | 48 | |
| | | Total | 59 | | | | | 59 | |
| Leary,Brian M | Affiliate | Upper | 15 | | | | | 15 | |
| | | Graduate | 18 | | | | | 18 | |
| | | Total | 33 | | | | | 33 | |
| | Part-Time Lecturer | Upper | | 12 | | | | 12 | |
| | | Graduate | | 12 | | | | 12 | |
| | | Total | | 24 | | | | 24 | |
| | Leblanc,W Jude | Associate Professor | Lower | 116 | 48 | | 120 | | 284 |
| | | | Upper | 107 | 24 | 117 | 144 | | 392 |
| | | | Graduate | 84 | 57 | 84 | 24 | | 249 |
| | | | Total | 307 | 129 | 201 | 288 | | 925 |
| LeBlanc,W Jude Jude | Associate Professor | Lower | | | | | 87 | 87 | |
| | | Upper | | | | | 122 | 122 | |
| | | Graduate | | | | | 105 | 105 | |
| | | Total | | | | | 314 | 314 | |
| Lee,Hyun Kyung | Graduate Teaching Assistant | Lower | 74 | 80 | 73 | 66 | 65 | 358 | |
| | | Upper | | 57 | | | | 57 | |
| | | Total | 74 | 137 | 73 | 66 | 65 | 415 | |
| Leigh,Nancey Green | Professor | Graduate | 43 | 64 | 52 | 77 | 98 | 334 | |
| | | Total | 43 | 64 | 52 | 77 | 98 | 334 | |
| Lesniewski,Anatoliusz | Senior Academic Professional | Upper | | | 24 | | 30 | 54 | |
| | | Graduate | 93 | 111 | 132 | 147 | 75 | 558 | |
| | | Total | 93 | 111 | 156 | 147 | 105 | 612 | |
| Lewcok,Ronald B | Part-Time Professor | Lower | | 150 | | | | 150 | |
| | | Graduate | | 41 | | | | 41 | |
| | | Total | | 191 | | | | 191 | |
| | Professor | Lower | 138 | | 90 | | | 228 | |
| | | Graduate | 43 | | 3 | | | 46 | |
| | | Total | 181 | | 93 | | | 274 | |
| | Professor Emeritus | Graduate | 36 | | | | | 36 | |
| | | Total | 36 | | | | | 36 | |
| | Lewitt,Erik Warren | Part-Time Lecturer | Upper | | | | | 10 | 10 |
| | | | Graduate | | | | | 15 | 15 |
| Total | | | | | | | 25 | 25 | |
| Maing,Minjung | Assistant Professor | Upper | | | | 92 | 65 | 157 | |
| | | Graduate | | | | 96 | 93 | 189 | |
| | | Total | | | | 188 | 158 | 346 | |
| | Visiting Assistant Professor | Upper | | | 74 | | | 74 | |
| | | Graduate | | | 161 | | | 161 | |
| | | Total | | | 234 | | | 234 | |
| Mallasi,Zaki | Part-Time Lecturer | Upper | | 27 | 21 | | | 48 | |

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| Name | Jobtitle | Level | 2008 | 2009 | 2010 | 2011 | 2012 | Total |
|---------------------------|-----------------------------|----------|-------|-------|-------|-------|-------|-------|
| | | Graduate | | 27 | 3 | | | 30 |
| | | Total | | 54 | 24 | | | 78 |
| Mallgrave, Harry Francis | Adjunct Professor | Upper | | | | | 21 | 21 |
| | | Graduate | | | | | 12 | 12 |
| | | Total | | | | | 33 | 33 |
| Mandel, Katherine Whitney | Part-Time Lecturer | Lower | | | | 64 | | 64 |
| | | Total | | | | 64 | | 64 |
| Mazalek, Alexandra | Assistant Professor | Upper | 6 | | | | | 6 |
| | | Graduate | 8 | | | | | 8 |
| | | Total | 14 | | | | | 14 |
| Mazzone, Marian | Part-Time Lecturer | Lower | | | | 126 | | 126 |
| | | Total | | | | 126 | | 126 |
| Medina, Joyce D | Part-Time Lecturer | Lower | 1,293 | 1,446 | 1,495 | 1,347 | 1,578 | 7,159 |
| | | Total | 1,293 | 1,446 | 1,495 | 1,347 | 1,578 | 7,159 |
| Mesko, Michael S | Part-Time Lecturer | Graduate | | 9 | 36 | | | 45 |
| | | Total | | 9 | 36 | | | 45 |
| Middleton, Deborah A | Graduate Teaching Assistant | Lower | 92 | | | | | 92 |
| | | Total | 92 | | | | | 92 |
| Minatta, Joseph E | Part-Time Lecturer | Lower | 78 | 87 | 76 | 63 | 66 | 370 |
| | | Total | 78 | 87 | 76 | 63 | 66 | 370 |
| Mojdehi, Mariam | Part-Time Lecturer | Lower | 96 | | | | | 96 |
| | | Upper | | | | | 113 | 113 |
| | | Graduate | | | | 84 | | 84 |
| | | Total | 96 | | | 84 | 113 | 293 |
| Monaghan, Marietta C | Graduate Teaching Assistant | Lower | 87 | 93 | 100 | | | 280 |
| | | Total | 87 | 93 | 100 | | | 280 |
| Mullick, Abir | Professor | Graduate | 12 | | | | | 12 |
| | | Total | 12 | | | | | 12 |
| Nemec, Daniel A | Part-Time Lecturer | Lower | 48 | | 75 | 42 | | 165 |
| | | Total | 48 | | 75 | 42 | | 165 |
| Nersessian, Nancy J | Regents Professor | Graduate | | | | 21 | 25 | 46 |
| | | Total | | | | 21 | 25 | 46 |
| Nichols, Timothy W | Part-Time Lecturer | Upper | 55 | | | | | 55 |
| | | Total | 55 | | | | | 55 |
| O'Kelley, James Garner | Part-Time Lecturer | Upper | 114 | | | 153 | | 267 |
| | | Total | 114 | | | 153 | | 267 |
| Oberle, Rita | Associate Professor | Graduate | 24 | 1 | | | | 25 |
| | | Total | 24 | 1 | | | | 25 |
| Okcu, Selen | Graduate Teaching Assistant | Lower | 77 | 32 | 42 | | | 151 |
| | | Total | 77 | 32 | 42 | | | 151 |
| Ozbi, Ayse Nuran | Graduate Teaching Assistant | Lower | 77 | 82 | 122 | | | 281 |
| | | Total | 77 | 82 | 122 | | | 281 |
| Park, Justin Jinsung | Part-Time Lecturer | Lower | 30 | | | | | 30 |
| | | Total | 30 | | | | | 30 |
| Parker Jr., Walter Ennis | Professor of the Practice | Upper | | | | | 54 | 54 |
| | | Total | | | | | 54 | 54 |
| Pearsall, Frederick M | Senior Lecturer | Lower | 138 | 198 | 172 | 217 | 144 | 869 |
| | | Upper | 66 | 12 | 87 | 42 | 111 | 318 |
| | | Graduate | 66 | 81 | 30 | 15 | 84 | 276 |
| | | Total | 270 | 291 | 289 | 274 | 339 | 1,463 |
| Pearson, David P | Graduate Assistant | Upper | | | | 12 | | 12 |
| | | Total | | | | 12 | | 12 |
| Peponis, John | Assoc Chair-Academic | Upper | | | | 18 | 36 | 54 |
| | | Graduate | | | | 74 | 218 | 292 |
| | | Total | | | | 92 | 254 | 346 |

