The University Of Arizona
School of Architecture
college of architecture + planning + landscape architecture

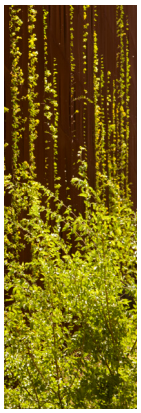
Architecture Program Report for Initial Accreditation: APR-IA

Professional Master of Architecture

Submitted to the National Architectural Accrediting Board April 2013







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GLOSSARY

ABOR ..... Arizona Board of Regents

ACSA ..... Association of Collegiate Schools of Architecture

AIA ..... American Institute of Architects

BSSBE ..... Bachelor of Science in Sustainable Built Environments

CAPLA ..... The College of Architecture, Planning +Landscape Architecture

DDBC ..... Drachman Design-Build Coalition

HED ..... House Energy Doctor

NAAB ..... National Architectural Accrediting Board, Inc.

SLAP ..... School of Landscape Architecture and Planning

SoA ..... School of Architecture

tenure / track ..... faculty who are either tenured or on tenure-track

UA ..... University of Arizona

UAD ..... University of Arizona, Downtown

UHAP ..... University Handbook for Appointed Personnel

http://uhap.arizona.edu/

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Institutional Support and Commitment to Continuous Improvement

1-1 | Identity and Self Assessment

1-1.1 HISTORY AND MISSION

1-1.1.1 the University

Founded in 1885 by an act of the thirteenth Territorial Legislature, the University was created with an appropriation of $25,000 but no land (thus setting a precedent of legislative support that has followed the institution to this day). The first building was erected in 1891 and provided classrooms and living quarters for thirty-two students and six faculty members. That original building and the area immediately to the west are listed in the National Register of Historic Places and have become the heart of the campus. Old Main is being renovated in 2013-14 by a former faculty member of the School into the President's and Admissions offices.

The University of Arizona is *the* Land Grant University for the State. The first Baccalaureate degrees were conferred in 1895, the first Masters in 1903, and the first Doctorates in 1922. In 1915, the University reorganized into three Colleges; additional colleges followed regularly up to 2005. The College of Architecture was created in 1964. The University now offers 119 undergraduate, 127 master's, 92 doctoral, 4 specialist, and 3 first-professional degree programs through 16 Colleges and 19 Schools. In AY 2010-2011, 6195 Baccalaureate, 1569 Masters, 445 Ph.D.s, and 368 first-professional degrees were awarded.

The University of Arizona is one of the top 25 research universities in the nation (12th among public universities; 24th among all institutions in research and development funding: $565,292,000 in FY2009).[1] It is one of sixty-two institutions recognized by the Association of American Universities.[2]

1 Center for Measuring University Performance, "The Top American Research Universities, 2011 Annual Report," http://mup.asu.edu/research2011.pdf
2 Association of American Universities, http://www.aau.edu/about/default.aspx?id=5474&terms=university+of+arizona

Enrollment in Fall 2012 set a record at 40, 223 (approximately 75% undergraduate); students from every state and 111 foreign countries attend. The University currently employs 12,053 faculty and staff members.[3]

The University is comprised of the Tucson campus, grown from the original 40 acres of the 1890's to 387 acres and 184 buildings, including the Arizona Health Sciences Center with the University Medical Center and University Physicians. It reaches people throughout the state via the Science and Technology Park; the Cooperative Extension Service; the Phoenix campuses, including a new medical school (under construction); and UA South, a branch campus in Sierra Vista.

1-1.1.2 The College

As a leader in sustainable design, planning, and management for arid regions, The College of Architecture, Planning, and Landscape Architecture (CAPLA) helps advance the University's devotion to environmental sustainability, entrepreneurialism, and health. As a professional college, its Core Mission is the training of architects, landscape architects, and urban planners to work effectively in the severe local conditions and to transport this knowledge to less extreme places. As a campus leader in community engagement, CAPLA advances the University's historic land grant mission through design and planning assistance to diverse communities throughout the state. CAPLA is the smallest college at the University of Arizona; the School is the largest unit in the College.

Strategic Vision: CAPLA is developing a new model of education for next-generation design professionals and scholars, teaching sustainability and built environment research. Our alumni will become leaders in sustainable design and planning by addressing major challenges facing humankind and the biosphere, including energy and water conservation, urban infrastructure, health care, and the preservation of cultural heritage and natural ecosystems. Through a multi-college center in downtown Tucson (UAD), we offer a twenty-first century, urban counterpart to the UA's traditional agricultural experiment station, embracing the region as a laboratory for urban sustainability.

Core Values + Principles: Our college is at the crossroads of the design professions. We serve society and search for new knowledge through teaching, scholarship, and public service. CAPLA embodies an ethic of self-reliance, integrity, stewardship, and community engagement. We strive:

→To Integrate: establishing strategic partnerships among disciplines, communities, professions, and institutions.

→To Experiment: fostering an environment of discovery through

3 Arizona Board of Regents, http://factbook.arizona.edu/2011-12

interdisciplinary laboratories, both natural and controlled.

→To Apply: educating students to be professionals in a global context.

→To Engage: reaching out and interacting beyond the university, thus contributing to the region on which we draw.

→To Inform: communicating our findings through academic, professional, and community venues.

→To Partner: building relationships with alumni and the professions, as well as public and private sectors, including non-governmental organizations.

→To Seek: transforming ourselves, our daily habits of mind and practice, and those of the people around us, in our search for disciplinary excellence.

1-1.1.3 The School of Architecture

The School of Architecture is devoted to professional education with a sensibility honed in the edge conditions of an extreme climate on a major international border. Located in the oldest continuously-inhabited city in the United States, the School combines a culturally rich past with cutting-edge environmental research in its place-based design approach to the arid environment.

Within the College, the School's mission and role are aptly described under Teaching, Research, and Service.

1-1.1.3a Teaching

The School of Architecture, like all accredited architecture schools, has as its primary mandate the education of students for professional careers. Educational standards for accredited architecture schools, set by the National Architectural Accrediting Board, Inc. (NAAB), are performative: schools not only choose how and when to address them, we decide what pedagogical inflections to give the subjects. Consequently, our curricula have these thematic emphases:

→Critical Practice: Relative to other schools in the United States, we claim the terrain of "critical practice," meaning that we take more seriously the job of professional education and, beyond that, the training of young architects who will significantly contribute to the advancement of our discipline. This has become particularly relevant over the past decade, during which the global economic recession coupled with a digital revolution in design and construction has fundamentally changed the way architects work and buildings are delivered. Significant change has been required to keep up with professional developments in the field. Thus, our School values professional culture.

→Extreme Climate Design: Using our own Sonoran Desert setting, we teach students to design to its extreme conditions; then, we teach them to extrapolate these skills to other climates. Although the architectural

academy is aware of the threat that global climate change poses to civilization as we know it, relatively few schools teach both the leading sustainable principles while also stressing simple fundamental strategies, such as passive climate design, downsizing programs, and getting more architecture with fewer materials. Our setting offers the perfect opportunity to focus on radical climate; moreover, climatologists predict that arid climates will cover more of the globe, making our work increasingly relevant. Thus, our School values design that is highly climate responsive.

→Sustainability: Because the construction and operation of the built environment is responsible for 48% of global greenhouse gas emissions, we are vigilant about first instilling an ethical orientation, i.e., the architect's responsibility for transforming the built environment, and then teaching the technical and aesthetic lessons that support those ethics. Technology and strategies for sustainable will change; ethics should not. Thus, our School values professional ethics and sees it as an increasingly important trait in next-generation architects.

→Hands-on Education: Because professionals make, rather than merely think about, the built environment, we have developed a hands-on pedagogy: learning by doing. From our innovate structures curriculum (in which students build-and-break components in order to develop an intuitive sense of building physics) to our design/build studios (in which students build furniture, shelters, and small buildings), our educational environment is analogous to the world of practice and construction. With one of the best Materials Labs is in the country, we are well equipped for this approach. Thus, our School values experiential, as well as intellectual, learning.

→Settlement: Because density has a huge impact on carbon footprint, the design, not just of buildings, but of settlements is a primary concern. Arizona's population will double by 2040; our Sun Corridor, the developing metropolis between Tucson and Phoenix, is the second fastest growing of 11 mega-regions in the nation. Growth-related development of this magnitude, in a fragile desert ecology, will require a new, compact, and more conservation-oriented approach—not traditional sprawl. Thus, our School casts its mission within the needs of our region and values public service.

1-1.1.3b Research

Research as a School is centered around four primary endeavors:

→Energy: The School has a long-standing research program in Design & Energy Conservation. Since the 1970s, we have developed alternative energy and conditioning strategies. The thrust of this effort resides in the MS.Arch—Design & Energy Conservation program, aimed at advancing principles in energy conservation and energy research applicable in

different climatic regions.

→Place + Wellbeing: Founded in 2013, The Institute for Place and Wellbeing is a joint venture between Arizona Center for Integrative Medicine (AzCIM), the College of Medicine, CAPLA, and the Institute of the Environment (IE). Its mission will be to explore and measure the effects of built space and the physical and green environment on human health, emotions, and spirituality.

→Materials Lab: In addition to supporting teaching and outreach work, we are working to develop research activity into fabrication technologies and emerging materials in the Materials Lab.

→The Pedagogy of Practice Education: The School has a growing body of scholarship, funded research, teaching, and community service in design/build projects. Building on a tradition that began in the late 1990s, we now have a portfolio of completed service-learning projects that comprise a number of small buildings and landscape installations.

1-1.1.3c Service + Outreach

Together with the other units in CAPLA, the School of Architecture assumes a substantial outreach effort. Our significant service projects (described in more detail 1-2.1.1h) include:

- House Energy Doctor program
- five DDBC Houses: The Drachman Design-Build Coalition sustainable / affordable houses (2006-).
- Rose Pedestrian Bridge, Rose Elementary School, City of Tucson (2009).
- four Bus Shelter Prototypes, City Of Tucson (2010–2011).
- two Bus Shelters, City Of Marana (2011–2013).
- Arizona Children's Association (AzCA) playground (2011–2013).
- UAD Sustainable City Project (2012–).
- Camp Architecture (2010–).

1-1.2 LEARNING CULTURE AND SOCIAL EQUITY

The School fosters a culture of healthful work practices and social equity.

1-1.2.1 learning culture

We maintain a positive and respectful learning environment that encourages optimism, respect, sharing, engagement, and innovation; we encourage collaboration, cross-disciplinary learning, and shared knowledge; we encourage the practice of architecture, not as a sprint, but a marathon, with iterative learning and time well-managed. Specific examples:

1-1.2.1a Studio Culture

→School Policy on Studio Culture: The students and faculty have crafted and adopted a Studio Culture statement that expresses our commitment

to Intellectual Diversity, Theory and Practice, Collaborative Design, Constructive Criticism, Design Reviews, and Time Management.

→Director's Policy on Studio Culture: In support of the general policy, the Director's policy on studio culture (4.12) makes more specific the implementation of equity, fairness, time management, and healthy practices. Its principal points:

- Studios have a minimum of four graded products per semester, due near the 2nd, 4th, 8th (mid-term), and 16th (final) week of the term. *This insures that students know where they stand at all times and encourages an evenly paced iterative production.*
- Studios collect projects at least 12 hours prior to the start of a review; where multiple sections work on a common project, the collection deadline is the same for all students regardless of presentation schedule. *This insures that students are rested prior to juries and discourages all-nighters; it insures equity between sections.*
- Students are required to attend their peer's presentations; every student is required to have a presentation partner, charged with a) giving time cues and b) taking notes. *This encourages a sense of teamwork and builds collaboration skills.*

implementation: This policy has been distributed to faculty and students, is available on the web, and parts of it have been written into the appropriate syllabi.

1-1.2.1b Technology

Our policy on technology asks students to pay for expendables while the School covers the cost of equipment purchase; all equipment has pay-per-use technology except the laser cutters, and we are working on that. As of 2012-2013, all students in the college pay the same rates and have equal access to all equipment. As of 2011-2012, the computer lab is open to all 24/7.

implementation: This policy was developed with input from the Dean's Student Advisory Council (now, the CAPLA Student Council) and is enacted through use. Graduate students met with the Director and IT staff multiple times from 2011-2013 during implementation.

1-1.2.1c Cross-Disciplinary Collaboration

The School and, in particular the M.Arch program, is aligned and frequently integrated with the School of Landscape Architecture and Planning (SLAP).

→Studio Sequence: Design teaching in the M.Arch begins and develops by working with landscape and climate. Critics from other disciplines are regularly invited; landscape and urban design issues are significant.

- ARC 526: Our Site Planning course is taught by SLAP Assistant Professor

Beth Scott, co-convened with Landscape Architecture students, and integrated with the concurrent studio, ARC 510b (below). It covers climate, vegetation, topography, drainage, and design specifically from the perspective of a landscape architect.

- ARC 510b: The very first fall studio for the pre-professional M.Arch III students begins with a hike in the desert and gives three sequential projects, in three climate zones, ascending Mt. Lemon. SLAP faculty (Oscar Blasquez and Beth Scott) serve as regular guest advisors and critics; advisors from the Mt. Lemon observatory participate.

→History + Theory Stream: The newly hired History + Theory faculty have created a new curriculum that is both disciplinarily integrative and global, rather than Western, in scope.

- ARC 529 / LAR 529 / PLG 529: This new 3-CU course will initiate the History + Theory sequence, will be co-convened, and is required of all graduate students in the College.

→CAPLA Lecture Series: Since 2010-2011, the College has run a cross-disciplinary lecture series. Coordinated by Architecture faculty, the series includes guest speakers from many disciplines who are selected by a committee comprised of students and faculty from the College's three disciplines. We provide AIA continuing education credits to encourage the participation of professionals.

- 2010-2011 Lecture Series CRITCAL HABITAT
  Gary Nabhan | Brad Lancaster | Bill and Athena Steen
  Robert Vint | Jim Gresham
  Ofelia Zapede | David Yetman | Corky Poster
  Luis Ibarra | Teresa Rosano | Paul Weiner
- 2011-2012 Lecture Series EMERGING/ESTABLISHED
  Angela Dye, FASLA, LEED AP | A DYE DESIGN
  Maria Salenger, AIA; Matthew Salenger, RA | coLAB studio, LLC
  Matthew G Trzebiatowski, AIA, LEED AP | blankstudio architecture
  Will Bruder, AIA | will bruder + partners ltd.
  James Richärd, AIA | richärd+bauer
  Joan Hirschman Woodward, FASLA
  Cade Hayes | DUST
  Edward Jones, AIA, Neal Jones, AIA, LEED AP | Jones Studio
- 2012-2013 Lecture Series ARID EXCHANGES
  Mario Campos | Jones and Jones Architects
  Derek Dellekamp | Dellekamp Arquitectos
  Ana Etkin | Universidad Catolica de Cordoba
  Jose Atiaga | Urban Planner, Quito
  Larry Lechner | Delphic Productions

Max Nunez | Architect Max Nunez Arquitectos

These examples are suggestive of the lengths to which the School has gone to become a welcoming and collaborative partner to its College colleagues while developing a curriculum that is interdisciplinary and inclusive.

→Student Activities: The SLAP students run a "Grad Expo" every spring in which student projects from all three disciplines are exhibited and juried. Students from the three disciplines get together for Homecoming festivities in the fall and a Beaux Arts Ball in the spring.

1-1.2.1d academic integrity

→The College has a Code of Conduct that is signed by all students and faculty members. Regarding academic integrity, it states:

a. Honesty and Integrity
CALA members are committed to honesty at all times, including their interactions with peers, faculty, staff, professionals, and the community. This commitment extends from the classroom to the studio to work in the community to internships in professional offices and/or agencies. Absolute honesty in all written, digital, and oral communication is fundamental. Academic integrity requires that students and faculty take credit only for ideas and efforts that are their own. This attribute includes the responsibility for reporting dishonesty of others.

i. Academic Integrity
Principle
Integrity and ethical behavior are expected of every student in all academic work. This Academic Integrity principle stands for honesty in all class work, and ethical conduct in all labs and clinical assignments. This principle is furthered by the student Code of Conduct and disciplinary procedures established by ABOR Policies 5-308 through 5-404, all provisions of which apply to all University of Arizona students. This Code of Academic Integrity (hereinafter "this Code") is intended to fulfill the requirement imposed by ABOR Policy 5-403.A.4 and otherwise to supplement the Student Code of Conduct as permitted by ABOR Policy 5-308.C.1.

Students enrolled in academic credit bearing courses are subject to this Code. Conduct prohibited by this Code consists of all forms of academic dishonesty, including, but not limited to:

1. Cheating, fabrication, facilitating academic dishonesty, and plagiarism as set out and defined in the Student Code of Conduct, ABOR Policy 5-308-E.6, E.10, and F.1.

2. Submitting an item of academic work that has previously been submitted or simultaneously submitted without fair citation of the original work or authorization by the faculty member supervising the work.

3. Violating required disciplinary and professional ethics rules contained or referenced in the student handbooks (hardcopy or online) of undergraduate or graduate programs, or professional colleges.

4. Violating discipline specific health, safety or ethical requirements to gain any unfair advantage in lab(s) or clinical assignments.

5. Failing to observe rules of academic integrity established by a faculty member for a particular course.

6. Attempting to commit an act prohibited by this Code. Any attempt to commit an act prohibited by these rules shall be subject to sanctions to the same extent as completed acts.

7. Assisting or attempting to assist another to violate this Code.

→The College follow the University's Code of Academic Integrity:
http://deanofstudents.arizona.edu/codeofacademicintegrity

→Integrity cases in the College are heard by the Associate Dean.

1-1.2.2 social equity

The School is diverse in its faculty and student populations.

1-1.2.2a Faculty

In 2012, the School's tenured and tenure-track faculty is 55% female with no self-identified ethnic minorities (27% declined designation). The adjunct faculty is 25% female with 13% ethnic minorities (none declined). Overall, the faculty composition is 31% female; 82% are white, 8% ethnic minorities, and 6% declined designation.