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| Name | Jobtitle | Level | 2008 | 2009 | 2010 | 2011 | 2012 | Total |
|----------------------|-------------------------------|----------|------|------|------|------|------|-------|
| | Professor | Graduate | 178 | 154 | 214 | 43 | | 588 |
| | | Total | 178 | 154 | 214 | 43 | | 588 |
| Pritchard,Shannon N | Part-Time Lecturer | Lower | | | | | 150 | 150 |
| | | Total | | | | | 150 | 150 |
| Purdy,Timothy Gerard | Part-Time Lecturer | Graduate | 9 | 3 | 3 | | | 15 |
| | | Total | 9 | 3 | 3 | | | 15 |
| Pyburn,Jack Harris | Part-Time Lecturer | Upper | | | | | 35 | 35 |
| | | Graduate | | | | | 36 | 36 |
| | | Total | | | | | 71 | 71 |
| Rabin,Kenneth D | Affiliate | Lower | 21 | | | | | 21 |
| | | Total | 21 | | | | | 21 |
| Riether,Gernot | Assistant Professor | Lower | 48 | 52 | | | 56 | 156 |
| | | Upper | 59 | 141 | 105 | 65 | 205 | 574 |
| | | Graduate | 24 | 14 | 51 | 126 | 25 | 240 |
| | | Total | 131 | 206 | 156 | 191 | 286 | 970 |
| Rodgers,Richard K | Affiliate | Upper | | | | | 1 | 1 |
| | | Total | | | | | 1 | 1 |
| | Part-Time Assistant Professor | Upper | | 96 | 95 | | | 191 |
| | | Graduate | | 39 | 36 | | | 75 |
| | | Total | | 135 | 131 | | | 266 |
| | Part-Time Associate Professor | Upper | | | | 63 | | 63 |
| | | Graduate | | | | 51 | | 51 |
| | | Total | | | | 114 | | 114 |
| | Part-Time Lecturer | Upper | 114 | | | | 30 | 144 |
| | | Graduate | 36 | | | | 9 | 45 |
| Total | | 150 | | | | 39 | 189 | |
| Romm,Stuart M | Senior Lecturer | Lower | | | | | 54 | 54 |
| | | Upper | 213 | 129 | 240 | 164 | 216 | 961 |
| | | Graduate | 60 | 108 | | | 78 | 246 |
| | | Total | 273 | 237 | 240 | 164 | 348 | 1,261 |
| Roper,Kathy O | Assistant Professor | Graduate | 48 | | | | | 48 |
| | | Total | 48 | | | | | 48 |
| | Associate Professor | Graduate | | 65 | 1 | 4 | 44 | 114 |
| | | Total | | 65 | 1 | 4 | 44 | 114 |
| Ross,Catherine L | Director Academic | Graduate | 6 | 6 | 11 | 6 | 26 | 55 |
| | | Total | 6 | 6 | 11 | 6 | 26 | 55 |
| Rudolph,Charles F | Associate Professor | Lower | 282 | | 165 | 120 | 87 | 654 |
| | | Upper | 242 | 230 | 295 | 167 | 218 | 1,152 |
| | | Graduate | 21 | 1 | 3 | 81 | 76 | 182 |
| | | Total | 545 | 231 | 463 | 368 | 381 | 1,988 |
| Russell,William H | Part-Time Assistant Professor | Upper | 312 | 279 | 315 | | | 906 |
| | | Total | 312 | 279 | 315 | | | 906 |
| Ryherd,Erica Eileen | Assistant Professor | Graduate | | | | 6 | | 6 |
| | | Total | | | | 6 | | 6 |
| Sadri,Saeid Lonbani | Affiliate | Graduate | | | | 1 | 12 | 13 |
| | | Total | | | | 1 | 12 | 13 |
| | Associate Professor | Graduate | | 15 | 21 | | | 36 |
| | | Total | | 15 | 21 | | | 36 |
| Sanford,Jon Allen | Associate Professor | Upper | | | | 18 | 3 | 21 |
| | | Graduate | | | | 33 | 12 | 45 |
| | | Total | | | | 51 | 15 | 66 |
| | Dir-Research | Upper | | 9 | 21 | | | 30 |
| | | Graduate | | 6 | 24 | | | 30 |
| | | Total | | 15 | 45 | | | 60 |
| Schaar,Raja Yasmin | Part-Time Lecturer | Lower | | | | 63 | 63 | |

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| Name | Jobtitle | Level | 2008 | 2009 | 2010 | 2011 | 2012 | Total | |
|---------------------------|------------------------------|-----------------------------|----------|------|------|------|------|-------|-----|
| | | Total | | | | | 63 | 63 | |
| Scoppa,Martin Dennis | Graduate Research Assistant | Lower | | | 26 | | | 26 | |
| | | Total | | | 26 | | | 26 | |
| | | Graduate Teaching Assistant | Lower | | | | 18 | 65 | 82 |
| Setiawan,Arief Budi | Graduate Teaching Assistant | Total | | | | 18 | 65 | 82 | |
| | | Lower | 76 | 51 | | | | 127 | |
| | | Upper | | 6 | | | | 6 | |
| Shankwiler,Kevin D | Visiting Assistant Professor | Graduate | | 33 | 18 | | | 51 | |
| | | Total | 76 | 90 | 18 | | | 184 | |
| | | Graduate | 6 | | | | | 6 | |
| Sharp,Leslie Noel | Academic Professional | Upper | 42 | 27 | 42 | 60 | 72 | 243 | |
| | | Graduate | 3 | 21 | 27 | 34 | 27 | 112 | |
| | | Total | 45 | 48 | 69 | 94 | 99 | 355 | |
| Shaw,Jonathan M | Research Scientist II | Upper | 6 | 9 | 3 | 6 | | 24 | |
| | | Graduate | 24 | 12 | 9 | 18 | 3 | 66 | |
| | | Total | 30 | 21 | 12 | 24 | 3 | 90 | |
| Sherman,Jihan Stanford | Assoc Academic Professional | Lower | | | | | 48 | 48 | |
| | | Total | | | | | 48 | 48 | |
| | | Part-Time Lecturer | Lower | | | | | 76 | 76 |
| Soh,Sarah Sungah | Part-Time Instructor | Total | | | | | 76 | 76 | |
| | | Lower | | | | | 56 | 56 | |
| | | Total | | | | | 56 | 56 | |
| Spinello,Michael | Part-Time Lecturer | Lower | 52 | | | | | 52 | |
| | | Total | 52 | | | | | 52 | |
| | | Lower | | | | | 65 | 65 | |
| Spoerke,Jonathan Donald | Graduate Teaching Assistant | Total | | | | 65 | | 65 | |
| | | Associate Professor | Graduate | 59 | 63 | 12 | | | 134 |
| | | Total | 59 | 63 | 12 | | | 134 | |
| Sprigle,Stephen H | Professor | Graduate | | | 50 | 5 | 18 | 73 | |
| | | Total | | | 50 | 5 | 18 | 73 | |
| | | Professor | Upper | 3 | 43 | | 37 | 95 | 177 |
| Spuijbroek,Lars Mathias M | Professor | Graduate | 164 | 77 | 102 | 97 | 126 | 565 | |
| | | Total | 167 | 119 | 102 | 134 | 220 | 741 | |
| | | Upper | | | | 6 | 3 | 9 | |
| Stafford,Barbara Maria | Visiting Professor | Graduate | | | | 12 | 12 | 24 | |
| | | Total | | | | 18 | 15 | 33 | |
| | | Lower | | 82 | 76 | 58 | | 216 | |
| Stanford,Jihan P | Part-Time Lecturer | Total | | 82 | 76 | 58 | | 216 | |
| | | Lower | | | | | 62 | 62 | |
| | | Total | | | | | 62 | 62 | |
| Stewart,Ann H | Part-Time Lecturer | Lower | | | | | 62 | 62 | |
| | | Professor | Graduate | | 12 | 36 | | 48 | |
| | | Total | | 12 | 36 | | 48 | | |
| Stiftel,Bruce S | School Chair-Academic | Graduate | | | | | 15 | 15 | |
| | | Total | | | | | 15 | 15 | |
| | | Associate Professor | Graduate | | 4 | 3 | 8 | 27 | 42 |
| Stone,Brian | Associate Professor | Total | | 4 | 3 | 8 | 27 | 42 | |
| | | Research Scientist I | Upper | | 3 | | | 3 | |
| | | Graduate | | 18 | | | | 18 | |
| Swarts,Matthew | Research Scientist I | Total | | 21 | | | | 21 | |
| | | Lower | | | 3 | | | 3 | |
| | | Upper | | | 12 | 9 | 3 | 24 | |
| Swarts,Matthew E. | Research Scientist I | Graduate | | | 20 | 42 | 36 | 98 | |
| | | Total | | | 35 | 51 | 39 | 125 | |
| | | Part-Time Lecturer | Lower | 28 | | | | | 28 |