There has been a clear trend in altering the gender composition of the faculty. In 2006, the School's tenured and tenure-track faculty was 15% female and 15% ethnic minorities; overall, it was 30% female with 10% ethnic minorities.

When hiring tenure / track positions, where we are able to search internationally, the School has been able to attract and hire qualified women; we have gone from 15% to 55% female in six years. We have not done as well attracting ethnic minorities, going from 15% to zero.

When hiring adjuncts, most of whom come from the region, the gender trend has been opposite: as the number of adjunct faculty has doubled, the percentage of women has almost halved (43–25%). This is due more to womens' status in regional professional practice than to a hiring bias in the School. Our percentage of adjunct ethnic minorities has increased from 5 to 13% over the same period.

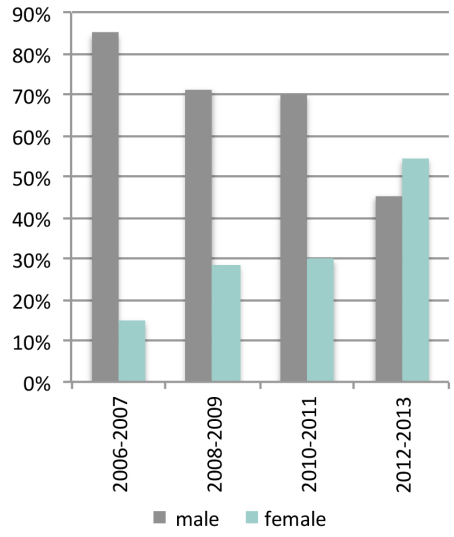


FIG 2.1 TENURE/TRACK FACULTY, BY GENDER

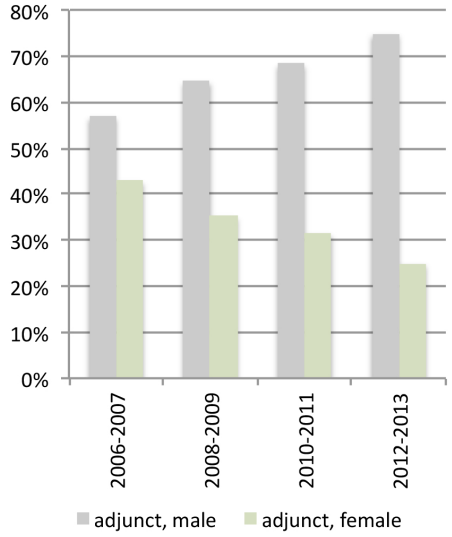


FIG 2.2 ADJUNCT FACULTY, BY GENDER

The national data on accredited schools of architecture for 2010-2011 shows architecture faculties were 28% female; our total faculty rate, then

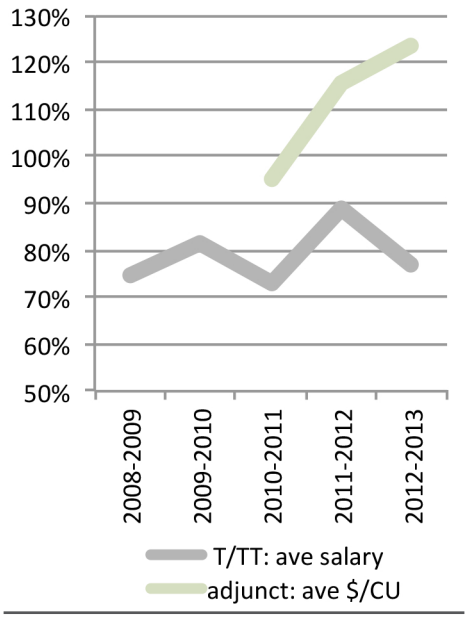


FIG 2.3 FEMALE-TO-MALE SALARIES

and now, is 31%.[4] But this is misleading because NAAB's statistics do not count adjuncts. Our tenure/track and full-time multi-year adjuncts, the only adjunct category at the School that would be included in NAAB's numbers, puts our female faculty is 53% compared to the national average of 28%. Ethnic minorities made up 23% of national architecture faculties; in 2010-2011 we were 19%, but only 8% today.

Equity in faculty pay by gender is equally important. In the past three years, women have improved relative to men in their compensation at the School. Adjunct pay has increased for women from 95% to 124% of that paid to male counterparts, as measured by salary per credit unit. Among tenure/track faculty, female salaries relative to male's, averaged across the whole faculty, are slightly increased.

Because the small size of the tenure/track faculty (eleven across all ranks), categorical salary comparisons are misleading. Our data is further skewed because our only female full-professor is the Associate Dean, with less than half of her salary paid by, and counted in, School data. In fact, average female salaries are higher than their male counterparts: Associate Professor: 133% Assistant Professors: 106%

1-1.2.2b students

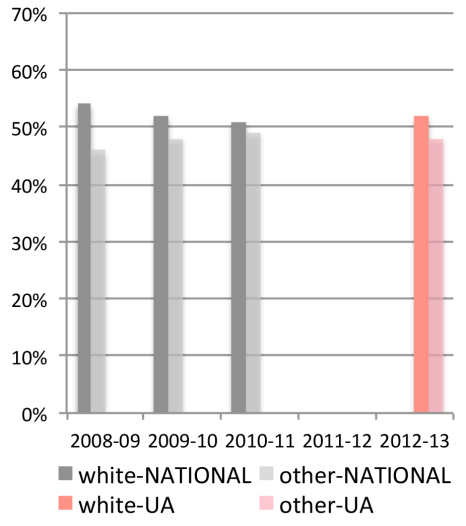


FIG 2.4 STUDENT ETHNICITY, UA TO NATIONAL SCHOOLS OF ARCHITECTURE

Graduate Students: The graduate student population is comprised of 33% females and 44% self reported ethnic minorities. This compares to national averages for M.Arch programs of 40% female and 21% ethnic minorities.

Disabled: Although we currently have no graduate students with identified mobility or learning disabilities, we have one deaf, three wheelchair-bound, and several other undergraduate students with disabilities. Our deaf student is provided with an interpretor for all studios, classes, lectures, team sessions, and official college events. All students, regardless of abilities, are held to the same standards and, when necessary, are provided with support and equivalent opportunity.

Plan: The 2009 Conditions require a "plan in place to maintain or increase the diversity of its faculty, staff, and students... during the term of the next two accreditation cycles." Our plan is to continue the practices we currently follow that have put us ahead of schools of architecture nationally in the diverse representation and equitable treatment of all our people. As mentioned above, our immediate focus area will be Adjunct Faculty.

1-1.3 RESPONSE TO THE FIVE PERSPECTIVES

CAPLA's culture is built on Boyer's five pillars: the scholarships of Discovery, Application, Integration, Teaching, and Engagement. We are

4 "2011 Report on Accreditation in Architecture Education" by The National Architectural Accrediting Board, Inc.)

a learner-centered, scholarship intensive, academic unit that is proudly devoted to professional education in a way that contributes to society and to our discipline—what we call *critical practice*. Our learner-centered approach teaches students how to teach themselves, building leaders for a future the faculty will never see.

We consider that Boyer's five pillars sustain five principles of teaching/learning, delivered as a single continuum:

1. Development of Self-Reliance and Love of Learning
2. Teaching-Scholarship Link
3. Affective Domain Development
4. Experiential Learning
5. Preparation for Professional Practice

→Self-Reliance and Love of Learning form the cornerstone of any life-long learner, the self-generative, active inquisitor rather than the passive vessel waiting to be filled.

→To link Teaching with Scholarship our research must contribute, not only to the body of knowledge *about* our discipline, but to teaching itself. Our "problem-base learning" is differentiated from "project-based learning," the more typical approach to professional education.

→The Affective Domain consists of those values and ethics that arose with the professional class in Western civilization, i.e., a moneyed class that, being above mercantile forces, was devoted to the ethical service of society. This ethical core must now be instilled in spite of, and because of, financial pressures. Sustainability, life-safety, responsible design, community citizenship—must all surpass profit motive.

→Historically implicit in the design studio, we amplify Experiential Learning and apply it to other parts of our curriculum. Hands-on, learn-by-doing in subjects such as structures and materials-and-methods not only connects design to construction, but develops in students an intuitive capacity for architectural design.

→Preparation for Professional Practice, ostensibly the purpose of professional education, is often given cursory treatment in university education. We regard professional practices, not as a necessary check-box for accreditation, but the foundational culture of the School. Beyond teaching subjects that students will encounter in practice, we foster a professional culture that instills qualities such as timeliness, exactitude, clarity of communication, and embracing change.

1-1.3.1 Architectural Education and the Academic Community

The School makes unique and regular contributions in scholarship, community engagement, service, and teaching.

Design/Build Pedagogy: Building on a tradition that began in the late

1990s, we have a portfolio of completed service-learning projects that qualify equally as Teaching, Research, and Service (detail at: 1-2.1.1h):

→DDBC Houses: Designed for energy- and water-efficiency, our five completed DDBC homes test innovative construction techniques and are equipped with energy sensors and water monitors for post-occupancy analysis. As demonstration homes, they offer case studies on improvements in design and construction practices to professionals as well as the public.

→Solar Decathlon: One of twenty international invited entries to the US Department of Energy's Solar Decathlon (2008-2010).

→Rose Pedestrian Bridge: Designed to replace a dilapidated structure in the Rose Neighborhood, Tucson, this pedestrian bridge traverses the rodeo wash between the Rose Elementary School and an adjacent neighborhood (2005-2009).

→Bus Shelter Prototypes, City Of Tucson: Modular, regionally specific bus shelters that can be adapted to solar differences occasioned by orientation. Four prototype shelters were fabricated and installed, one facing each cardinal point, for the City of Tucson (2010-2011).

→Bus Shelters, City Of Marana: Two site-specific bus shelters with a large patron capacity for the City's Civic Transit Center (2011-2013).

→AzCA Playground: A large, highly innovative playground for the Arizona Children's Association (2011-2013).

→Downtown Studio: From 2001-2006, The School of Architecture ran a Downtown Studio that developed urban design and architectural projects for the city's now defunct Río Nuevo Multipurpose Facilities District.

→UAD: In 2012, the University opened a center in the newly-renovated historic Roy Place Building in downtown Tucson: the "University of Arizona Downtown" (UAD). Within that facility, the Sustainable City Project, a partnership between the Institute of the Environment, the College of Social and Behavioral Sciences, and CAPLA, will support and explore sustainable urban development and livable cities through education, outreach, and research.

- Camp Architecture: Initiated summer 2010, Camp Architecture is a summer program for middle and high school students to teach them about the built environment, sustainability, drawing, design, and making

1-1.3.2 Architectural Education and Students

1-1.3.2a Culture of Diversity

CAPLA students are prepared to live and work in a global world where diversity, distinctiveness, self-worth, and dignity are nurtured and respected, not the least because our College and University are a subset of that world. The School's student body has a relatively low percentage

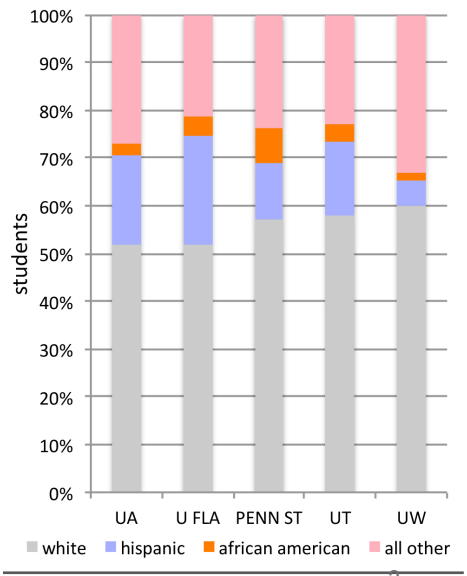


FIG 2.5 STUDENT ETHNICITY, UA TO PEERS[2]

of whites, at around 50%. We have an appropriate ethnic mix of students, given the demographics our region, and are as diverse, if not more, than our Peer schools.[5] As reported elsewhere, Architecture's graduate student population is 33% female and 44% self-reported ethnic minorities.

Comparing the School with architecture schools nationally, the gender composition across the nation has been at 41% female since 2008-2009; the School is just 3% lower. Similarly, the composition of ethnic minorities is comparable.[6]

While we don't have comparative data, the School has a high percentage of students who are the first members of their families to attend college; we have a large working class population. Coupled with a major recession, many of our students have to work while enrolled; many work multiple jobs.

The implications, relative to schools with more affluent populations and coupled with a cost of study that has risen well ahead of the cost of living, are:

- hardship: It is a true hardship for many of our students to attend college, not an endeavor to which they can devote themselves completely. For the faculty, this means working without their students' complete attention.
- value: While attending college signifies a major life commitment, this does not mean that our students understand its value. For the faculty, this means convincing students to give themselves to the process of architectural education.
- culture: Architecture schools in the American academy have a relatively consistent character and one distinguished from other disciplines. Not only does the faculty have to get our students on board with college; they have an extra effort to inculcate a proper architectural culture.

1-1.3.2b Culture of Leadership

CAPLA has active student organizations that give students the opportunity to lead and contribute.

→Student Council: In 2012, a College-wide Student Council was created to represent students on administrative matters (replaces Dean's Student Advisory Council).

→AIAS: The School has a very active AIAS chapter, which has transformed itself from a strictly social club to a service organization in the past three years. It has grown to 45 members this year, but offers its events and

5 The School recently completed a self-study for the University in which it compared itself to architecture schools chosen from an approved list by the Board of Regents (hereafter, Peers)—all state schools with accredited professional degrees: University of Florida, Pennsylvania State University, the University of Texas at Austin, and the University of Washington at Seattle. This report and the that reviewing team's analysis will be made available to the NAAB Team, upon request.

6 NAAB, Report on Accreditation for the respective years.

services to non-members. Regular events sponsored by AIAS include:

- Photography Competition
- Portfolio Charrette (two seminars with local professionals)
- Faculty Dinner Auctions (fund raiser)
- Tucson and Phoenix Firm Crawls (jointly sponsored with AIAS at Arizona State University)
- Beaux Arts Ball
- Canstruction (an AIA-Southern Arizona community event to raise donations for the Tucson Food Bank)
- First Year/Fourth Year Mentorship Program
- Architecture + Firm Tours, including: Rob Paulus Architects, Rick Joy Architects, DUST Design Build, and Richard + Bauer

This year's AIAS President, Andrea Young, was elected to be AIAS 2013-2014 West Quad Director.

→Freedom by Design: This AIAS community service program, founded at the UA in 2011, utilizes the talents of architecture students to impact the lives of people in the community through modest design and construction solutions. Vital modifications are made to enhance the homes of low-income and disabled individuals by addressing their struggles with everyday tasks such as bathing, ascending stairs and opening doors.

- 2011-2012; 10 members
  Students collaborated with DIRECT, Center for Independence, on the design and construction of a residential wheelchair ramp for an elderly disabled couple in South Tucson. They obtained donated materials and raised money from construction and architecture companies as well as in-school fund-raisers. The project was completed in March 2012.
- 2012-2013; 12 members
  For client Robert Cartwright, a 33-year-old bilaterally paralyzed stroke victim, the students designed and built an outdoor deck and garden center. The work has been prefabricated at our Materials Lab and will be installed April 2013.

→USGBC: Founded in 2012 in collaboration with the University's Office of Sustainability, the UA chapter of the U.S. Green Building Council has bi-weekly meetings both of the membership and officers; 31 members. Current projects:

- The Lutron Lighting Upgrade Program (installation of manufacturer-donated lighting controls in a stairwell of the original architecture building);
- An engagement with Habitat for Humanity to analyze and redesign an

existing house using IES VE energy modeling software.

1-1.3.2c Culture of Citizenship

Starting in 2010, the School started a Citizenship program to give students greater ownership in the direction and operation of the School. Four teams have emerged, each with a faculty advisor:

- STUDIO CULTURE + WORKSPACE: Charged with promoting the health and productivity of students in the studio setting.
- PR & COMMUNICATIONS: Charged with promoting communications among groups within the School and between the School and the outside world.
- SUSTAINABILITY: Charged with promoting sustainability within the School, both the physical facility and the lifestyles of our students, staff, and faculty. In 2011, the Sustainability Team won an $18,000 grant from the University's Green Fund to put the lights in CAPLA East on motion sensors.
- STUDENT ORGS + OUTREACH: Charged with promoting social and service events within the School and fostering outreach to our community. AIAS began a Freedom By Design chapter and now builds accessibility projects every year.

Culture of Service: Many School committees have student representation and voting rights:

- Curriculum Committee: Four student representatives, M.ARCH, MS—ARCH, and B.ARCH (3rd + 4th year).
- Graduate Admissions Committees: One student each from the respective degree program.
- Faculty Search Committees: Three student representatives, a graduate student plus an upper division and lower division undergraduates.
- Accreditation Team: a paid student assistant from the respective degree.
- Lecture Series Committee: Three student representatives, one from each discipline in the College.

1-1.3.3 Architectural Education and the Regulatory Environment

Our students are started down the road to internship and licensure.

→ARC 450c/550c Ethics and Practice: Provides an overview of IDP and ARE.

→ARC 493/593—Internship (elective): This combination of seminars and paid Internship gives students:

- Understanding of effective resumé writing and interviewing;
- Understanding of the inter-relationship of the four major areas of Architectural Practice: Firm Management + Marketing, Design, Construction Documents and Contract Administration;

- Understanding of the many activities involved in the practice of architecture;
- Understanding of the diverse roles and responsibilities of persons in architectural practice, through site visits and guest lectures;
- Understanding of the NCARB and Intern Development Program (IDP);
- Understanding of the Architectural Registration Exams (ARE)

The Internship, arranged and overseen by faculty, includes:

- An Office Component (paid employment);
- An Academic Component, in the form of a Journal;
- Guided enrollment into the IDP program, with class-wide sharing of experience with the NCARB system;
- Office tours and discussions with licensed Architect's regarding practice and experiences with IDP and the ARE.

→Harry M. Falconer, Jr., AIA, the NCARB Director of the Intern Development Program presented an overview of IDP and ARE to our students in October 2011. We plan to make this a regular event.

FIG 2.6 NCARB SEMINAR BY HARRY FALCONER, 27 OCT 2011.

4. architectural education + the profession

1-1.3.4 Architectural Education and the Profession

The School is actively engaged in developing the quality of the profession in the state.

The Dean: Dean Cervelli is a leader in activities and organizations that engage the public and local design professionals at the University, the City, and throughout the state. She is on both the Main Gate Overlay District Design Review Committee and its Stakeholder's Group, this district being the entry to campus from downtown and an important route of the new Modern Streetcar. This district has been a testing ground for preservation,

neighborhood, and higher building heights.

Dealing with these issues as well as broader concerns over sustainable urban development and density, the Dean serves on the Board for Imagine Greater Tucson; is Chair of the Downtown Tucson Partnership; serves on the District Council Advisory Board of the Urban Land Institute; and is an Executive Board Member of Arizona Forward. She is a member of the Metropolitan Pima Alliance and the Commercial Real Estate Women (CREW). She is actively working to educate the region on ecologically and aesthetically sound settlement practices. She is an advisor to Tucson's Mayor.

At the University, the Dean is Co-Chair of the President's Advisory Council on Environmental Sustainability (PACES) and a member of Planning & Design Review Advisory Committee (PADRAC). She serves on the 100% Engagement Committee as well as the Campus Community Relations Committee (CCRC).

The Director: When the current School director was hired in June 2010, relations between the School and regional professionals were strained or non-existent. The his first two years, he reached out to professionals, alumni, and local leaders: 33 architecture firms, 5 contractors, 2 developers, 2 foundations, and a lawyer—all in their own offices or at a neutral off-campus location, some on multiple occasions. He has mailed every guest critic and every speaker in the Lecture Series a hand-written note thanking them for their contribution to the School.

He serves on the University's Planning & Design Review Advisory Committee and on the Board of AIA-Southern Arizona; he has attended all state AIA conferences (presenting at one) and one national AIA convention since taking office.

The School: In 2010–2011, the School created an annual Job Interview Fair to improve the professionalism of its students and build relations with the professions; 5 firms and contractors participated. This year, 14 firms (12 architects, 2 landscape architects) provided 171 interviews, at 20 minutes each for 20 landscape architecture and planning plus 41architecture (mostly 5th year and graduate) students. The AIAS sponsors two Portfolio Charrettes leading up to this event, where students hone their resumés and portfolios while practicing interview skills with local professionals.

The College Lecture Series is advertised in State AIA newsletters and offers continuing education credits to professionals, in collaboration with AIA-Southern Arizona. The 2010-2011 Series, in particular, focused on multi-disciplinary practices (from sustainable urban living to cooking and urban farming to professional disciplines). It brought hundreds of citizens and professionals into the College.

Local and regional professionals are invited to final reviews every semester, in significant numbers. Many more local practitioners are on our Faculty since the last APR (39 in 2012 versus 21 in 2006).

The School also supports student involvement in the student chapter of the American Institute of Architects (AIAS), by funding or offsetting student travel to its national conferences (AIAS Forum and Grassroots), every year since 2010.

The Curriculum: The School offers four courses directly relating to professional practice; the following are electives.

ARC 493/593 Internship: a seminar with paid Internship opportunities (1-1.3.3).

ARC 497c/597c Business for Architects: Envisioned as a more in-depth and field-oriented version of ARC 550c (1-1.3.5), this course takes students into architects' offices, construction sites, and to client presentations where they see and learn about the business side of practice.

ARC 497b/597b Law for Architects: Taught by the region's top construction lawyer and peppered with actual examples, this course brings the principles of construction law to life.

1-1.3.5 Architectural Education and the Public Good

The School teaches, and lives, public engagement through coursework and service. In addition to examples listed previously:

ARC 450c/550c Ethics and Practice: Covers the notion of professionalism; the ethically-tricky relationship between architects and their clients; the architect's highest responsibility to the public health, safety, and welfare; alternative forms of practice; the architect's responsibility for rectifying the current environmental crisis and the 2030 Challenge; and features case studies of ethical situations (from Cameron Sinclair and Architecture for Humanity to the Citicorp engineering crisis).

1-1.4 LONG-RANGE PLANNING

The School's long-range planning process is included under Self-Assessment Procedures (1-1.5).

1-1.5 SELF-ASSESSMENT PROCEDURES

1-1.5.1 process

The School has many levels of regular self-evaluation and related improvement planning and implementation. These invite participation and feedback from students, faculty, staff, administrators, professionals, outside academics, and other forms of peer-review:

→weekly

- The Director meets once with the Dean and another time with all CAPLA administrators to discuss inter-program issues and collaboration.

→biweekly

- The Curriculum Committee continually reviews and adjusts the School's three curricula, by Stream and program. Representation includes Stream Coordinators, elected by their Stream peers, and students from each degree program.

→every semester

- Studio professors post samples of high- and low-pass work from every studio after final reviews; studio faculty and School director walk through the projects in chronological order and discuss the quality of student production, readjusting benchmarks and project requirements. In the M.Arch program, non-studio faculty join this procedure, looking for opportunities to build synergy between courses and studios.
- The Director visits every course and studio; offers suggestions on teaching craft where applicable.
- Every studio hosts outside critics for final juries (FIG 2.30). While outside reviewers vary greatly in their candidness and quality of insight, the process subjects the Faculty and students to the outside observations of academics and professionals. The more advanced the studio, the more money invested and the more distinguished and far-reaching the guest critics.
- The Dean hosts a College Retreat to take input, discuss issues, and focus on improvements to teaching and academic culture.

visiting critics budget	2012-2013	
FALL		
ARC 301	$600	
ARC 401	$1,000	
ARC 498	$750	
ARC 451	$1,500	
ARC 510b	$800	
ARC 510d	$1,000	
ARC 510f	$1,000	
ARC 601	$300	
subtotal	$6,950	
SPRING		
ARC 302	$600	Archon Prize
ARC 402	$1,500	
ARC 452	$4,000	
ARC 510c	$800	
ARC 510e	$1,000	
ARC 909-M.Arch	$1,200	
ARC 909-MS.Arch	$500	
subtotal	$9,600	
total		$16,550

FIG 2.7 GUEST CRITIC BUDGET 2012-2013

→annually

- DOE+APR: Faculty members and Director prepare a Distribution of Effort (DOE) for the coming academic year and an Annual Performance Review (APR) for the past calendar year. School's Faculty Status Committee reviews tenure / track and multi-year adjuncts in the APR; Tenure Track Mentors review their mentees in the APR; the Director reviews everyone.
- Director submits an annual report on the School to the National Architectural Accrediting Board, Inc. (NAAB).
- Director conducts small-group exit interviews with graduating students after final juries and before graduation.

→multi-year

- Every 2-6 years, NAAB requires a self-study and accreditation review of each accredited degree. This School's most recent visits were 2008 (B.Arch: accredited, 6 years) and 2011 (M.Arch in candidacy).
- Every 8 years, the University requires an Academic Program Review

SoA guest critics

fall 2011	guest critic	affiliation	location
ARC 301			
	Jose Zelaya	JMZalaya Architects	Albuquerque
	Rory McCarthy	Rory McCarthy Design	Sonoma
	Matt Salenger	CoLab	Phoenix
	Richard Jensen	Will Bruder + Partners	Phoenix
ARC 401			
	Larry Medlin	CAPLA, Professor Emeritus	UA
	Eddie Schaeffer	Seaver Franks Architects	Tucson
	Jerry Yudelson	Yudelson Associates	Tucson
	Chauncy Meyer	Chancy Meyer Architects	Tucson
	Mike Schmitt	MS Architects	Tucson
	Evan Eglin	Eglin/Cohen Architects PC	Tucson
	Peter Rutti	IHLY RUTTI Architects	Phoenix
	Jose Pombo	Substance Design Consortium	Phoenix
	Zach Burns	MODE	Phoenix
	Mark Kranz	SmithGroup	Phoenix
	Peter Dourlein	UA Planning Design and Construction	UA
	John Kane	Arcitekton	Tempe
	Will Robinette	Robinette Architects	Tucson
	Sonya Sotinsky	FORS Architecture + Interiors	Tucson
	Ann Marie Russell	MOCA	Tucson
	Roger Bartels	Bartels-Pagliaro Architects	S Norwalk CT
	Jack Debartalo	Jack Debartalo Architects	Phoenix
	Rodney Mackey	UA Planning Design and Construction	UA
	Phil Swaim	Swaim Associates Architects	Tucson
	Rick McLain	Repp Construction	Tucson
ARC 498			
	Larry Busbea	UA Art History	UA
	Max Underwood	ASU	Phoenix
	Pavel Getov	Studio Antares	Los Angeles
	Richard Jensen	Will Bruder + Partners	Phoenix
ARC 451			
	Jason Griffiths	ASU	Phoenix
	David Newton	ASU	Phoenix
ARC 510b			
	Gabriella Gutierrez	UNM	Albuquerque
	Jim Grantham	UA Sky Center	UA
	Bob Peterson	UA Sky Center	UA
	Oscar Blazquez	SLAP	UA
ARC 510d			
	Tim Brown	IIT	San Francisco
	Jay Atherton	Atherton Keener	Phoenix
	Les Wallach	Line and Space LLC	Tucson
	Jack Debartalo	Jack Debartalo Architects	Phoenix
legend		professional	local
		academic	in-state
		institutional	out-of-state

SoA guest critics

spr 2012	guest critic	affiliation	location
ARC 302			
	Dale Rush	HA|RU	Tucson
	Ben Hall	benjamin hall design	Phoenix
	Jose Zalaya	JMZalaya Architects	Albuquerque
	Paul Mickelberg	WMA Architects	Tucson
ARC 402			
	May Carr	UA Facilities Design and Construction	UA
	Paul Ivey	UA Fine Arts	UA
	Jason Griffiths	ASU	Tucson
	Daniele Wilde	Artist and Researcher	Australia
	Matthew Bird	Monash Univesity	Australia
	Philip Adams	Ballet Lab	Australia
	John Folan	Carnegie Mellon	Philadelphia
	Dan Harding	Clemson University	Clemson SC
	Dale Rush	HA|RU	Tucson
	John Price	Gromatsky Dupree + Assoc	Tucson
ARC 452			
	Brad Cloefil	allied works architecture	Portland OR
	Ray Huff	Huff + Gooden Architects	Charleston SC
	Max Underwood	ASU	Phoenix
	Richard Jensen	Will Bruder + Partners	Phoenix
	Kegan Tom	The Architecture Company	Tucson
	Les Wallach	Line and Space LLC	Tucson
	Richard Fe Tom	The Architecture Company	Tucson
	Kristin DiBone	WSM Architects	Tucson
	Rick Joy	Rick Joy Architects	Tucson
	Nils Urman	Nogales Community Development	Nogales
	Claudia Gil	Instituto Municipal de Investigacion y Planeacion Nogales	Sonora MX
	Diane Austin	UA Anthropology	UA
	Joe Wilder	Southwest Center	Tucson
	Henry Tom	Line and Space LLC	Tucson
	Tim Brown	IIT	Chicago
	Dan Harding	Intrinsic Architecture	Clemson SC
	Jerry Sorensen	Davis-Monthan AFB	Tucson
	Anthony Gomez	Davis-Monthan AFB	Tucson
	Paul Mickelberg	WMA Architects	Tucson
		Sakellar Associates	Tucson
ARC 510c			
	Vernon Swaback	Swaback	Scottsdale
	Ernesto Fonseca	Stardust Center for Affordable Homes and the Family Arizona State University	Phoenix
ARC 510e			
	John Kane	Architekton	Tempe
	Will Robinette	Robinette Architects	Tucson
	Dave Dobler	Structural Grace	Tucson
ARC 909			
	Rene Davids	UC Berekley	Berekley
	Sarah Lorenzen	Cal Poly	San Luis Obispo
legend		professional	local
		academic	in-state
		institutional	out-of-state

FIG 2.30 GUEST CRITICS, FINAL REVIEWS (ONLY) 2011-2013

SoA guest critics

fall 2012	guest critic	affiliation	location
ARC 301			
	Philipp Neher	Rick Joy Archiects	Tucson
	Dale Rush	HA:RU	Tucson
	Rick McLain	Paige Repp	Tucson
	John Kane	architecton	Phoenix
	Jim Richard	richard + bauer	Phoenix
	Veit Kugle	Kennedy Violich Architects	Boston
	Dean Cervelli	CAPLA	UA
	Phil Swaim	Swaim Associates LTD	Tucson
ARC 401			
	Judith Birdsong	UT Austin	Austin
	Henry Tom	Line & Space	Tucson
	Les Wallach	Line & Space	Tucson
	Rob Paulus	Rob Paulus Architect	Tucson
	Andrew Hesse	Rob Paulus Architect	Tucson
	Peter Dourlein	Planning, Design & Construction	UA
	Mikhail Gladchenko	Asteriskos LLC	Phoenix
	Matt Steere	M.A. Mortenson Co.	Phoenix
	Bob Joyce	Clayton Joyce Architects	Tucson
	Bill Leddy, FAIA	Leddy Maytum Stacy Architects	San Francisco
	Michael Halchak	Populous	Denver
ARC 498			
	Dick Jensen	WorksBureau	Phoenix
	Gail Borden	USC	USC
	Brian Farling	Jones Studio	Phoenix
	Aaron Forbes	Jones Studio	Phoenix
ARC 451			
	Corky Poster	Poster Frost Mirto, Inc.	Tucson
	Dick Erebes	CAPLA, Dean Emeritus	UA
	Linda Samuels	Sustainable City Project	UA
	Mae Carr	Planning, Design & Construction	UA
	Tom Wiscombe	SCI-Arc	Los Angeles
ARC 510b			
	Sarah Lorenzen	Cal Poly	Pomona
	Manual Juarez	Chicago Architecture Foundation	Chicago
	Lauri Johnson	SLAP	UA
	Eric Scharf	Wheat Scharf Associates; Planning & Design Review Advisory Committee	Tucson; UA
	Keegan Quick	Asteriskos LLC	Phoenix
	Jim Larson	Larson Associates Architects, Inc.; Planning & Design Review Advisory Committee	Phoenix; UA
ARC 510d			
	Bill Leddy, FAIA	Leddy Maytum Stacy Architects	San Francisco
	Jim Richard	richard + bauer	Phoenix
	Don McGann	Planning & Design Review Advisory Committee	UA
	William Ford	WLFA & Associates	Tucson
	Dinos Sakellar	Sakellar Associates	Tucson
ARC 510f			
	Pavel Getov	Studio Antares	Los Angeles
	Brian Zamora	Gehry Partners	Los Angeles
	Jack de Bartolo 3	DeBartolo Architects	Phoenix
legend		professional academic institutional	local in-state out-of-state

SoA guest critics

spr 2013	guest critic	affiliation	location
ARC 302			
	Richard Eribes	CAPLA, Dean Emeritus	UA
	Chuck Albanese	CAPLA, Dean Emeritus	UA
	Siripron Trumble	CAPLA	UA
	Robert Miller	CAPLA	UA
ARC 402			
	Danielle Briscoe	UT Austin	Austin
	David Newton	ASU	Phoenix
	Philipp Neher	Rick Joy Architects	Tucson
	Susan Rogers	Design Resource Center Univ Houston	Houston
	Sonya Sotinsky	FORS Architecture + Interiors	Tucson
	Miguel Fuentevilla	FORS Architecture + Interiors	Tucson
	John Shields	Point B Design	Philadelphia
	Eric Weber	UNLV	Las Vegas
	Heather Marek	Bryan U	Phoenix
ARC 452			
	Robert MacLeod	U South Florida	Tampa
	John Meunier	ASU	Phoenix
	Philipp Neher	Rick Joy Architects	Tucson
	Chris Winters	CW Landscape Arch	Phoenix
	Maria Salenger	CoLAB	Phoenix
	Melissa Farling	Jones Studio	Phoenix
	Wil Bruder	Will Bruder Architect	Phoenix
	Gail Borden	USC	Los Angeles
	Linda Samuels	Sustainable City Project	UA
ARC 510c			
	John Folan	Carnegie Mellon	Pittsburgh
	Jorge Toscano	fm design	Phoenix
	Mark Roddy	SmithGroup	Phoenix
ARC 510e			
	Lynsey Sorrell	IIT	Chicago
	Larry Medlin	CAPLA, Professor Emeritus	UA
ARC 909			
	Rene Davids	UC Berekley	Berekley
	Sarah Lorenzen	Cal Poly	San Luis Obispo
legend		professional academic institutional	local in-state out-of-state

consisting of an extensive self-study and review by a Provost-selected team of educators, local professionals, and University personnel. The most recent review was March 2013; Team assessment pending.

→ad hoc

- Special surveys of students and faculty on specific issues, such as our Survey on B.Arch Program Quality (2010), taken before initiating significant many changes, and the student surveys of Foundation and 2nd Year (March 2011)—4.4.
- Meetings with students on specific issues of concern to the School, such as the AIAS meeting on studio culture (26 MAR 2012), the AIAS roundtable on collaboration (10 SEP 2012), interviews of student Shop Monitors over work and safety conditions in the Materials Lab (9 MAY 2012), and meetings with concerned M.Arch students on print policy (30 NOV 2012, 28 JAN 2013).
- Special studies and reports on issues impacting the School, such as the Director's report on the Impact of Differential Tuition on 1st+2nd Years (2011).
- The College, and the School as its largest unit, is participating in a University-led Strategic Planning effort as part of President Hart's inaugural year agenda. This began in Fall 2013. A first draft has been submitted, which will be revised.

1-1.5.2 Strength and Weaknesses of the School

In overview, the School has identified the following strengths and weaknesses through its self-assessment procedures.

1-1.5.2a STRENGTH: Learning-By-Doing

The School of Architecture has a strong tradition of hands-on learning, beyond what is typically found in architectural curricula. These are vested particularly in the B.Arch and MS.Arch, but characterize the pedagogical mode of the School generally:

- two new fabrication courses (B.Arch) provide craft knowledge and preparing for upper level design/build studios
- distinguished design/build program (awards, etc.)
- structures: taught by making-and-breaking
- heliodon provides visceral understanding of solar impact before students learn digital prediction and analysis
- wind tunnel provides visceral understanding of wind and air movement before students learn digital prediction and analysis
- solar ovens and cool tower construction

- general engagement in materials lab for studio projects

1-1.5.2b STRENGTH: A Program Rooted In Context

The School is strongly connected to its environmental and social context. This orients our teaching, defines our character, and makes us relevant. It is also the reason we can give back to our community.