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| Name | Jobtitle | Level | 2008 | 2009 | 2010 | 2011 | 2012 | Total |
|-------------------------------|-----------------------------|----------|------|------|------|------|------|-------|
| | | Upper | 60 | 100 | | | | 160 |
| | | Total | 88 | 100 | | | | 188 |
| Thomas-Mobley,Linda M | Associate Professor | Graduate | | | 15 | | | 15 |
| | | Total | | | 15 | | | 15 |
| Todd,Robert Lynch | Senior Research Scientist | Graduate | | | | | 3 | 3 |
| | | Total | | | | | 3 | 3 |
| Trefry IV,John Harold | Part-Time Lecturer | Upper | 66 | | | | | 66 |
| | | Total | 66 | | | | | 66 |
| Treschitta,Domenick J | Adjunct Lecturer | Upper | | 9 | | | | 9 |
| | | Graduate | | 11 | | | | 11 |
| | | Total | | 20 | | | | 20 |
| | Graduate Research Assistant | Upper | 36 | | | | | 36 |
| | | Graduate | 15 | | | | | 15 |
| | | Total | 51 | | | | | 51 |
| | Part-Time Lecturer | Upper | | | 21 | | | 21 |
| | | Graduate | | | 6 | | | 6 |
| | | Total | | | 27 | | | 27 |
| Trimble,Dawn Miranda | Part-Time Lecturer | Lower | | 169 | | | | 169 |
| | | Upper | | | 38 | | | 38 |
| | | Graduate | | | 3 | | | 3 |
| | | Total | | 169 | 41 | | | 210 |
| Trubiano,Franca | Assistant Professor | Lower | | 252 | | | | 252 |
| | | Upper | 168 | 135 | 84 | | | 386 |
| | | Graduate | 93 | 101 | 10 | | | 205 |
| | | Total | 261 | 488 | 95 | | | 843 |
| Tyrone,Leslie | Part-Time Lecturer | Graduate | 60 | 66 | | | | 126 |
| | | Total | 60 | 66 | | | | 126 |
| Ullrich,Theodore | Graduate Teaching Assistant | Lower | 78 | 48 | | | | 126 |
| | | Total | 78 | 48 | | | | 126 |
| Valero,Anja | Lecturer | Upper | 138 | 162 | 120 | 86 | | 506 |
| | | Total | 138 | 162 | 120 | 86 | | 506 |
| Valero,Damien | Part-Time Lecturer | Upper | 69 | 87 | 57 | 39 | | 252 |
| | | Total | 69 | 87 | 57 | 39 | | 252 |
| Ventulett III,Thomas Walker | Visiting Professor | Upper | 39 | | | | | 39 |
| | | Total | 39 | | | | | 39 |
| Vialard,Alice Marie Francoise | Graduate Teaching Assistant | Lower | 80 | 80 | 143 | 100 | 54 | 457 |
| | | Total | 80 | 80 | 143 | 100 | 54 | 457 |
| Watkins,Michael Dean | Graduate Teaching Assistant | Upper | 21 | | | | | 21 |
| | | Graduate | 21 | | | | | 21 |
| | | Total | 42 | | | | | 42 |
| | Part-Time Lecturer | Upper | | 39 | | | | 39 |
| | | Graduate | | 36 | | | | 36 |
| | | Total | | 75 | | | | 75 |
| Williams,Jordan Webster | Part-Time Lecturer | Upper | | | | | 10 | 10 |
| | | Graduate | | | | | 15 | 15 |
| | | Total | | | | | 25 | 25 |
| Winegarden,Claudia Rebola | Assistant Professor | Upper | | 18 | | | | 18 |
| | | Graduate | 24 | 18 | | | | 42 |
| | | Total | 24 | 36 | | | | 60 |
| Wrona,Xavier | Adjunct Lecturer | Upper | | 73 | 48 | 36 | | 156 |
| | | Total | | 73 | 48 | 36 | | 156 |
| Yang,Donghoon | Graduate Teaching Assistant | Upper | | | | 21 | | 21 |
| | | Graduate | | | | 27 | | 27 |
| | | Total | | | | 48 | | 48 |
| Yang,Jiawen | Assistant Professor | Graduate | | | | | 18 | 18 |

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| Name | Jobtitle | Level | 2008 | 2009 | 2010 | 2011 | 2012 | Total |
|--|-----------------------------|----------|--------|--------|--------|--------|--------|--------|
| | | Total | | | | | 18 | 18 |
| Yang,Perry P J | Associate Professor | Upper | | | | 45 | | 45 |
| | | Graduate | | | 36 | | 60 | 96 |
| | | Total | | | 36 | 45 | 60 | 141 |
| Yocum,David | Part-Time Lecturer | Upper | 65 | | | | 10 | 75 |
| | | Graduate | | | 78 | 30 | 36 | 144 |
| | | Total | 65 | | 78 | 30 | 46 | 219 |
| Zaitsev,Arseni | Graduate Teaching Assistant | Graduate | | 21 | | | | 21 |
| | | Total | | 21 | | | | 21 |
| Zamani,Pegah | Graduate Teaching Assistant | Lower | 48 | 44 | | | | 92 |
| | | Total | 48 | 44 | | | | 92 |
| | Part-Time Lecturer | Lower | | | 76 | | | 76 |
| | | Total | | | 76 | | | 76 |
| Zeagler,Charles C | Part-Time Lecturer | Graduate | | | 3 | | | 3 |
| | | Total | | | 3 | | | 3 |
| Zimring,Craig M | Professor | Upper | 12 | | | 3 | | 15 |
| | | Graduate | 200 | 192 | 190 | 238 | 153 | 972 |
| | | Total | 212 | 192 | 190 | 241 | 153 | 987 |
| Department Total Semester Credit Hours | | | 15,710 | 15,581 | 15,084 | 14,062 | 14,014 | 74,451 |

Table A13. College of Architecture and Related Departments Research Awards Summary Data, FY 2012

| College | Department | Awards | |
|-------------------------|-------------------------------|--------|-------------|
| | | Number | Amount |
| College of Architecture | ARCHITECTURE COLLEGE | 6 | \$718,996 |
| | BUILDING CONSTRUCTION | 4 | \$339,511 |
| | CATEA | 9 | \$2,577,526 |
| | CITY AND REGIONAL PLANNING | 2 | \$56,126 |
| | CTR FOR QUAL GROWTH & REG DEV | 1 | \$79,882 |
| | DEAN OF ARCHITECTURE | 1 | \$17,670 |
| | DIGITAL BUILDING | 14 | \$317,250 |
| | GIS | 5 | \$302,483 |
| | MUSIC TECHNOLOGY | 1 | \$30,000 |
| | SCHOOL OF ARCHITECTURE | 8 | \$654,156 |
| | SCHOOL OF MUSIC | 1 | \$5,000 |
| | Total | 52 | \$5,098,602 |