- Regional professionals make up 80% of the School's faculty, as adjuncts and lecturers.

- Local and regional professionals serve as critics for the interim and final reviews of all degree programs, meaning that a high percentage of firms visit and know about the School from first hand experience. During Fall 2012 final studio reviews, firms represented by visiting critics included:

  Tucson: HA|RU, Rob Paulus Architects, Repp Construction, DUST Design/ Build, Museum of Contemporary Art, WLFA and Associates, Ibarra Rosano, Swaim Associates Architects, DesignBuild Collaborative, Wheat Scharf, AZ Design, Taylor Design + BUILD, Line & Space, Kevin Howard Architects, Clayton Joyce Architects, WSM Architects, Rick Joy Architects, Vint and Associates, Jones Studio

  Phoenix: SmithGroup, Arizona State University Herberger Institute for Design and the Arts, 180° Design + Build, debartolo architects, WORKSBUREAU

  Austin: University of Texas/Austin School of Architecture

  Los Angeles: Tom Wiscombe Design, Gehry Partners, Studio Antares, University of Southern California School of Architecture

  San Francisco: Leddy Maytum Stacy Architects

  Boston: Kennedy Violich Architects

- The mission of the School is focused on *critical practice*, adding a particular specialization within the Academy and making the School of particular relevance and value to practicing architects.

- The orientation of the School is focused on sustainable arid climate design, making the curriculum of particular relevance and value to regional architects and environmentally concerned citizens.

- The School has a long and expanding tradition of service-learning, which returns benefits to the local community while teaching students practice skills and adding to our research portfolio. (Projects listed 1-1.3.1)

1-1.5.2c STRENGTH: Collegial Faculty

The School has a collegial Faculty that is mutually supportive, positive, and team-oriented. At the same time, we bring a great diversity of age, background, education, and practice experience.

1-1.5.2d STRENGTH: Exceptional Staff

The School has an excellent, devoted, and happy staff, who work well together and are oriented to service and excellence. They are clear about being of service to the teaching mission of the Students and the well-being of students.

1-1.5.2e STRENGTH: Outstanding Facilities

School has outstanding facilities—studios, furniture, labs, equipment, and garden. Our built environment is a manifestation of the College's values: landscape architecture and architecture working together in a sustainable symbiosis with evident design lessons.

1-1.5.2f CHALLENGE: Establish a Professional Culture

The School is changing from an academic culture to one that is more professional. This is critical because student attitude, in addition to knowledge and skills, is a major factor in preparedness for professional practice. To be competitive in a bad job market, graduates must, not only be highly skilled and current, they must be positive, results-oriented, service-based, adept at change, problem-solvers, and civic-minded. We consider the development of an academic program overlaid with a professional culture a pedagogical innovation that, once highly developed, can be contributed within the Academy.

The attitude of our student body as of 2010 could be characterized as self-centered, entitled, immature, and experience-oriented. Our student organizations were social-, not service-, oriented. This has largely changed, but work remains.

1-1.5.2g CHALLENGE: Catch Up with the Professional Revolution

Between the digitalization of practice, the economic collapse, and the greening of the design and construction industries, architecture has undergone a business, operations, and delivery revolution in the past ten years. The economic collapse and the near absence of construction have finally given contractors and architects sufficient incentive to put collaboration ahead of litigation; consequently, Integrated Project Delivery (IPD)—the proposition that architects, owners, and contractors bind together as a legal entity and share profit, or loss—is replacing the traditional role of the Architect as arbiter between Owner and Contractor. Building Information Modeling (BIM) has fundamentally changed the legal and conceptual definition of the Architect's Contract Documents. Digital manufacturing tied to BIM has given architects the opportunity to re-engage as Master Builder and leader in the construction enterprise.

Having adopted, briefly, an anti-practice posture in the late 1990s, this School was already lagging behind developments in the profession because of its refusal to embrace emerging digital standards, such as BIM; a complete lack of digital training prior to 2010; and the distancing

of its practices from those of the profession because of a philosophical preference for design poetics over professional practices. As changes in the era of post-economic-collapse began to take root and a newly remade building industry has started coming back on line, our School was significantly behind—but is catching up quickly.

1-1.5.2h CHALLENGE: Build Fundamental Design Expertise

As a School devoted to critical practice and arid climate design, we should be graduating students who can competently and reliably produce quasi-professional work, excelling in content areas embraced by the School.

Prior to 2010, the School had adopted a general studio model that was devoted to "the patient search" and in which process took precedence over product. While there are worthy values embodied in this model, it is not one that fosters a results-oriented professional program. We are transforming our pedagogy to balance inquiry with professional production skills.

1-1.5.2i CHALLENGE: Build Core Areas

The School needs to strengthen its expertise in core pedagogical areas. Our primary curricular streams are: studio (design), history/theory, building technology, design communications, and professional practice. In a nationally-distinguished program, each stream would have a solid core of teaching expertise, a research component, and an outreach vector.

The School has half the tenure / track faculty it did in 2006; it now has an additional accredited degree program and more undergraduate students. Since 2010, we lost our entire Faculty in history/theory, design communications, and professional practice; we are rebuilding.

1-1.5.2j CHALLENGE: Outreach + Design/Build

Given our Materials Lab, our "learning by doing" pedagogical approach, the importance of public service and outreach to the University, and the strengths of our Faculty and staff, the Design/Build program is an area in which we should be able to distinguish the School. We have experience, expertise, and the facilities; we need to update our design/build pedagogy so that it addresses the new conditions of practice and the many limitations acknowledged in first generation design/build programs around the country. We expect that a school with real expertise in critical practice, as we claim, should be able to conduct outreach projects as part of its pedagogy, thus providing public service and service-learning in one effort.

1-1.5.2k CHALLENGES: From Tenure / Track to Adjunct Faculty

Over the decade, the School has shifted to a predominantly adjunct Faculty in order to cover its vast required coursework while negotiating budget limitations; this shift reached a critical mass in the last three years to the point that *adjunct*, defined as "something supplementary rather than an essential part," no longer characterizes the central role played by our

non-tenure / track faculty.

This year the School's Faculty is 78% adjunct, down from 80% in 2011-12 and up from 69% in 2009-10. In AY 2008-09, there were 24 Faculty members; this year, there are 51. The growth in numbers has been necessitated by our new M.Arch degree (opened in 2010-2011), a rebuilding of curricular diversity, and the replacement of full-time permanent faculty with mostly part-time adjuncts.

Today's permanent Faculty is not large enough to perform its traditional role of delivering all the research, service, and leadership plus developing curricula and directing all the teaching. Similarly, Adjuncts can no longer remain marginal, supplemental figures who only show up to teach courses autonomously or team-teach studios led by their permanent peers.

Because the rigors of tenure demand prolonged development and an established reputation in research, economics dictate that tenure / track faculty shoulder the School's scholarship and funded research activity while ceding much of the service, teaching, curricular development, and teaching leadership to their Adjunct colleagues.

1-1.5.2l CHALLENGE: Funding

The single biggest problem in the School is funding: we barely have sufficient funds to maintain our three degree programs, nurture and support our changing and growing Faculty, reward and develop our exceptional staff, do significant outreach, maintain and develop our facilities, develop funded research capacity, and do scholarship appropriate for a school of our previous distinction.

The extensive budget cuts since the early 2000's have stressed the core operations of the School; the retroactive removal of RCM incentives (****) deferred our principal means of coming back from these setbacks. The decimation of the design and construction industry has, for the immediate future, removed outside giving as a meaningful form of support.

1-1.5.3 recent events impacting the School

1-1.5.3a ADMINISTRATION

- June 2006: Professor Álvaro Malo was not re-appointed as the Director of the School; Professor Larry Medlin became Interim Director (two years).
- June 2008: Associate Professor Laura Hollengreen became Interim Director (one year).
- July 2008: Janice Cervelli was appointed Dean of the College.
- May 2009: Brooks Jeffery stepped down as Associate Dean to become Director of the Drachman Institute; Professor Ron Stoltz, Director of the School of Landscape Architecture and Planning (SLAP), accepted a second administrative assignment as Associate Dean.

- June 2009: Assistant Dean Susan Moody retired (position not filled).
- July 2009: Professor Mary Hardin became Interim Director of the School (one year).
- March 2010: Kathleen Landeen replaced Linda Erasmus as graduate academic advisor, serving the whole college.
- June 2010: Robert Miller was appointed Director. Sasha Wilson was hired into a new position as undergraduate academic advisor.
- July 2011: Professor Mary Hardin became half-time Associate Dean. Consequently, between July 2008 and July 2011, the entire administration in the College changed: new dean, new part-time associate dean, new school directors, new development officer (twice), new Drachman Institute director, new advising staff.
- 2010–2011: Dean Cervelli instituted new Distribution of Effort (DOE) and Annual Performance Review (APR) systems, the means by which faculty members are assigned workload, make goals, and are given performance evaluations.
- July 2011: President Robert Shelton resigned, followed by Provost Hay. Interim President Sander and Interim Provost Mock assumed duties.
- July 2012: Interim Provost Mock left the UA; President Anne Weaver Hart took office; Interim Provost Andrew Comrie was appointed.
- February 2013: Interim Provost Comrie became permanent Provost.

1-1.5.3b FUNDING + ACCOUNTING

- 2009–2010 DIFFERENTIAL TUITION: The Board of Regents approved Dean Cervelli's proposed increase in Differential Tuition and Program Fees.
- 2010–2011 RCM LAUNCHED: The University launched Responsibility Centered Management (RCM), an accounting system by which units would be charged costs and earn revenue based on credit units taught, students enrolled in majors, and degree completion. The School developed a three-phase program of growth in order to improve program quality as a result of the captured revenue.
- June 2012 RCM RESCINDED: The University rescinded RCM. Because revenue was to flow to units the year *following* production, the School had grown programs and invested in positions that were not then funded as promised. Dean Cervelli garnered partial funding to help cover losses.
- Summer 2012: As part of the University's department heads steering committee, Director Miller takes fields input and authors a report to President Hart on RCM1.
- January 2013 RCM2: The University initiates a redesign of RCM that will include all units, not just academics, and will take two years to launch.

Director Miller is appointed to a University sub-committee: Institutional Overhead Cost Centers, General Administration, Strategic Investments which will develop a methodology that will distribute institutional costs and provide for institutional strategic investments.

1-1.5.3c PROGRAMS, CURRICULA + FACULTY

- Spring 2007 FACILITIES: The new building expansion, CAPLA EAST, was opened, requiring set up of the new Material Lab, occupation of new faculty offices, and a new administrative center for the School.
- September 2008 PLANNING: Provost Meredith Hay transferred Planning back to the College due to negotiations with in-coming Dean Cervelli.
- 2008-March 2010 NEW M.ARCH DEGREE: The School received approval from NAAB to establish a new accredited Master of Architecture (M.Arch). The first cohort of M.Arch students began during Summer 2010, under a plan that built the degree one year-level at a time, over three years. The existing unaccredited post-professional M.Arch was reformed into a Master of Science in Architecture (MS.Arch), which was re-envisioned as a research degree.
- October 2009 SOLAR D: The School completed its invited entry to the US Department of Energy's Solar Decathlon, one of twenty international entries, and delivered it to Washington, D.C. This was a galvanizing event for the School, the first that fully utilized the new Materials Lab.
- November 2011 BSSBE: A new interdisciplinary four year undergraduate degree, the Bachelor of Science in Sustainable Built Environments (BSSBE), was approved by the Arizona Board of Regents in CAPLA. The first cohort of BSSBE students began Fall 2012. The program was developed as an RCM endeavor; when RCM was rescinded, the Provost provided partial funding to support it.
- 2010–2012 FACULTY CHANGES: Three senior faculty members retired and two mid-level faculty were recruited by other universities; all faculty, permanent as well as adjunct, who were teaching history and theory courses left the School.
- 2012 MS.Arch Heritage Conservation: A certificate in Heritage Conservation was launched in 2012.
- AY 2012-2013 H+T: One tenured and one tenure-track faculty were hired in history + theory; a new history + theory curriculum has been outlined and is being written. The new History + Theory curriculum, which as co-convened courses between the B.Arch and M.Arch degrees with selected courses serving also SLAP, required re-sequencing which imposed other curricular schedule changes.
- 2008–2013 RECESSION + ENROLLMENTS: The global recession, with the accompanying blow to the design and construction industry, is now

hitting higher education. In June 2012, *Architecture Record* reported that 60,000 payroll jobs had been lost at firms since 2008, with 36,000 of them being designers and architects. At the same time, the Center on Education and the Workforce at Georgetown University reported that, at 14%, recent architecture graduates had the highest unemployment rate of any profession, in contrast to the concurrent national jobless rate of 8.2%. (In contrast, the rate for law was 8% and journalism 7 %.) In 2012-2013, 1st Year enrollment in Architecture dropped 40% even as the University experienced record-high freshman enrollment. Enrollment to the School's new M.Arch program has dropped by about 40% during its first three years. While the job market has been bleak, this is a temporary problem not yet appreciated as such by the public. Many senior and mid-level architects have left the workforce and will not be returning. Forecasters predict a shortage in architects, starting in 3-5 years. The time has never been better to enter architecture school.

- 2011–2013 B.ARCH RE-DESIGN: To improve student learning, increase curricular richness, add revenue through RCM, and improve the credentials of graduates facing a brutal job market, the School restructured the B.Arch curriculum (1-1.6).

1-1.6 RECENT RESPONSES TO SELF-ASSESSMENT

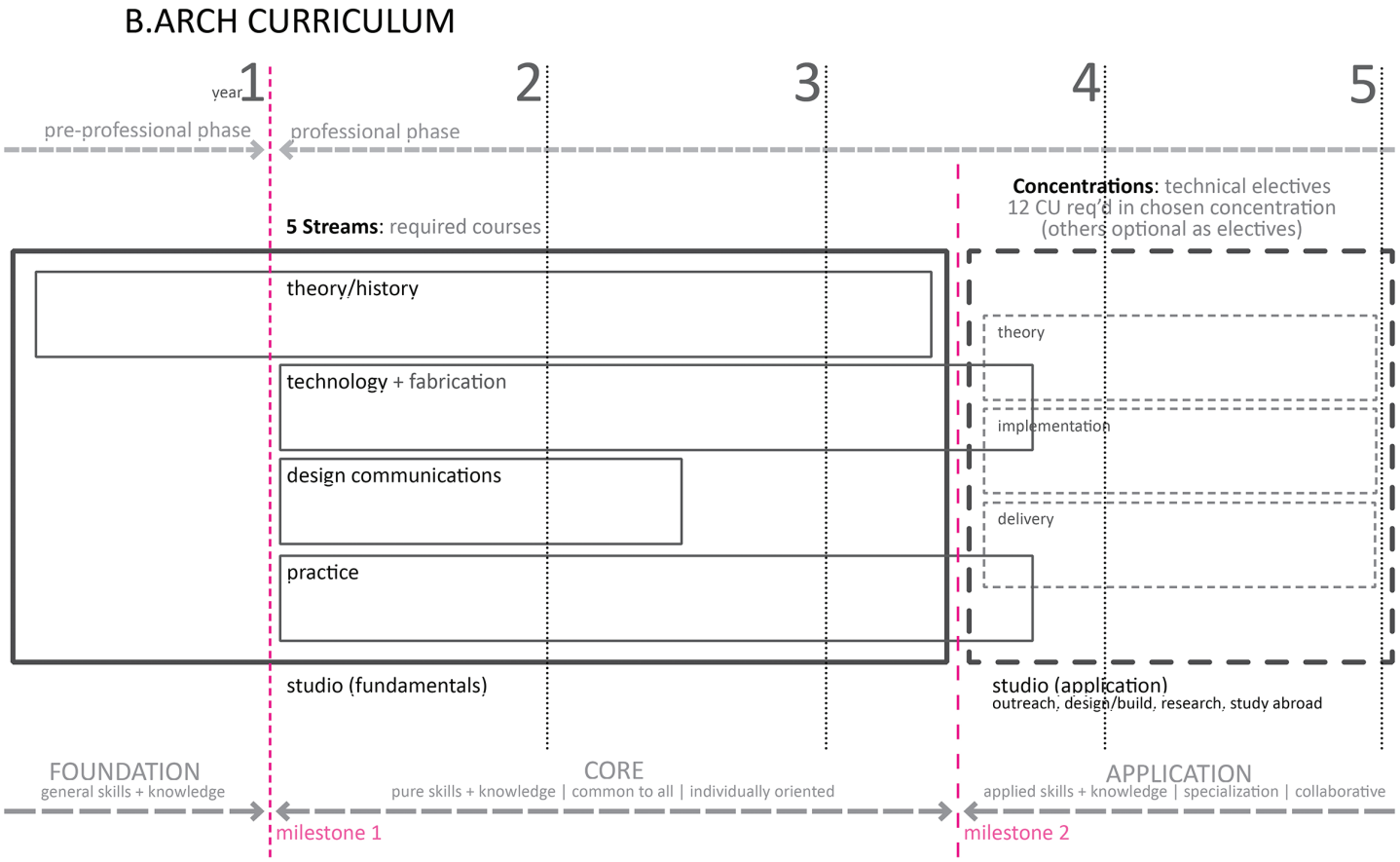
The following major initiatives have been conducted within the past two years as a result of self-assessment:

1-1.6.1 B.Arch Studio Stream

→MILESTONE 1: The admittance procedure to the Professional Phase (between 1st and 2nd Years) was made more transparent, equitable, and educational. Less emphasis was put on drawing in favor of a more balanced suite of relevant skills.

→MILESTONE 2: A new checkpoint was inserted at the middle of the 4th Year and pegged to a comprehensive project.

→The B.Arch studio sequence was re-envisioned and re-calibrated, with the two Milestones as benchmarks (FIG 2.8). Most non-studio courses with accreditation-mandated Student Performance Criteria (SPC) were moved before that Milestone; 12-CU of technical electives, organized into Concentrations, were added after the Milestone. Milestone 2 allows a non-grade based performance assessment while the student still has three semesters to make corrections; the Concentrations allow graduates to enter the marketplace with a professionally-oriented specialty, something not available from peer institutions.



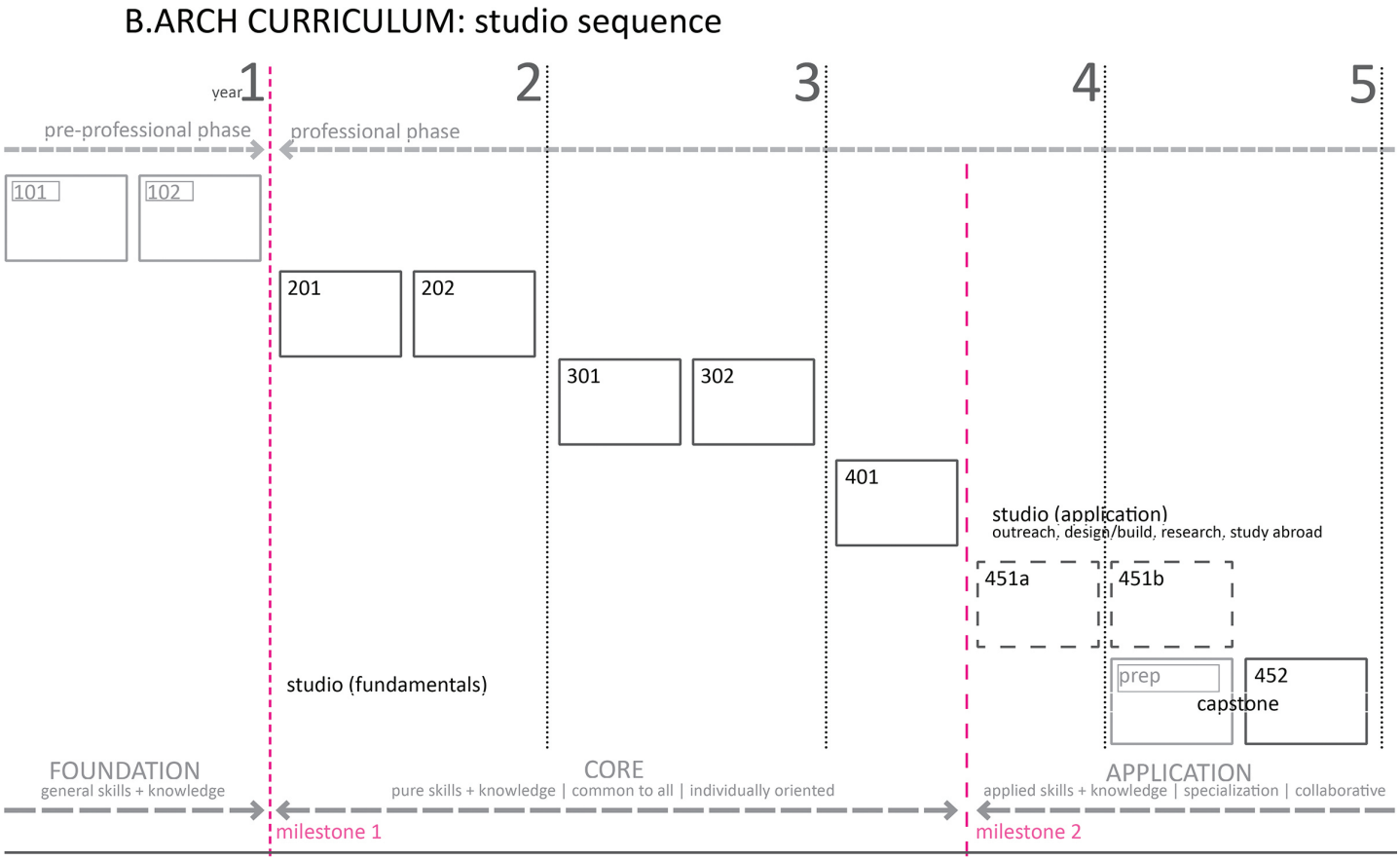


FIG 2.8 BACHELOR OF ARCHITECTURE, CURRICULUM RE-DESIGN 2010-2013

1-1.6.2 Digital Technology + Design Communications Stream

1-1.6.2a College Connectivity

In 2012, CAPLA invested $25,000 in server infrastructure for faculty and students; many services, including authentication, firewalls, and network addressing, were centralized to reduce support burden and improve quality of service. Student file sharing is locally managed and has been consolidated onto one host with increased capacity. The same is true for faculty and staff servers. Servers have been created by user group to facilitate collaboration, including: a DOE+APR group, faculty groups by discipline, advising group, and architecture office group. All servers and administrative computers are backed-up. In 2011-2012, SLAP purchased a state-of-the-art GIS suite with a handful of workstations.

Rank	Number	FTE*	Degree	Professional Registration	Practitioner of Architecture
Professor	4	3.58	1 PhD, 2 MArch, 1 MLS	3	0
Associate Professor	4	3.6	2 PhD, 2 MArch	2	1
Assistant Professor	3	3.0	1 PhD, 2 MArch	2	0
Lecturer/Sr. Lecturer	4	4.0	2 MArch, 2 BArch	4	2
Adjunct Lecturer	35	14.17	16 MArch, 14 BArch, 1 BA, 1 MSAAD, 1 MLA, 1 MA Ag, 1 JD	22	28
Total	**50**	**31.5**		**35**	**24**

Figure A-1 | SoA Faculty by Rank
employed for Fall 12 and/or Spring 13
*where FTE fluctuates between semesters, an average FTE value was used

1-1.6.2b School Technology

During the same period, the School has invested over $225,000 on IT (spending the majority of this in 2010-2011, the first year of elevated Differential Tuition revenue and the only year in memory without a budget cut, in preparation for impending cuts):

School of Architecture
IT expenditure

year	IT BUDGET	percent of School budget	software	faculty + staff equipment	printers + plotters	digital fabrication	studio, seminar, + jury room technology	servers, workshops, training, other
2010-2011	$176,213	7.9%	$1,760 1%	$16,060 9%	$26,586 15%	$82,960 47%	$7,780 4%	$41,067 23%
2011-2012	$20,000	0.9%	$1,600 8%	$2,380 12%	0%	0%	$12,889 64%	$3,131 16%
2012-2013	$30,000	1.2%	$2,400 8%	$8,000 27%	$4,400 15%	0%	0%	$15,200 51%
total	$226,213							

Significant investments during this period included:

- LASERS: two laser cutters @ $22K each, increasing laser group to three.
- 3D PRINTERS: a new 3D printer @ $45K, the use of which allowed us to build a second smaller one for $1200.
- DIGITAL ROUTER: a new digital router @ $40K
- LARGE FLAT-SCREENS: Installation of screens for presentation and video-conferencing in seminar rooms and jury areas—an on-going project of which many more are needed.

1-1.6.2c Printing/Plotting

Previously provided by individuals or offered as a fund-raising venture by AIAS, student printing and most faculty/staff printing has been centralized. Automated scanning has greatly reducing our use of paper. The School purchased a high speed, high volume, black-and-white plotter (Océ Plotwave 300: $19K) and a color plotter (HP DesignJet T1200ps: $7,500).

In spite of student discontent in the process of converting to centralized printing, all students now use the same system and, more importantly, pay the same rates. The schools buy the hardware; the students pay for expendables, prorated per job (and coordinated through the University's CatCard system). The resulting rates approximate commercial rates, though it is not always possible for the college to undercut high volume commercial print shops and still break-even. Students have been consulted regularly during this transition; the Dean's Student Advisory Council was a participant.

The greatest remaining problem is the laser bank: software does not exist that will track usage by distance-burned, which is the only equitable measurement of use. To date, we have employed a remotely-monitored honor system; we are moving to a by-job charge that, though not accurate, will be more equitable than allowing an estimated 70% of students to run laser jobs without paying. The laser expendable costs are pooled with print/plot costs in setting rates.

1-1.6.2d Student Computing

The Frank Mascia Computer Classroom provides about 30 computers with a complete suite of advanced design- and practice-based software for class and individual student use. This allows instructors to have a consistent and controlled computing environment while providing students advanced software and high-speed computing to augment personal machines. Approximately five courses per semester use this facility. We changed from a monitored fixed-hour schedule for individual use to a video-monitored 24/7 system. Usage has increased dramatically. Updating and replacing the hardware in this lab is about $45K per cycle; it should be done every two years but is occurring every four.

Student computing support is difficult due to licensing restrictions on non-University owned equipment and the diversity of hardware and operating systems owned by students. AutoDesk's free software for students; University-provided MicroSoft, Adobe, and other softwares; and discounts for students from other developers puts most software within reach of our students. This information, along with recommended hardware requirements, is updated annually and posted on our website:
http://www.cala.arizona.edu/node/894

1-1.6.2e Software Education

The School manages its selection and teaching of software through the Design Communications Stream faculty, which maintains a matrix of programs with indications of when they should be taught and at what level (the M.Arch Digital Technologies Matrix is shown in FIG 2.45; the B.Arch version is not included due to lack of space)**.** The School teaches software by giving students repeated exposure at increasingly complex levels, often spanning courses and years. The Digital Technology Matrices, one for each accredited degree, is revised annually; as the School increases its digital proficiency, digital pedagogy is systematically moved into early positions in the curriculum.

As do all schools of architecture, we wrestle with the distinction between training and education; because software proficiency is a prerequisite for learning, we accept that we must do both. When we deliver what is primarily a training function, we offer it in a workshop or summer session as an elective. Students with high proficiency are paid by the School to offer short workshops to their peers. Since 2010, the Southern Arizona Revit User Group has provided free support and ad hoc instruction to our students.

1-1.6.2f Personnel + Digital Expertise

To launch its digital renaissance, the School hired two digitally-savvy Assistant Professors in 2009-2010; Assistant Professor Dickinson is still here and is Coordinator of the Design Communications Stream. Under her guidance, the Stream has changed from a rendering pedagogy to one devoted to digital design, fabrication, and presentation. A digitally-savvy architect and former member of the Pritzker Prize winning firm, Morphosis, commuted from LA during 2010-2011 to teach and introduce the School to Integrated Project Delivery (IDP), the revolutionary connection between design and building that has transformed the building industry in the past five years. (Budget cuts have since impeded our ability to bring in visiting professors from advanced practices.)

While many of our faculty members are reasonably proficient with digital graphics, few are up to date on professional tools that have become mainstream in the past five years, such as Building Information Modeling (BIM). Because most firms in Tucson are small proprietorships without the resources or construction demands to remain digitally current, we have increasingly hired adjuncts from Phoenix who have a broader range of practice experience and building types.

It is impossible to have a digitally literate school without a critical mass of the faculty who are digitally current. We periodically have workshops for current faculty on digital practices:

- Jan 2011: The Alliance for Construction Excellence gave our Faculty a

symposium on Integrated Project Delivery.

- Feb 2011: Phillip Bernstein, VP for Industry Strategy & Relations at Autodesk, Inc., lecturer at Yale School of Architecture, and coauthor of *BIM in Academia* gave a seminar to the Faculty on BIM and the state of teaching it in higher education.
- 8-9 Aug 2012: Two-day faculty workshop on BIM utilizing Autodesk Revit.
- In 2010, Patti van Leer was hired to the Architecture Office to bring advanced digital capabilities to the staff.

1-1.6.3 History + Theory Stream

As previously recounted (1-1.5.3), this Stream lost its entire faculty between 2008-2010. Two new tenure / track faculty started this year. Associate Professor Schrenk from Norwich University has extensive teaching experience, research specialization in Wright and the 1933 Chicago fair, and is a world traveler and a master of global architectural history. Assistant Professor Robinson recently finished her dissertation at Berkeley on the development of the student union as a building type and emerging cultural institution. She is a graduate of Smith and has taught design studio at Iowa; her specialization is contemporary work and theory. This a formidable team. They are re-writing the curriculum, making it global in scope and cross-disciplinary in nature.

1-1.6.4 Practice Stream

This stream is in transition, due to many and rapid faculty changes, including a tenured Professor of Practice who departed in 2012. It needs to be updated to recent modes of practice and delivery, such as Integrated Project Delivery and Building Information Modeling. Electives to strengthen this stream have been added (1-1.3.4).

1-1.6.5 Fabrication

With our exceptional Materials Lab and extensive design/build pedagogy, we realized a need for more rigorous craft instruction so students could be prepared to take advantage of these opportunities. We added two developmental fabrication courses to the B.Arch curriculum: ARC 297m and ARC 397M Material Fabrication 1-2.

1-1.6.6 ARE

A few years ago, we recognized a need to improve our graduate's performance on the Architectural Record Exam. To date, we've only had resources to concentrate on our coursework. Our ARE Pass Rates have improved 26% in the past three years.

SoA ARE pass rates

	Programming, Planning & Practice		Site Planning & Design		Building Design and Construction Systems		Schematic Design		Structural Systems		Building Systems		Construction Documents & Services		average
	#	pass rate	#	pass rate	#	pass rate	#	pass rate	#	pass rate	#	pass rate	#	pass rate	
2008	8	50%	5	60%	8	12%	4	50%	5	40%	6	50%	9	22%	41%
2009	27	52%	22	64%	35	46%	33	64%	27	63%	22	55%	30	47%	56%
2010	34	59%	37	73%	17	65%	36	81%	18	67%	24	50%	37	51%	64%
2011	40	60%	41	88%	35	60%	34	76%	35	63%	31	58%	37	62%	67%

1-1.7 STRATEGIC PLAN

The College Strategic Plan, which includes the School, is too long to include in this document, given the size limitation. These documents will be available in the Team Room.

1-2 | Resources

1-2.1 HUMAN RESOURCES & HUMAN RESOURCE DEVELOPMENT

1-2.1.1 Faculty

1-2.1.1a M.Arch faculty

The School does not have separate graduate versus undergraduate faculties; for reasons of nurturing collegiality, we prefer to have a regular flow between degree programs. Teaching assignments are made according to qualifications, diversity, and teaching need. Faculty teaching in the M.Arch program is indicated in (FIG 2.31-FIG 2.33).

1-2.1.1b program chair

The MS.Arch programs and the M.Arch degree each have a Program Chair who is responsible for recruiting, curriculum quality and development, student progress and satisfaction, and accreditation fulfillment. This person also chairs the admissions committee. This appointment does not include course release, but is counted toward the faculty member's Service. There is a modest summer stipend accompanying this appointment, which incentivizes recruiting and degree completion. The M.Arch Program Chair's stipend is calculated according to the following formula:

for every cohort at each program level that completes the academic year with an enrollment in excess of ten students, the stipend is $100/student.

The Program Chair is assisted by the Kathleen Landeen, the Graduate Program Coordinator (1-2.1.2a). The Director, in coordination with the Program Chairs, makes recruiting awards, student assistant assignments, and teaching assignments.

The Program Chair of the M.Arch degree is currently Associate Professor Christopher Domin (CV in 4.11). Professor Domin championed this degree since its inception and has been devoted to its successful accreditation.

School of Architecture **Master of Architecture tea**

2010-2011 PRE-PROFESSIONAL PHASE

faculty expertise		510a	510b	510c	520a	520b	520c	526	527	530	540a	540b
Rocky **Brittan**	Award-winning architectural photographer. Research centers on energy/water conservation and use of sustainable materials.											
Nader **Chalfoun**	During the last three decades has developed one of the strongest and most established energy education programs in the nation and the international communities.											
Martin **Despang**	Award-winning architect and designer with special interest in construction methods and materials.											
Susannah **Dickinson**	Designing and managed projects at Gehry Partners and SHoP Architects. Has published papers on Architecture and Biological Systems (ACSA) and Biomimetic Performance (ARCC).											
Christopher **Domin**	Co-author of *Paul Rudolph: The Florida Houses*. He lectures internationally on the topic of regional modernism and technological innovation.					✓						
Dennis **Doxtater**	Developed custom software to investigate the symbolic linkage of large-scale landscapes to contemporary architectural settings, e.g. interpretative centers. Teaching focuses on way-finding, task performance, social territories, cultural expression, and visual/non-visual aesthetics.							✓				
Steven **Ehlbeck**	Registered architect with background/trining in civil engineering.									✓		
Pavel **Getov**	Registered architect with own practice. Interests in sustainable design and architectural pedagogy.											
Drew **Gorski**	Registered architect with interests in historical preservation, conservation, and social architecture.											
Bob **Joyce**	Registered architect with research focus on ergonomic design.											
Bill **Mackey**	20 years experience in the generation of maps, signs, field guides, checklists and other ephemera that depicts human relationships to natural and built landscapes. Has recieved numerous.											
Alvaro **Malo**	Founder/Director of the Emerging Material Technologies Graduate Program. Research focuses on economy of energy and materials		✓									
Frank **Mascia**	Long-time local architect with interest in developing internships and professional practice standards.											
Larry **Medlin**	Academic and professional focus on lightweight and fabric design/construction methodologies.			✓	✓		✓					
Wil **Peterson**	Peterson teaches technology courses and studio while maintaining an architecture practice emphasizing appropriate technology (high and low) in pursuit of a sustainable built environment.	✓										
Paul **Reimer**	Registered architect in private practice. Extensive teaching experience.										✓	✓
Elizabeth **Scott**	Registered geologist and landscape architect with specializations in desert environments and walkable cities.							✓				
Beth **Weinstein**	Experience working on large cultural and social housing projects, and design of building envelopes, informs her aim to integrate building systems and urban systems. Practice and scholarship of design for performance informs studios addressing event space at building and urban scale.											