Table A14. Institutional Research Awards Summary Data: Fiscal Years 2008-2012

| Unit | Fiscal Year 2008 Awards | | Fiscal Year 2009 Awards | | Fiscal Year 2010 Awards | | Fiscal Year 2011 Awards | | Fiscal Year 2012 Awards | |
|------------------|-------------------------|---------------|-------------------------|---------------|-------------------------|---------------|-------------------------|---------------|-------------------------|---------------|
| | Number | Amount | Number | Amount | Number | Amount | Number | Amount | Number | Amount |
| Architecture | 44 | \$4,808,288 | 46 | \$5,413,857 | 48 | \$6,297,590 | 65 | \$9,777,362 | 52 | \$5,098,602 |
| Engineering | 1,065 | \$146,523,524 | 1,141 | \$155,950,937 | 1,292 | \$211,510,212 | 1,101 | \$182,570,053 | 1,238 | \$189,068,496 |
| Computing | 131 | \$13,574,190 | 132 | \$19,883,693 | 159 | \$32,534,581 | 150 | \$26,545,802 | 151 | \$27,992,096 |
| Ivan Allen | 59 | \$6,009,821 | 52 | \$6,035,045 | 45 | \$7,738,028 | 50 | \$4,850,535 | 40 | \$5,769,286 |
| Management | 6 | \$1,050,389 | 10 | \$1,305,184 | 8 | \$1,357,837 | 7 | \$856,865 | 6 | \$1,770,880 |
| Sciences | 309 | \$43,741,494 | 310 | \$44,114,320 | 377 | \$61,289,175 | 311 | \$59,884,277 | 404 | \$62,388,630 |
| Research Centers | 297 | \$43,589,120 | 274 | \$44,584,017 | 259 | \$42,362,931 | 294 | \$39,804,359 | 336 | \$41,899,390 |
| GTRI | 675 | \$185,900,045 | 611 | \$205,909,357 | 556 | \$194,727,862 | 603 | \$185,769,376 | 748 | \$306,236,727 |
| Institute | 2,586 | \$445,196,870 | 2,576 | \$483,196,410 | 2,744 | \$557,818,216 | 2,581 | \$510,058,629 | 2,975 | \$640,224,106 |

Source: Office of Sponsored Programs

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Table A15. Retention Rates by College