ching assignments

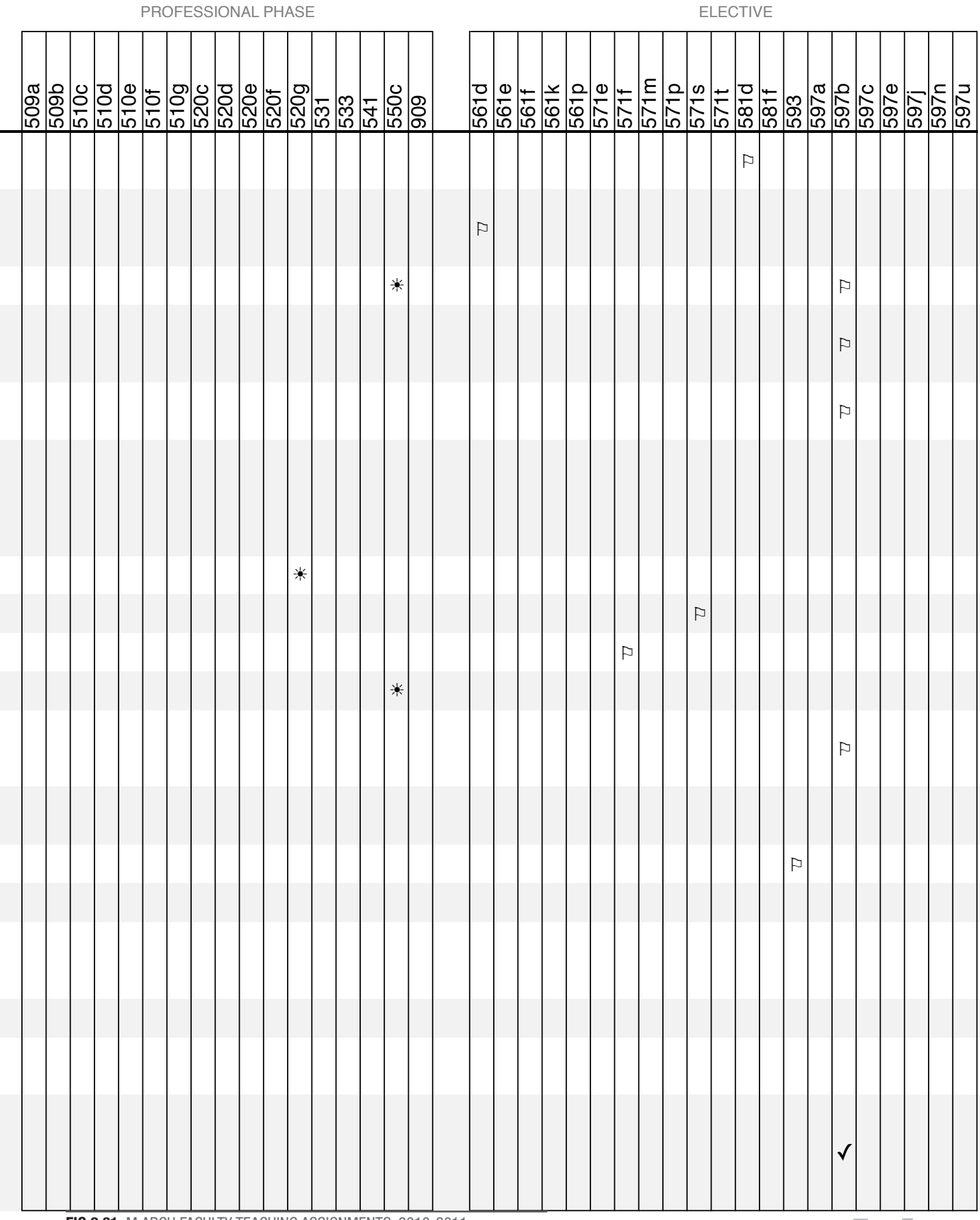


FIG 2.31 M.ARCH FACULTY TEACHING ASSIGNMENTS, 2010-2011

School of Architecture **Master of Architecture tea**

2011-2012 PRE-PROFESSIONAL PHASE

faculty expertise		510a	510b	510c	520a	520b	520c	526	527	530	540a	540b
Brian **Andrews**	Has taught architectural drawing course at 10 Universities over the past 25 years. Co-authored the book *Principia*, which has been a critical part of his research.											
Ray **Barnes**	Master's in Design and Energy Conservation and membership in ASHRAE, ASES and AIA. Provides 30 years of HVAC systems coordination experience.											
Nader **Chalfoun**	During the last three decades has developed one of the strongest and most established energy education programs in the nation and the international communities.											
Jean-Luc **Cuisinier**	Registered architect with extensive experience in building and fabrication. Also serves as Materials Lab Corrdinator.											
Martin **Despang**	Award-winning architect and designer with special interest in construction methods and materials.											
Christopher **Domin**	Co-author of *Paul Rudolph: The Florida Houses*. He lectures internationally on the topic of regional modernism and technological innovation.		✓			✓						
Brooks **Jeffrey**	Expertise is based on 30 years of preservation work throughout the world, $1.8 million in grant funding, and 40 peer-reviewed publications.											
Anke **Koeth**	Trained as an architect with advanced degree in architectural history.									✓		
Michael **Kothke**	Over twenty years of experience in practic. Teaching philosophy and focus is rooted in the inherent coordinative and collaborative processes of Architecture.								✓			
Colby **Moeller**	Registered architect with research emphasis on successful integration and application of environmental control systems, especially as applied to larhe institutional projects.											
Wil **Peterson**	Peterson teaches technology courses and studio while maintaining an architecture practice emphasizing appropriate technology (high and low) in pursuit of a sustainable built environment.	✓			✓							
Ian **Regan**	Registered architect with experience in green design technologies and desn/build projects.											
Paul **Reimer**	Registered architect in private practice. Extensive teaching experience.										✓	✓
Teresa **Rosano**	Award-winning architect in private practice. International reputation for modern desert architecture respesentative of the "Arizona School."											
Mark **Ryan**	Registered architect in private practice with experience in local built environment.											
Elizabeth **Scott**	Registered geologist and landscape architect with specializations in desert environments and walkable cities.							✓				
Bob **Vint**	Practicing architect with a deep interest in cities. Focused on community design and urban infill projects. Co-author of *Southwest Housing Traditions: Design, Materials, Performance* which stresses the importance of town planning in the design of housing environments.											
David **Wald-Hopkins**	David Wald-Hopkins brings to this course 34 years of experience as a practicing architect and Managing Principal, responsible for the marketing and financial performance of his firm.											
Beth **Weinstein**	Experience working on large cultural and social housing projects, and design of building envelopes, informs her aim to integrate building systems and urban systems. Practice and scholarship of design for performance informs studios addressing event space at building and urban scale.											

ching assignments

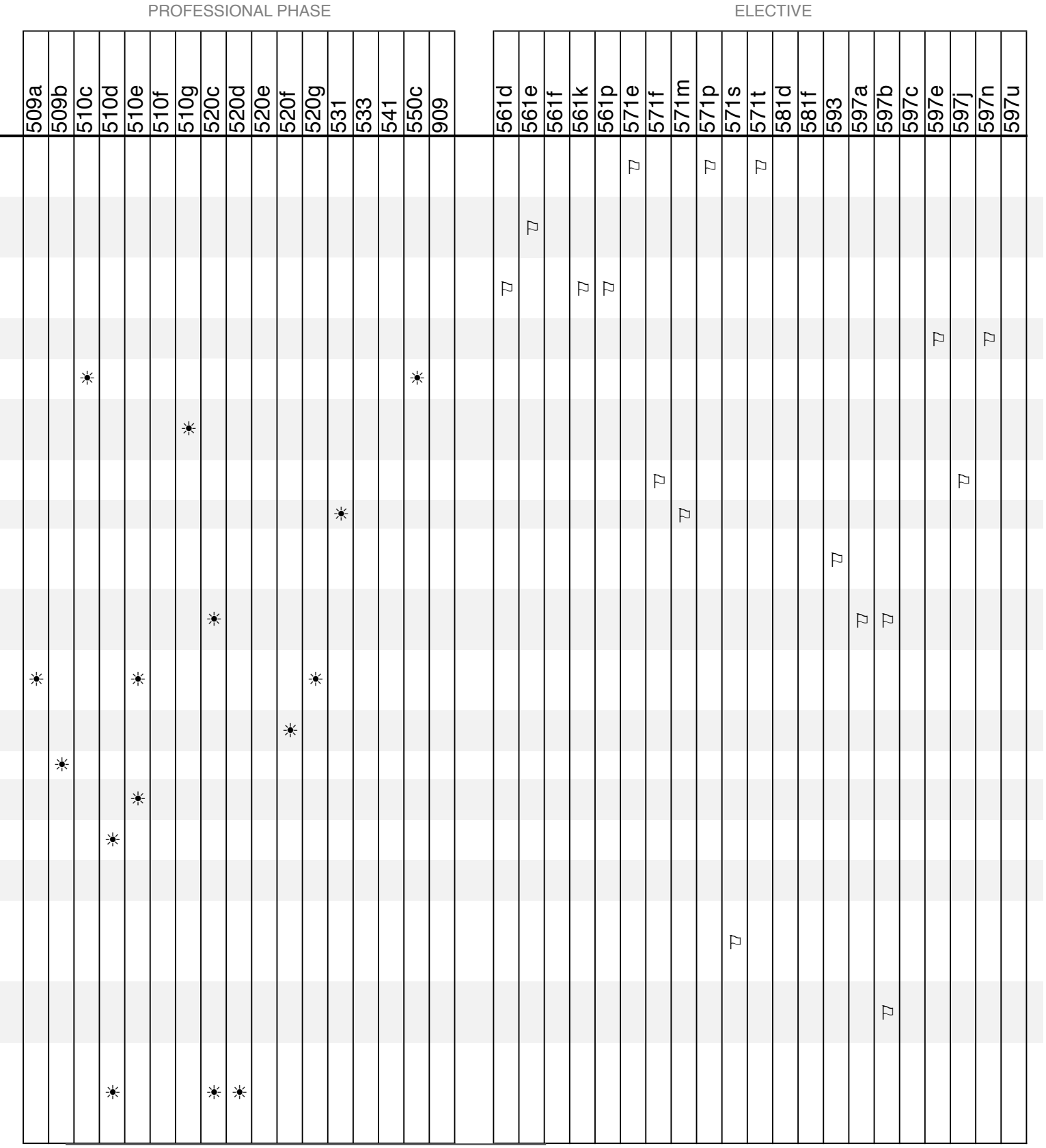


FIG 2.32 M.ARCH FACULTY TEACHING ASSIGNMENTS, 2011-2012

School of Architecture Master of Architecture teac

2012-2013 PRE-PROFESSIONAL PHASE

faculty expertise		510a	510b	510c	520a	520b	520c	526	527	530	540a	540b
Brian **Andrews**	Has taught architectural drawing course at 10 Universities over the past 25 years. Co-authored the book *Principia*, which has been a critical part of his research.											
Ray **Barnes**	Master's in Design and Energy Conservation and membership in ASHRAE, ASES and AIA. Provides 30 years of HVAC systems coordination experience.											
Rob **Bass**	Registered architect with over twenty years design experience from urban infill projects to residential. Has taught design studios from foundation studio to 4th year comprehensive systems studio.			✓								
David **Bullaro**	Practicing architect currently creating technical drawings, structural concepts and participating in construction administration. Especially adept at passing technical knowledge on to emerging architects.											
Ruben **Caldwell**	Eight years working as a carpenter and contractor. His firm is a multidisciplinary office with a focus on collaboration and diverse project types.											
Nader **Chalfoun**	During the last three decades has developed one of the strongest and most established energy education programs in the nation and the international communities.											
Mel **Cohen**	Involved in negotiating contracts for construction projects and litigating construction disputes since 1974. Represented all of the different interests involved in construction.											
Jean-Luc **Cuisinier**	Registered architect with extensive experience in building and fabrication. Also serves as Materials Lab Corrdinator.											
Susannah **Dickinson**	Designing and managed projects at Gehry Partners and SHoP Architects. Has published papers on Architecture and Biological Systems (ACSA) and Biomimetic Performance (ARCC).											
Christopher **Domin**	Co-author of *Paul Rudolph: The Florida Houses*. He lectures internationally on the topic of regional modernism and technological innovation.		✓			✓						
Brooks **Jeffrey**	Expertise is based on 30 years of preservation work throughout the world, $1.8 million in grant funding, and 40 peer-reviewed publications.											
Michael **Kothke**	Over twenty years of experience in practic. Teaching philosophy and focus is rooted in the inherent coordinative and collaborative processes of Architecture.								✓			
Jen **Levstik**	M.A. in Historic Preservation and has been involved in Cultural Resource Management for over 14 years. She currently serves as a Preservation Lead Planner for the City of Tucson Historic Preservation Office.											
Bill **Mackey**	20 years experience in the generation of maps, signs, field guides, checklists and other ephemera that depicts human relationships to natural and built landscapes. Has recieved numerous grants.											
David **Newton**	Teaching and research focus on algorithmic design processes, digital fabrication, hybrid environments, and biomimicry. Work has been published by AD Magazine and the Architectural Association. Participated on The High Line Park project in NYC.											
Wil **Peterson**	Peterson teaches technology courses and studio while maintaining an architecture practice emphasizing appropriate technology (high and low) in pursuit of a sustainable built environment.	✓			✓							
Paul **Reimer**	Registered architect in private practice. Extensive teaching experience.										✓	✓
Clare **Robinson**	Designer, historian, and theorist who ably bridges practice and theoretical discussions about architecture in her courses.											
Mark **Ryan**	Registered architect in private practice with experience in local built environment											
Lisa **Schrenk**	Ph.D. and 20+ years of teaching experience. Significant world travel. Long record of research and publishing, including book on the architecture of 1933-34 Chicago world's fair.									✓		
Elizabeth **Scott**	Registered geologist and landscape architect with specializations in desert environments and walkable cities.							✓				
Chris **Trumble**	Expertise in practice pedagogies, in particular empirical methodologies for the study of structural behavior and design, and interest in nature as a design analogue was motivation to introduce, develop and administer the Nature of Structure course.											
Bob **Vint**	Practicing architect with a deep interest in cities. Focused on community design and urban infill projects. Co-author of *Southwest Housing Traditions: Design, Materials, Performance* which stresses the importance of town planning in the design of housing environments.											
David **Wald-Hopkins**	David Wald-Hopkins brings to this course 34 years of experience as a practicing architect and Managing Principal, responsible for the marketing and financial performance of his firm.											
Beth **Weinstein**	Experience working on large cultural and social housing projects, and design of building envelopes, informs her aim to integrate building systems and urban systems. Practice and scholarship of design for performance informs studios addressing event space at building and urban scale.						✓					

ching assignments

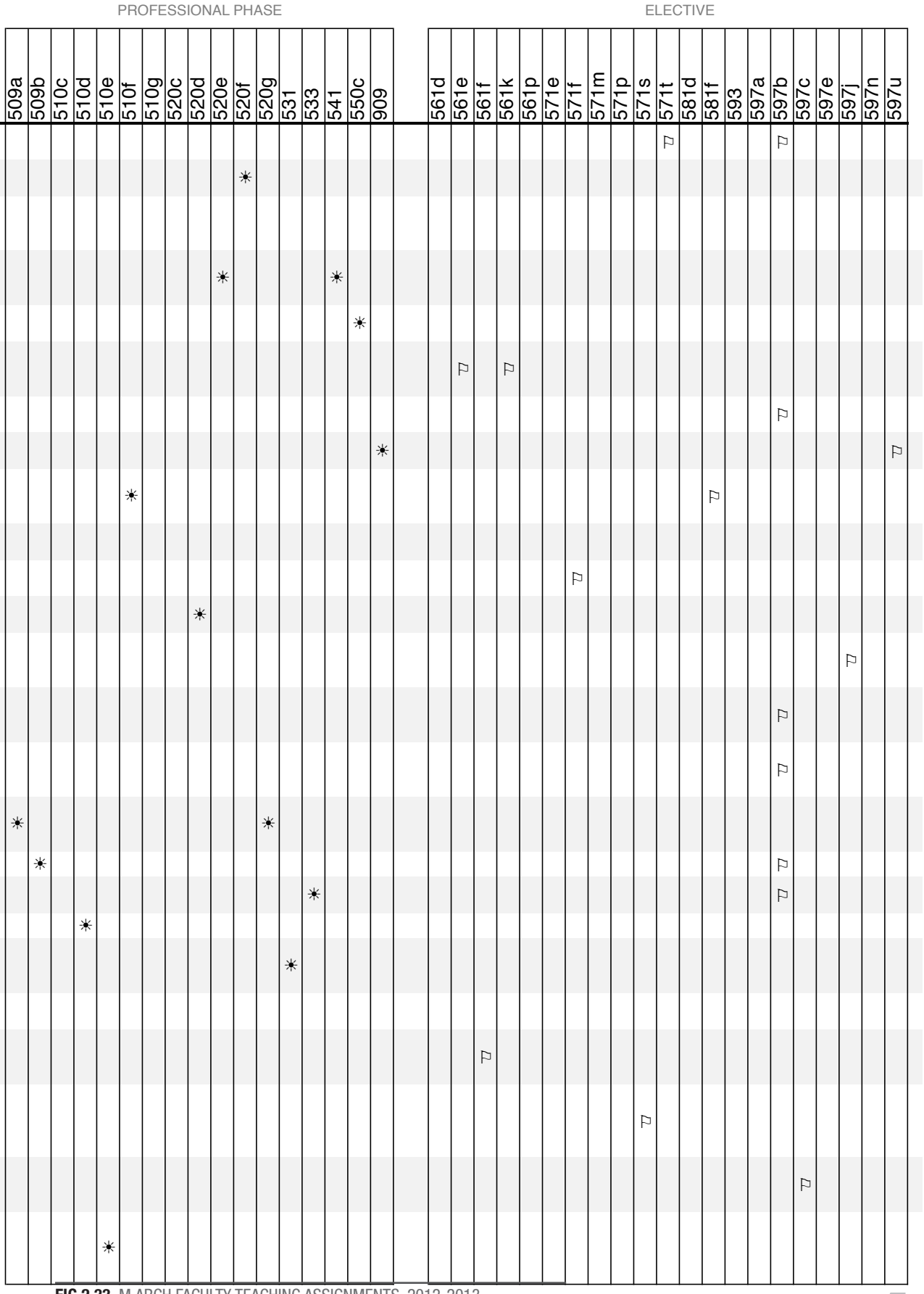


FIG 2.33 M.ARCH FACULTY TEACHING ASSIGNMENTS, 2012-2013

1-2.1.1c IDP coordinator

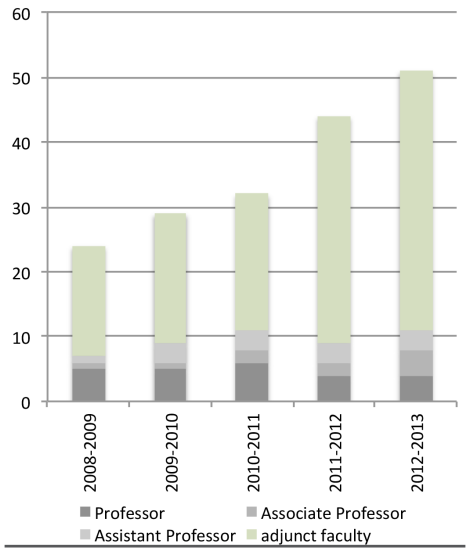


FIG 2.10 FACULTY COMPOSITION, BY TYPE/RANK

The School's IDP Coordinator is Lecturer Michael Kothke (appointed Fall 2010), an NCARB Certified Architect who himself went through the internship process. In Fall 2011, he worked with IDP Director Harry Falconer in an all-School introduction to IDP 2.0. He regularly attends IDP Coordinator training and development programs; via LinkedIn, he belongs to the IDP Coordinators group. He communicates regularly with NCARB's IDP personnel as well as state level IDP Coordinators. He maintains regular communication with students through ARC 493/593 Internship, email, and scheduled appointments.