| Freshman Cohort | | | Retention Rates (to next Fall term) | | | | | |
|-----------------|------------------|-------|-------------------------------------|--------|--------|--------|--------|--------|
| Year | Entering College | n | 2nd Yr | 3rd Yr | 4th Yr | 5th Yr | 6th Yr | 7th Yr |
| 2002 | Total | 2277 | 89.6% | 83.9% | 81.8% | 80.4% | 79.7% | 79.9% |
| | Architecture | 111 | 87.4% | 83.8% | 82.9% | 81.1% | 82.0% | 81.1% |
| | Computing | 253 | 91.3% | 85.7% | 82.9% | 79.0% | 78.2% | 78.2% |
| | Engineering | 1426 | 90.0% | 83.8% | 82.2% | 81.1% | 80.3% | 80.7% |
| | Ivan Allen | 144 | 86.1% | 81.3% | 78.5% | 79.9% | 78.5% | 79.9% |
| | Management | 124 | 87.1% | 82.3% | 77.4% | 75.0% | 75.0% | 75.8% |
| | Registrar | 10 | 100.0% | 100.0% | 90.0% | 90.0% | 90.0% | 90.0% |
| | Sciences | 209 | 90.0% | 84.7% | 81.8% | 80.4% | 79.4% | 78.0% |
| 2003 | Total | 2225 | 92.1% | 85.9% | 83.9% | 82.4% | 81.7% | 81.9% |
| | Architecture | 124 | 93.5% | 90.3% | 87.1% | 87.9% | 87.9% | 87.1% |
| | Computing | 193 | 94.8% | 87.0% | 82.4% | 77.2% | 78.8% | 78.8% |
| | Engineering | 1439 | 91.7% | 85.1% | 83.9% | 82.7% | 81.7% | 81.7% |
| | Ivan Allen | 112 | 91.1% | 87.5% | 83.9% | 84.8% | 85.7% | 85.7% |
| | Management | 123 | 93.5% | 90.2% | 85.4% | 82.9% | 78.9% | 80.5% |
| | Registrar | 7 | 85.7% | 85.7% | 85.7% | 85.7% | 85.7% | 85.7% |
| | Sciences | 227 | 92.0% | 84.5% | 81.9% | 80.5% | 80.5% | 81.4% |
| 2004 | Total | 2575 | *91.8% | *86.5% | *84.4% | *82.5% | 82.0% | *82.7% |
| | Architecture | 178 | 88.8% | 80.3% | 78.1% | 75.8% | 76.4% | 77.0% |
| | Computing | 185 | 87.5% | 81.5% | 79.9% | 78.8% | 78.3% | 78.8% |
| | Engineering | 1658 | 91.8% | 86.5% | 84.4% | 82.8% | 82.0% | 82.7% |
| | Ivan Allen | 121 | 92.6% | 89.3% | 85.1% | 81.0% | 81.0% | 81.8% |
| | Management | 157 | 94.3% | 93.0% | 89.8% | 86.0% | 87.3% | 89.2% |
| | Registrar | | | | | | | |
| | Sciences | 276 | 95.3% | 88.7% | 88.3% | 86.1% | 85.4% | 85.8% |
| 2005 | Total | 2419 | 92.5% | 86.9% | 84.1% | 82.4% | 81.7% | 81.9% |
| | Architecture | 145 | 89.0% | 88.3% | 84.8% | 84.1% | 80.7% | 82.1% |
| | Computing | 158 | 90.5% | 83.5% | 82.3% | 77.8% | 77.2% | 75.9% |
| | Engineering | 1524 | 92.8% | 87.1% | 84.2% | 82.4% | 82.2% | 82.4% |
| | Ivan Allen | 173 | 97.1% | 88.4% | 87.3% | 85.0% | 85.5% | 86.1% |
| | Management | 163 | 91.4% | 87.7% | 80.9% | 84.6% | 80.9% | 80.2% |
| | Registrar | | | | | | | |
| | Sciences | 256 | 91.8% | 85.5% | 84.0% | 80.9% | 80.1% | 81.3% |
| 2006 | Total | 2838 | 92.4% | 86.6% | 84.2% | 82.8% | 81.6% | 81.9% |
| | Architecture | 174 | 94.8% | 88.5% | 88.5% | 86.2% | 85.1% | 85.1% |
| | Computing | 231 | 92.6% | 84.4% | 83.1% | 79.2% | 78.4% | 79.2% |
| | Engineering | 1760 | 93.0% | 87.2% | 84.5% | 83.6% | 82.1% | 82.3% |
| | Ivan Allen | 184 | 91.8% | 86.4% | 85.9% | 84.8% | 82.1% | 82.6% |
| | Management | 171 | 90.6% | 85.4% | 82.5% | 80.7% | 82.5% | 83.0% |
| | Registrar | | | | | | | |
| | Sciences | 318 | 88.7% | 84.3% | 80.8% | 79.6% | 78.6% | 78.6% |
| 2007 | Total | 2624 | 93.2% | *88.3% | 87.0% | *84.5% | *84.5% | |
| | Architecture | 144 | 89.6% | 86.8% | 86.1% | 85.4% | 84.0% | |
| | Computing | 164 | 93.9% | 89.6% | 87.8% | 81.1% | 81.7% | |
| | Engineering | 1660 | 93.4% | 88.5% | 87.7% | 85.6% | 85.0% | |
| | Ivan Allen | 169 | 92.9% | 82.2% | 79.9% | 76.9% | 76.9% | |
| | Management | 198 | 97.5% | 95.5% | 89.9% | 87.9% | 89.4% | |
| | Registrar | | | | | | | |
| | Sciences | 289 | 91.3% | 86.5% | 85.1% | 82.4% | 85.1% | |
| 2008 | Total | 2633 | 93.0% | 87.8% | 85.9% | 84.8% | | |
| | Architecture | 128 | 93.0% | 86.7% | 86.7% | 84.4% | | |
| | Computing | 172 | 93.6% | 85.5% | 84.3% | 82.6% | | |
| | Engineering | 1686 | 93.2% | 88.6% | 86.7% | 85.9% | | |
| | Ivan Allen | 199 | 93.5% | 85.4% | 83.9% | 83.4% | | |
| | Management | 170 | 92.9% | 87.1% | 85.3% | 83.5% | | |
| | Registrar | | | | | | | |
| | Sciences | 278 | 90.6% | 86.7% | 84.2% | 82.0% | | |
| 2009 | Total | 2655 | 94.2% | 89.6% | 88.2% | | | |
| | Architecture | 122 | 92.6% | 86.9% | 86.1% | | | |
| | Computing | 163 | 94.5% | 86.5% | 87.7% | | | |
| | Engineering | 1760 | 94.4% | 89.8% | 88.8% | | | |
| | Ivan Allen | 157 | 91.7% | 88.5% | 87.9% | | | |
| | Management | 166 | 96.4% | 93.4% | 91.0% | | | |
| | Registrar | | | | | | | |
| | Sciences | 287 | 93.7% | 89.9% | 84.3% | | | |
| 2010 | Total | 2706 | 94.9% | 91.5% | | | | |
| | Architecture | 91 | 95.6% | 92.3% | | | | |
| | Computing | 172 | 94.8% | 91.3% | | | | |
| | Engineering | 1799 | 95.1% | 91.7% | | | | |
| | Ivan Allen | 150 | 96.0% | 90.0% | | | | |
| | Management | 178 | 93.8% | 92.1% | | | | |
| | Registrar | | | | | | | |
| | Sciences | 316 | 93.4% | 90.5% | | | | |
| 2011 | Total | 2692 | 94.8% | | | | | |
| | Architecture | 92 | 93.5% | | | | | |
| | Computing | 172 | 94.8% | | | | | |
| | Engineering | 1832 | 95.0% | | | | | |
| | Ivan Allen | 127 | 94.5% | | | | | |
| | Management | 170 | 97.1% | | | | | |
| Registrar | | | | | | | | |
| Sciences | 299 | 93.0% | | | | | | |

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Table A16. College of Architecture Retention Rates

| Freshman Cohort | | | Retention Rates (to next Fall term) | | | | | |
|-----------------|-------------------------------|-----|-------------------------------------|--------|--------|--------|--------|--------|
| Year | College | n | 2nd Yr | 3rd Yr | 4th Yr | 5th Yr | 6th Yr | 7th Yr |
| 1999 | College of Architecture Total | 108 | 90.7% | 81.3% | 83.2% | 82.2% | 80.4% | 80.4% |
| | ARCH | 69 | 91.2% | 79.4% | 82.4% | 80.9% | 79.4% | 79.4% |
| | BC | 10 | 90.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| | ID | 28 | 89.3% | 85.7% | 85.7% | 85.7% | 82.1% | 82.1% |
| | UAC | 1 | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| 2000 | College of Architecture Total | 117 | 92.2% | 90.5% | 87.9% | 83.6% | 84.5% | 84.5% |
| | ARCH | 77 | 90.8% | 89.5% | 84.2% | 80.3% | 78.9% | 78.9% |
| | BC | 10 | 100.0% | 90.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| | ID | 30 | 93.3% | 93.3% | 93.3% | 86.7% | 93.3% | 93.3% |
| 2001 | College of Architecture Total | 96 | 94.7% | 93.7% | 90.5% | 89.5% | 89.5% | 87.4% |
| | ARCH | 68 | 92.5% | 94.0% | 88.1% | 88.1% | 88.1% | 86.6% |
| | BC | 12 | 100.0% | 91.7% | 100.0% | 91.7% | 91.7% | 91.7% |
| | ID | 16 | 100.0% | 93.8% | 93.8% | 93.8% | 93.8% | 87.5% |
| 2002 | College of Architecture Total | 111 | 87.4% | 83.8% | 82.9% | 81.1% | 82.0% | 81.1% |
| | ARCH | 81 | 87.7% | 82.7% | 85.2% | 81.5% | 82.7% | 81.5% |
| | BC | 7 | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| | ID | 23 | 82.6% | 82.6% | 69.6% | 73.9% | 73.9% | 73.9% |
| 2003 | College of Architecture Total | 124 | 93.5% | 90.3% | 87.1% | 87.9% | 87.9% | 87.1% |
| | ARCH | 91 | 95.6% | 92.3% | 86.8% | 86.8% | 86.8% | 85.7% |
| | BC | 11 | 81.8% | 81.8% | 90.9% | 90.9% | 90.9% | 90.9% |
| | ID | 22 | 90.9% | 86.4% | 86.4% | 90.9% | 90.9% | 90.9% |
| 2004 | College of Architecture Total | 178 | 88.8% | 80.3% | 78.1% | 75.8% | 76.4% | 77.0% |
| | ARCH | 140 | 88.6% | 80.0% | 78.6% | 75.7% | 76.4% | 77.1% |
| | BC | 13 | 92.3% | 84.6% | 84.6% | 84.6% | 84.6% | 84.6% |
| | ID | 25 | 88.0% | 80.0% | 72.0% | 72.0% | 72.0% | 72.0% |
| 2005 | College of Architecture Total | 145 | 89.0% | 88.3% | 84.8% | 84.1% | 80.7% | 82.1% |
| | ARCH | 107 | 87.9% | 86.9% | 83.2% | 82.2% | 78.5% | 80.4% |
| | BC | 15 | 86.7% | 86.7% | 86.7% | 80.0% | 80.0% | 80.0% |
| | ID | 23 | 95.7% | 95.7% | 91.3% | 95.7% | 91.3% | 91.3% |
| 2006 | College of Architecture Total | 174 | 94.8% | 88.5% | 88.5% | 86.2% | 85.1% | 85.1% |
| | ARCH | 132 | 93.9% | 86.4% | 85.6% | 82.6% | 81.1% | 81.1% |
| | BC | 13 | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| | ID | 29 | 96.6% | 93.1% | 96.6% | 96.6% | 96.6% | 96.6% |
| 2007 | College of Architecture Total | 144 | 89.6% | 86.8% | 86.1% | 85.4% | 84.0% | |
| | ARCH | 101 | 88.1% | 83.2% | 82.2% | 84.2% | 84.2% | |
| | BC | 12 | 91.7% | 100.0% | 100.0% | 83.3% | 75.0% | |
| | ID | 31 | 93.5% | 93.5% | 93.5% | 90.3% | 87.1% | |
| 2008 | College of Architecture Total | 128 | 93.0% | 86.7% | 86.7% | 84.4% | | |
| | ARCH | 93 | 91.4% | 82.8% | 82.8% | 80.6% | | |
| | BC | 10 | 100.0% | 100.0% | 100.0% | 90.0% | | |
| | ID | 25 | 96.0% | 96.0% | 96.0% | 96.0% | | |
| 2009 | College of Architecture Total | 122 | 92.6% | 86.9% | 86.1% | | | |
| | ARCH | 95 | 91.6% | 86.3% | 86.3% | | | |
| | BC | 2 | 100.0% | 50.0% | 50.0% | | | |
| | ID | 25 | 96.0% | 92.0% | 88.0% | | | |
| 2010 | College of Architecture Total | 91 | 95.6% | 92.3% | | | | |
| | ARCH | 69 | 95.7% | 91.3% | | | | |
| | BC | 3 | 100.0% | 100.0% | | | | |
| | ID | 19 | 94.7% | 94.7% | | | | |
| 2011 | College of Architecture Total | 92 | 93.5% | | | | | |
| | ARCH | 70 | 92.9% | | | | | |
| | ID | 22 | 95.5% | | | | | |

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Table A17. Graduation Rates by College