His duties and resume fulfill NCARB's IDP Education Coordinator requirements:

- An architect licensed in a US jurisdiction or Canadian province.
- An NCARB Record holder who has completed IDP.
- A professional practice faculty member.
- A career counselor/internship coordinator in a college/school of architecture.

1-2.1.1d faculty composition by type

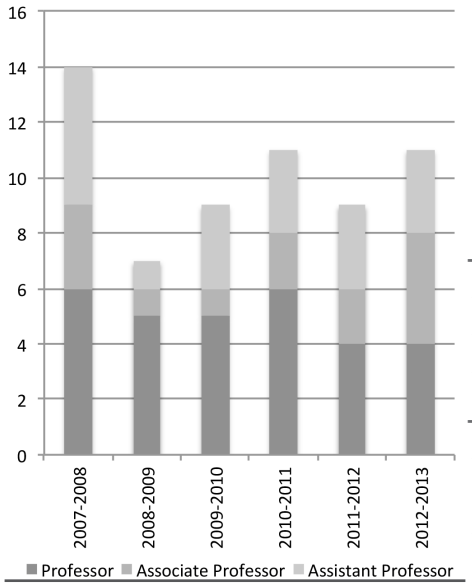


FIG 2.9 T/T FACULTY COMPOSITION

The number of tenure / track faculty has been slowly built-back after being halved in 2008-2009; in the past three years, we have achieved a balance in numbers between ranks, which is optimal.

Over the same period, the composition of our Faculty has become increasingly comprised of Adjuncts in response to budget pressures (***), the increased teaching needs created by the new M.Arch degree, and a curricular emphasis more strongly focused on critical practice (1-1.5.2).

→ In AY 2012-2013, Adjuncts make up:

- 78% of the Faculty in number of persons;
- 64% in FTE; and
- 77% in CU taught.

→ Workload targets by faculty type are:

- Tenure / Track Faculty:
  teaching (40-60%), research (20-40%), and service (0-20%)
- Adjunct:
  teaching (80=100%), research (0-10%), and service (0-40%)

This faculty type is so important to the School that *adjunct*, meaning something "something added as supplementary rather than essential" is no longer an apt categorization. The majority of the School's Service and Teaching is done by Adjuncts, leaving virtually all the Research to our eleven tenure / track faculty. Moreover, with two of our four full Professors currently holding 150% of their combined workload in administration (serving as Associate Dean and Director), the Adjuncts have had to transform into a vital and fully-engaged force. And they have.

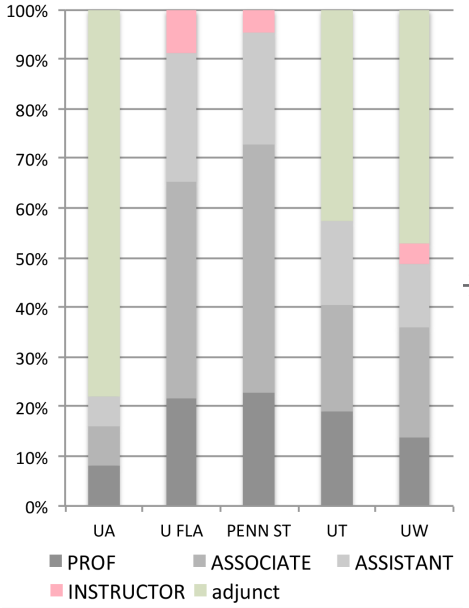


FIG 2.11 UA-TO-PEERS, FACULTY BY RANK

We are aware that a large adjunct faculty leaves the School open to instability and institutional amnesia, not to mention that it requires a larger administrative effort. This composition has also mandated a radically different culture than the UA had previously known and one that has been, but may soon be less, rare among architecture schools in the country. As discussed in 1-2.1.1i, we need better institutional support and career trajectories for adjuncts if this model is to prove viable.

→ADJUNCT DEVELOPMENT: Adjunct faculties require time, training, and development to become adept at teaching. This investment cannot be overlooked in an effort to save money. The School is working on adjunct development. Adjuncts are eligible and encouraged to apply for development funding and to participate in presentation of scholarly work and design awards.

Particularly when a faculty is comprised of a large adjunct population, there needs to be a clear career trajectory with appropriate rewards. Some portion of the adjunct faculty need to have, and be committed to, an extended relationship with the school. The College recently passed into its Bylaws a more rigorous procedure for adjunct ranks:

- Adjunct Lecturer
  qualifications: appropriate professional or relevant degree, appropriate experience.
  duties: teaching and service.
  term: 1-2 semesters, full- or part-time service, with indefinite reappointment possible. 0.25-1.0 FTE.
  process: appointment by Director.
- Lecturer
  qualifications: proven record as an Adjunct Lecturer during which Lecturer abilities were in evidence.
  duties: Adjunct Lecturer duties plus leadership in service, curricular development, or studio coordination; investment in the cultural life of the School; demonstrated and widely recognized collegiality.
  term: 1-3 years, rolling reappointment, full- or part-time service, with indefinite reappointment possible.
  process: appointment by Director with approval by Dean and Provost.
- Senior Lecturer
  qualifications: proven record as Lecturer during which Senior Lecturer abilities were in evidence.
  duties: Lecturer duties plus initiative in improving the pedagogy, culture, and collegiality of the School.
  term: 1-3 years, rolling reappointment, full- or part-time service, with indefinite reappointment possible.
  process:

Nomination. Candidate shall be nominated by the school Director to the Dean.
Submittal. Candidate is responsible for the preparation and submittal of a digital dossier, to include contents required by the respective school's Annual Performance Review covering at least the most recent five years.

FSC and Director's Reviews + Recommendations. Based on performance observations, interviews with peer faculty and students, and the dossier, the College Faculty Status Committee and the school director shall separately and autonomously review and recommend for or against promotion to Senior Lecturer.
Review + Recommendation. Based on the director's and FSC's recommendation, and after review of the dossier, the Dean shall recommend to the Provost for, or against, promotion.
Approval. Promotion must be approved by the Provost.

While this proposal is not adequate to the needs of building a good non-tenure career track, it is a temporary measure to acknowledge and reward the important work of a few people.

→FACULTY CULTURE: The change in faculty composition has been difficult for tenure / track faculty members and adjuncts alike. A faculty with a high percentage of adjuncts requires a faculty culture with equity, rights, and responsibilities for faculty of all types. Adjunct faculty members cannot have lesser authority over their status than their tenure / track colleagues do, and still feel ownership and equity in the School. Authority and rights need to be distributed and appropriate to the issues at hand.

The School has given adjuncts significant responsibility and authority over the past three years. All studio coordinators are adjuncts this year (by happenstance, not policy); 50% of the voting faculty on the Curriculum Committee are adjuncts (elected by the faculty). School's Faculty Status Committee has no provision for adjunct participation in review of either adjuncts or tenure / track faculty, yet tenure / track faculty sit in review of multi-year adjuncts.

1-2.1.1e faculty composition relative to Peers and schools nationally

To a higher degree than its Peers ("Footnote 2"), the UA runs on an adjunct faculty. Relative to the whole faculties, our adjunct group is highest in:

- number of persons, and
- % of both FTE and Persons, yet
- lowest in FTE-to-Persons.

For example, the adjunct faculties at the University of Texas at Austin and University of Washington at Seattle have a large body count but low FTE number, meaning their adjuncts have a low teaching load: they come to school, deliver a course, go home. At the UA, the FTE-to-Persons ratio is

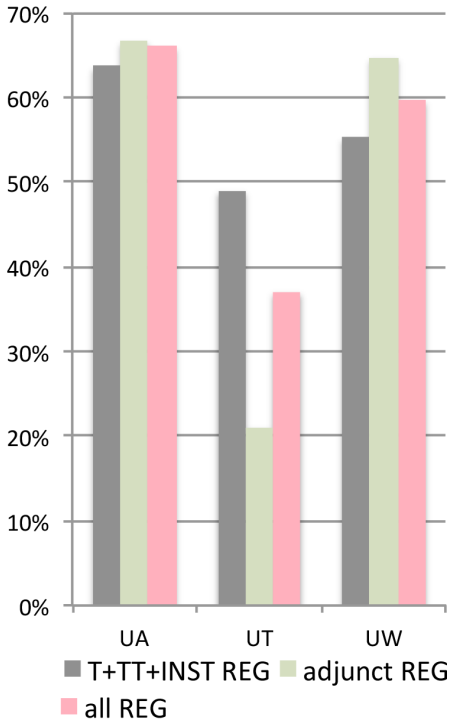


FIG 2.12 UA-TO-PEERS: FACULTY BY REGISTRATION

47%, meaning our adjuncts carry, on average, a half-time load.

At the Peer institutions and across the American academy in general, adjuncts are generally considered specific-course teachers without a larger scope of service. Many adjuncts at the SoA carry significant loads in both teaching and service. Non-tenure / track faculty who function at this level are usually classified as Instructors and often given a permanent position.

The School's faculty composition also stands out in national comparison. During 2010-2011 the percentage of UA adjuncts on faculties and the lopsided distribution of our tenure / track faculty is unusual; if we compare the national 2010-2011 data to this year's SoA composition, the tenure / track relative distribution has normalized but the adjunct composition is more pronounced.

Economic trends around the country are beginning to force schools to explore avenues already taken by the UA. As the NAAB 2011 report states, "The distribution across faculty ranks has shifted since 2010 with an increase in the number of instructors (from 43% to 46%) and a corresponding decrease in the number of individuals at the other ranks." The national trend is to move to non-tenure / track faculty because they are more economical: they cost less per person, they are seldom paid to do research, and they often can be effective teachers. This trend is important but so new that NAAB does not yet track data in a way that helps us measure it.[7]

1-2.1.1f Faculty Composition by Registration

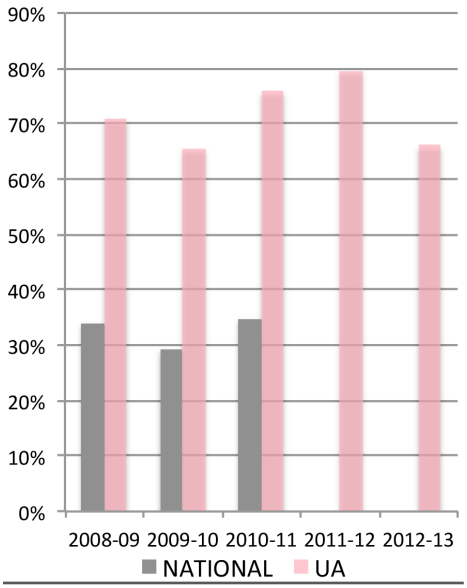


FIG 2.13 UA-TO-NATIONAL: FACULTY BY REGISTRATION

As a percent of faculty by type, and as a whole faculty, the UA has the highest rates of registered architects among our Peers for permanent, adjunct, and overall faculty: 64% / 67% / 66%.

Considered as the ratio of registered-to-not registered in pure numbers, the UA is strikingly ahead of its Peers. The graphs accurately depict our faculty qualified by registration and comprised of a significant body of practicing architects. We have over a dozen active adjuncts who are principals in active practices (Tucson and Phoenix). For the past two years, we have had a notable regional firm teaching one of our year-long Capstone projects, as a firm:

- 2011-2012: Rick Joy Architects
- 2012-2013: Jones Studio

The UA faculty are registered at twice the rate of architecture faculty nationally.

7 2010-11 is the first year NAAB tried to distinguish between Instructors and Adjuncts; 66.4% of the 46% of Instructors that make up faculties were Adjuncts. In NAAB's categorization, an Instructor can be full-time or part-time; have responsibilities for teaching, advising, service, or research; and may or may not be on a tenure track. By NAAB's definition, Instructors are permanent faculty—but also by its definition, Adjuncts are not, yet Adjuncts were included as a sub-category of Instructors. This is now too ambiguous to be useful.

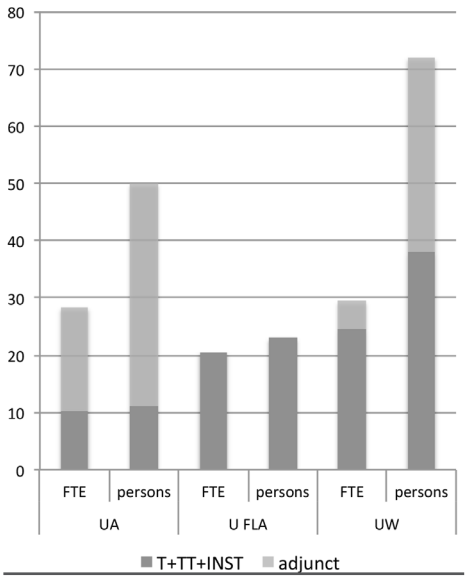


FIG 2.34 UA-TO-PEERS, FACULTY BY TYPE, FTE+PERSONS

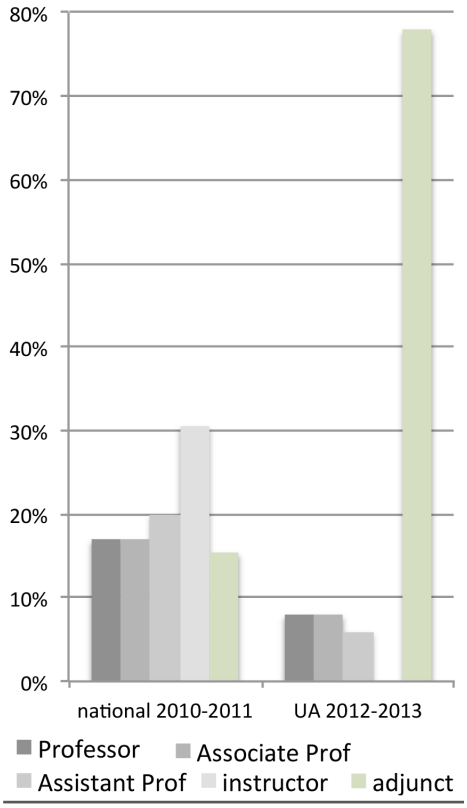


FIG 2.35 UA-TO-NATIONAL, FACULTY BY RANK

1-2.1.1g Faculty Diversity

→COMPOSITION BY GENDER: The School has excellent gender diversity on its tenure / track faculty; for the whole faculty, it beats national averages and is tied with the best Peer schools. The School has made significant strides in increasing the female composition of its tenure /track faculty; it has lost ground on its adjunct faculty. Its ability to increase female hires on the latter is limited by regional practice hires. Details at: 1-1.2.2.

→COMPOSITION BY ETHNICITY: The School is similar to schools of architecture nationally in diversity; it has a lower percentage of minorities than its Peers. 64% of the School's tenure / track faculty self-designates as white; 87% of it's adjuncts do. The School has made efforts to increase diversity; it ability to increase adjunct diversity is limited by regional practice demographics. Details at 1-1.2.2.

→EQUAL EMPLOYMENT OPPORTUNITY/Affirmative Action (EEO/AA): The University's Equal Employment Opportunity, Affirmative Action and Diversity policy is at:
http://www.hr.arizona.edu/01_rec/searches/searchguide.php#0010.0020

1-2.1.1h overview of Faculty research + scholarly contributions

With the transformation of the Faculty into one comprised primarily of adjuncts, we have made a deliberate determination of responsibility: the majority of the School's Service and Teaching is done by Adjuncts, leaving virtually all the Research to our eleven tenure / track faculty.

The School endeavors to contribute to the body of architectural knowledge in ways that parallel and strengthen our teaching and service. Research as

a School is centered around four primary endeavors:

→Energy: The School has a long-standing research program in Design & Energy Conservation, led by Professor Nader Chalfoun. Since the 1970s, we have developed alternative energy and conditioning strategies. The thrust of this effort resides in the MS.Arch—Design & Energy Conservation program, aimed at advancing principles in energy conservation and energy research applicable in different climatic regions. The developed methodologies include climate responsive energy conservation, passive solar design, natural ventilation, and net-zero energy solutions. Research includes site survey methods, field test instruments, and computational work in estimating energy use in the built environment.

Theoretical learning is then verified by empirical research in the Center for Design & Energy Conservation, the House Energy Doctor (HED) program, the Heliodon (24-ft. hemisphere for solar simulation), an outdoor thermal comfort test site with advanced instrumentation and state-of-the-art wireless sensor technology, a boundary-layer contractionless wind tunnel, and an Artificial Uniform Overcast Sky Simulator for daylight testing and photometric measurement. In addition, the program emphasizes hands-on learning through laboratory teaching and field investigation. Interdisciplinary research is pursued in collaboration with the UA Office of Arid Land Studies and Dept. of Aerospace & Mechanical Engineering.