| Year | Freshman Cohort Entering College | n | Graduation Rates (through Summer term) | | |
|--------------|-------------------------------------|-------|--|--------|--------|
| | | | 4 Yrs | 5 Yrs | 6 Yrs |
| 2002 | Total | 2277 | *31.2% | *69.7% | 77.2% |
| | Architecture | 111 | 42.3% | 77.5% | 79.3% |
| | Computing | 253 | 25.3% | 60.5% | 75.1% |
| | Engineering | 1426 | 27.8% | 70.0% | 78.1% |
| | Ivan Allen | 144 | 45.1% | 73.6% | 77.1% |
| | Management | 124 | 36.3% | 67.7% | 72.6% |
| | Registrar | 10 | 50.0% | 80.0% | 80.0% |
| | Sciences | 209 | 42.1% | 72.7% | 75.1% |
| 2003 | Total | 2225 | *30.7% | *70.9% | 79.1% |
| | Architecture | 124 | 41.1% | 81.5% | 83.1% |
| | Computing | 193 | 28.5% | 65.3% | 75.1% |
| | Engineering | 1439 | 25.6% | 69.8% | 79.6% |
| | Ivan Allen | 112 | 45.5% | 77.7% | 79.5% |
| | Management | 123 | 46.3% | 74.8% | 78.0% |
| | Registrar | 7 | 57.1% | 71.4% | 85.7% |
| | Sciences | 227 | 42.3% | 71.8% | 78.0% |
| 2004 | Total | 2575 | *32.8% | *72.2% | *79.7% |
| | Architecture | 178 | 34.3% | 71.3% | 74.7% |
| | Computing | 185 | 29.7% | 66.5% | 73.0% |
| | Engineering | 1658 | 28.5% | 70.6% | 79.9% |
| | Ivan Allen | 121 | 39.7% | 76.0% | 81.0% |
| | Management | 157 | 43.3% | 82.8% | 84.7% |
| | Sciences | 276 | 51.1% | 77.9% | 82.2% |
| | 2005 | Total | 2419 | *31.3% | 72.3% |
| Architecture | | 145 | 48.3% | 75.2% | 78.6% |
| Computing | | 158 | 22.8% | 63.3% | 72.2% |
| Engineering | | 1524 | 27.0% | 72.1% | 79.1% |
| Ivan Allen | | 173 | 44.5% | 76.3% | 83.8% |
| Management | | 163 | 30.7% | 74.8% | 76.7% |
| Sciences | | 256 | 43.8% | 72.7% | 78.9% |
| 2006 | | Total | 2838 | *33.6% | 72.3% |
| | Architecture | 174 | 38.5% | 77.6% | 83.3% |
| | Computing | 231 | 30.7% | 69.7% | 76.2% |
| | Engineering | 1760 | 28.9% | 71.3% | 79.6% |
| | Ivan Allen | 184 | 47.8% | 76.6% | 81.0% |
| | Management | 171 | 45.0% | 77.8% | 81.9% |
| | Sciences | 318 | 44.3% | 71.4% | 75.5% |
| | 2007 | Total | 2624 | *40.9% | 76.3% |
| Architecture | | 144 | 47.2% | 76.4% | |
| Computing | | 164 | 46.3% | 74.4% | |
| Engineering | | 1659 | 36.6% | 75.9% | |
| Ivan Allen | | 169 | 50.3% | 72.8% | |
| Management | | 198 | 50.0% | 82.3% | |
| Sciences | | 289 | 47.1% | 77.5% | |
| 2008 | | Total | 2633 | *37.0% | |
| | Architecture | 128 | 51.6% | | |
| | Computing | 172 | 42.4% | | |
| | Engineering | 1686 | 32.2% | | |
| | Ivan Allen | 199 | 47.2% | | |
| | Sciences | 278 | 47.1% | | |

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Table A18. College of Architecture Graduation Rates

| Year | Freshman Cohort Entering College | | Graduation Rates (through Summer term) | | |
|------|-------------------------------------|-----|--|--------|--------|
| | | n | 4 Yrs | 5 Yrs | 6 Yrs |
| 1999 | College of Architecture Total | 108 | 45.4% | 73.1% | 77.8% |
| | ARCH | 69 | 47.8% | 75.4% | 76.8% |
| | BC | 10 | 30.0% | 60.0% | 80.0% |
| | ID | 28 | 46.4% | 71.4% | 78.6% |
| | UAC | 1 | 0.0% | 100.0% | 100.0% |
| 2000 | College of Architecture Total | 117 | 44.4% | 75.2% | 82.1% |
| | ARCH | 77 | 39.0% | 68.8% | 75.3% |
| | BC | 10 | 70.0% | 90.0% | 100.0% |
| | ID | 30 | 50.0% | 86.7% | 93.3% |
| 2001 | College of Architecture Total | 96 | 46.9% | 84.4% | 85.4% |
| | ARCH | 68 | 47.1% | 83.8% | 83.8% |
| | BC | 12 | 25.0% | 83.3% | 91.7% |
| | ID | 16 | 62.5% | 87.5% | 87.5% |
| 2002 | College of Architecture Total | 111 | 42.3% | 77.5% | 79.3% |
| | ARCH | 81 | 43.2% | 77.8% | 80.2% |
| | BC | 7 | 28.6% | 100.0% | 100.0% |
| | ID | 23 | 43.5% | 69.6% | 69.6% |
| 2003 | College of Architecture Total | 124 | 41.1% | 81.5% | 83.1% |
| | ARCH | 91 | 44.0% | 80.2% | 81.3% |
| | BC | 11 | 27.3% | 90.9% | 90.9% |
| | ID | 22 | 36.4% | 81.8% | 86.4% |
| 2004 | College of Architecture Total | 178 | 34.3% | 71.3% | 74.7% |
| | ARCH | 140 | 33.6% | 71.4% | 74.3% |
| | BC | 13 | 30.8% | 76.9% | 84.6% |
| | ID | 25 | 40.0% | 68.0% | 72.0% |
| 2005 | College of Architecture Total | 145 | 48.2% | 75.1% | 78.6% |
| | ARCH | 107 | 45.8% | 72.0% | 75.7% |
| | BC | 15 | 20.0% | 80.0% | 80.0% |
| | ID | 23 | 78.3% | 87.0% | 91.3% |
| 2006 | College of Architecture Total | 174 | 38.5% | 77.6% | 83.3% |
| | ARCH | 132 | 37.1% | 72.7% | 79.5% |
| | BC | 13 | 46.2% | 100.0% | 100.0% |
| | ID | 29 | 41.4% | 89.7% | 93.1% |
| 2007 | College of Architecture Total | 144 | 47.2% | 76.4% | |
| | ARCH | 101 | 48.5% | 77.2% | |
| | BC | 12 | 41.7% | 66.7% | |
| | ID | 31 | 45.2% | 77.4% | |
| 2008 | College of Architecture Total | 128 | 51.6% | | |
| | ARCH | 93 | 48.4% | | |
| | BC | 10 | 30.0% | | |
| | ID | 25 | 72.0% | | |