Founded in 1986, the House Energy Doctor program has provided energy audits and sustainability recommendations for over 120 residences, 32 commercial buildings, 9 institutional buildings, and 5 federal buildings in Arizona. In the past five years, this has included three dormitories (UA Residence Life office—2011), three class, research, and laboratory buildings (UA Facilities Management—2012), the Army and Air Force Exchange Service Base Exchange Building (Davis-Monthan Air Force Base—2010), Office Building 7000 (Navy Operational Support Center—2011), and 12 buildings on 3 campuses at the Petrified Forest National Park (U.S. National Park Service, Holbrook, AZ—2008-2009).

Over the program's life, HED has over 76 National and International publications, 54 projects totaling $1.74M in funded research, and offered 22 energy educational workshops nationally and internationally. Professor Chalfoun has helped develop four energy codes (City of Tucson Model Energy Code MEC, CIVANO Sustainable Energy Standard code, City of Scottsdale Green Building Code, and Pima County net-zero energy code); he is currently working on two international energy codes for Hermosillo, Mexico and Bogota, Colombia. Like all of our endeavors, HED integrates teaching, research, and public service.

→Place + Wellbeing: Founded in 2013, The Institute for Place and Wellbeing is a joint venture between Arizona Center for Integrative Medicine

(AzCIM), the College of Medicine, CAPLA, and the Institute of the Environment (IE). Its mission will be to explore and measure the effects of built space and the physical and green environment on human health, emotions, and spirituality. Formerly of the National Institutes of Health (NIH), the Institute will be directed by Esther Sternberg, MD, world-renowned for her discoveries in the science of mind-body interactions. Joining the Institute and wholly assigned to CAPLA (60% SoA; 40% SLAP) is Eve Edelstein, Ph.D., a neurophysiologist with an M.Arch and M.S. A pioneer in using virtual environments to study neurological responses to space and environment, Dr. Edelstein will support the School's general commitment to evidence-based design, expand our growing facility with digital technology, and bring new expertise in healthy environments. We look to The Institute for Place and Wellbeing to greatly expand our funded research while developing a certificate program, an M.Arch specialization, and eventually a Ph.D.

- BERKELEY PRIZE TEACHING FELLOWSHIP for UNIVERSAL DESIGN: Working with School studio faculty, Dr. Edelstein has already won the First BERKELEY PRIZE, a Teaching Fellowship to focus on the social and physical characteristics of the built environment. The curriculum design, "Expanding the Universe of Design: Applying a Neuro-Architectural Process to Create Accessible Cities," will be delivered in collaboration with the University of Arizona Disability Resource Center. By training design students in scientific methods, a new mode of analysis and design research will translate evidence from a range of disciplines and expand the universes of design.

→Materials Lab: In addition to supporting teaching and outreach work, we are working to develop research activity into fabrication technologies and emerging materials in the Materials Lab. Two projects are in development:

- Digital Hotwire: Taking the principles of the architect's manually maneuvered hotwire (for cutting foam in the construction of models), we have a first generation prototype that uses electrified wires to cut foam in three axes, allowing digital models to produce physical ones.
- Concrete Printer: Starting with components from an old 3D printer, the staff figured out how to print forms using a liquid-ceramic matrix. We now have a third generation prototype in production that generates ceramic forms, up to 1-meter cubed, from digital models.

→The Pedagogy of Practice Education: The School is committed to professional education in a more innovative and engaged manner than is typical in accredited degree programs. Toward this end, we are advancing a hands-on, learning-by-doing, mode of delivery that we believe is appropriate both for an architecture school committed to critical practice and for a state school with our student demographics. The areas where this

approach are most evident in research:

- structures pedagogy: Assistant Professor Chris Trumble has developed, and is currently publishing, a hands-on structures pedagogy. Using the Materials Lab and high speed digital video, students build and break structural components in order to learn, viscerally as well as intellectually, the principles of engineering physics.
- design/build pedagogy: The School has a body of scholarship and funded research in design/build projects. Listed here, but enumerated in Section J, we have completed the following:
  - DDBC Houses: Designed for energy- and water-efficiency, the DDBC homes test innovative construction techniques and are equipped with energy sensors and water monitors for post-occupancy analysis. As demonstration homes, they offer case studies on improvements in design and construction practices to professionals as well as the public.
    The Drachman Design-Build Coalition (DDBC) is a subsidiary of CAPLA's Drachman Institute. Incorporated in 2004, DDBC became a 501c3 housing provider in 2006 and is a licensed, fully bonded and insured residential general contractor. Since 2006 after started by a grant from the City of Tucson, DDBC has completed five sustainable, affordable houses on land provided by the City in Barrio San Antonio. All houses have been sold to low-income families through local non-profit housing organizations, such as Habitat for Humanity and Chicanos por la Causa. It consequently pays for its projects through below-market sales; it is a break-even proposition for the School. DDBC2 and DDBC3 both won AIA Design Honor Awards from the Southern Arizona chapter in 2009. The DDBC Houses won the national 2010–2011 ACSA Collaborative Practice Award.
  - Solar Decathlon: From 2008-2010, the School collaborated with Department of Materials Science & Engineering and the Arizona Research Institute for Solar Energy (AZRISE) in the design, construction, and presentation of a solar house to the US Department of Energy's Solar Decathlon. One of twenty international invited entries. the team of students, faculty, and staff designed and fabricated the house; then transported it to Washington, DC for the competition.

    Rose Pedestrian Bridge: This pedestrian bridge traverses has a 60' clear span with beams that express the graduation of moment stress and pin connections. In plan the bridge increases in width at the center to create a sense of place and to reflect the subtle camber of the elevation. Funding: a $305,000 neighborhood improvement grant proposal, Pima County (2005-2009).
  - Bus Shelter Prototypes, City Of Tucson: In 2010-2011, the School was charged by the City with designing and constructing a modular, regionally

specific bus shelter that could be adapted solar differences occasioned by orientation. The significant issue was providing shade while also giving patrons in the shelter a view of on-coming busses. Our prototype was approved; four shelters were fabricated and installed, one facing each cardinal point. Funding: $20,000 Communities Putting Prevention to Work Grant, $3000 Drachman Institute, (2010-2011).

- Bus Shelters, City Of Marana: Having seen a presentation of the Tucson Bus Shelter Prototypes to the Regional Transportation Authority, The City of Marana contracted with the School to design, build, and install two custom bus shelters for the City's Civic Transit Center. Designed, not as prototypes, but as site-specific shelters with a large patron capacity, the shelters' horizontal louver system was calibrated to eliminate early morning and late afternoon solar exposure, but configured in varied densities to accommodate seated vs. standing occupant vistas. Funding: $69,948 Town of Marana, (2011-2013).
- AzCA Playground: Designed and built for the Arizona Children's Association (AzCA), the School received $50,000 in grants to design and build a 5,000 SF outdoor play environment for 2-5 year-olds in south Tucson (2011-2012). Innovative in design and materiality, the project merges landscape with architecture and demonstrates that projects for children need not be child-like or simple. Funding: $45,369 Communities Putting Prevention to Work Grant, $7000 Jeff Kozak, $7000 SoA.
- Apart from individual projects, we are starting to reinvent our fabrication pedagogy for what we call "Design/Build 2.0." In spite of its popularity and benefits, design/build is plagued by many liabilities: it is expensive; it imposes a premium in teaching load, well beyond that required of a conventional academic studio; it requires a huge time investment by students, without a corresponding payback in learning; where the deliverable is for the public or a client, the quality control issues are significant; and, there are obvious legal and safety challenges.

  It is time to rethink design/build education, making it smarter and more efficient with higher payback for faculty and students. Professors Trumble, Hardin, and Miller presented a prospectus on this forthcoming effort at the 2012 AIA Western Mountain Region and Northwest Pacific Region Joint Conference; we have just received a major grant for this work:

- Partnership Grant | $2,483,150 | Social Sciences and Humanities Research Council of Canada | "Thinking While Doing: Connecting Insight to Innovations in the Construction Sector"

  We are creating an innovation cluster to develop and promote new best practices for construction technology research and a new international network focused on "design/build" practices.

Design/Build team: Schools of Architecture from Dalhousie University, University of Louisiana at Lafayette, University of North Carolina at Charlotte, and the University of Arizona.

1-2.1.1i recruiting and planned hires

→TENURE / TRACK HIRES

- Retirements: Three tenured senior professors retired after AY 2010-2011.
- History + Theory: One tenured and one tenure-track faculty member were hired last year, starting this. Both bring expertise in History + Theory; both have research foci in the mid-twentieth century, a concentration that will support our Studio Stream. Together, they are reconfiguring and rewriting our entire History + Theory curriculum, including reestablishing our minor in Architecture History (1-1.6.3).
- Energy: There is currently an open search for a tenure / track position in building technologies with an emphasis on alternative energy and building performance optimization. We are looking for state-of-the-art building performance simulation, including evidence-based energy analyses, in order to disseminate this expertise to our studio curricula. This person will be given a high assignment in funded research and will eventually assume the responsibilities of Dr. Chalfoun.

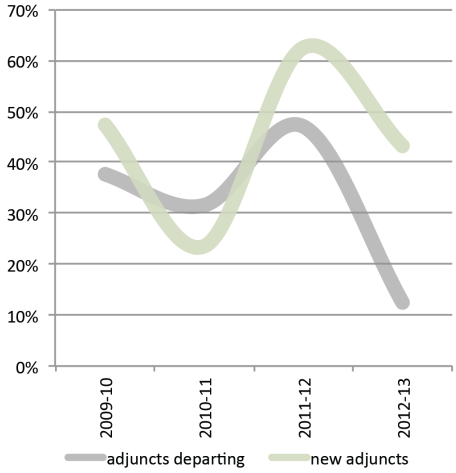


FIG 2.15 ADJUNCT HIRING VS. ATTRITION BY %

→ADJUNCT HIRES

- Senior Lecturer: The Director has nominated one of the current Lecturers for promotion to Senior Lecturer since the recent revision to the College Bylaws.
- Lecturers: The number of Adjuncts has grown in recent years, in numbers and in size relative to the tenure / track faculty. The Lecturer rank has not grown, but needs to, in order to stabilize and solidify this important segment of the Faculty.
- Hiring region: The School relies on local professionals to fill its adjunct ranks and recruits from both Tucson and Phoenix to get a needed mix of experience and qualification. We also endeavor to draw adjuncts from outside the state. In 2011-2012, we had 3 from Phoenix and 1 from Germany; this year, we have 8 from Phoenix and 1 from New York.

  From this region, we are able to get good adjunct expertise for our Studio, Professional Practice, Technology, and Design Communications streams. The same is not true for History + Theory, which led to our two tenure track hires. In general, we can hire adjunct competence in areas that are directly related to professional practice.
- Attrition: There is fluctuation in adjunct appointments, both through attrition and growth. As the graphs illustrate, both attrition and growth went up sharply with the arrival of Director Miller at the end of 2010; growth has eased as a percentage of the adjunct faculty, though in actual

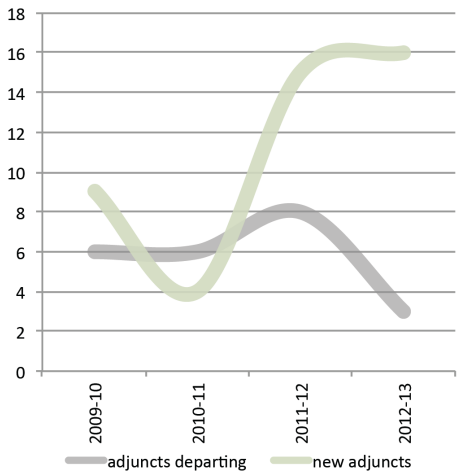


FIG 2.14 ADJUNCT HIRING VS. ATTRITION BY PERSON

numbers it has only leveled-off. Attrition has almost stopped.

It takes a significant effort from the Director to identify, recruit, hire, train, and support adjuncts—and no one claims that support and training is currently adequate. This fluctuation also adds to staff workload in processing annual offers, contracts, reimbursements, and other functions.

Will our adjunct faculty stick with the School when practice conditions improve, or will they abandon teaching?

Will this strategy prove to have been effective only for this phase of difficult economic recession, or, will we have built loyalty and meaningful associations while the opportunity was present?

Even if we able to retain a large portion of practitioners, the isolated location and limited resources of this School suggest that we should embrace a constant, though hopefully limited, fluctuation. We should become a school where young faculty come to get an exceptional start in teaching, then go on to distinguished careers at other places because of the launch they received at UA.

1-2.1.1j faculty compensation

→TENURE / TRACK COMPENSATION

Until recently, salaries for tenure / track faculty have been competitive for full Professors, slightly depressed for Assistant Professors, but below market for Associate Professors. In addition, there were inequities for mid-level tenured faculty: Assistant Professors were being hiring-in at competitive salaries, but Associate salaries had been stagnant. We have corrected this over the past three years.

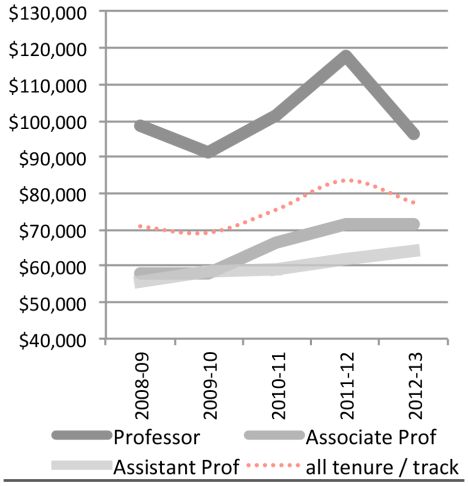


FIG 2.18 TENURE / TRACK SALARIES, BY RANK

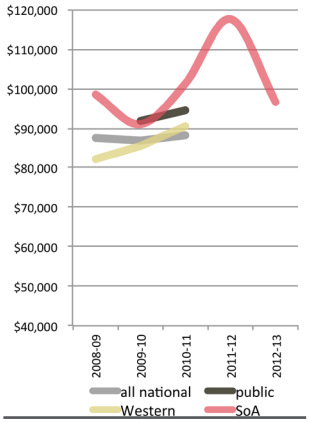


FIG 2.19 PROFESSOR SALARY, UA-TO-REGIONAL/NATIONAL

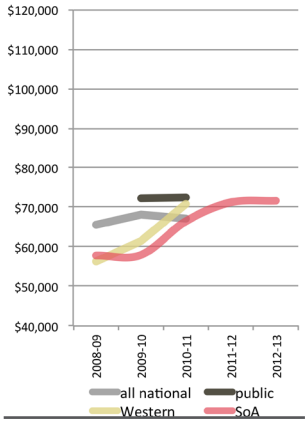


FIG 2.17 ASSOCIATE PROF SALARY, UA-TO-REGIONAL/NATIONAL

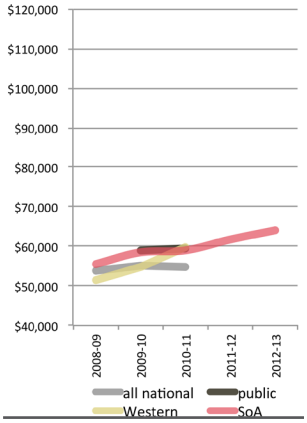


FIG 2.16 ASSISTANT PROF SALARY, UA-TO-REGIONAL/NATIONAL

The extreme fluctuation in full Professor salary (FIG 2.19) is due to:

- addition to ranks of new Director on a new salary line in 2010;
- retirement of three senior faculty in 2011;
- transfer of half of Associate Professor Hardin's salary to the College's

budget in 2011.

→Adjunct Compensation

Because adjunct workload is highly variable, the only measure that allows comparison is pay per credit unit, examined by course type: studio vs. course.

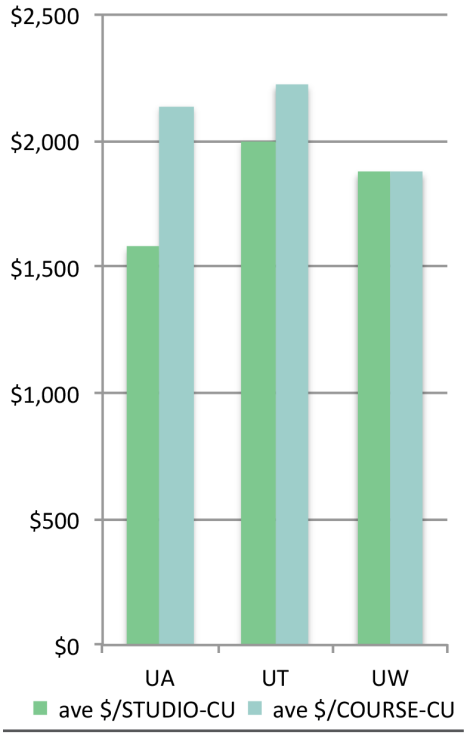


FIG 2.20 UA-TO-PEERS: ADJUNCT PAY/CU

Adjuncts at 0.5 FTE or higher for two or more consecutive semesters qualify for benefits; 6-CU equates to 0.5 FTE. Consequently, adjuncts who teach consecutive studios qualify.

As noted above, there is no accurate data on Adjuncts nationally. Of the Peers employing adjuncts, two of the three pay modestly more for course vs. studio teaching ("Footnote 2"). UA is competitive for courses teaching but offers the lowest compensation for studios. We lag behind University of Texas at Austin by 21% and 4%, respectively.

None of the Peer schools reported paying adjuncts for service: working on committees, running lecture series, coordinating studios, etc. This school paid its thirty-nine adjuncts an average of $1,375 each ($41,250 total) for this kind of work in 2012-2013.

In 2010–2011, we solicited adjunct pay rates from the following schools (hereafter, "Collateral" schools):

- Catholic University
- Philadelphia University
- Tulane University
- University of North Carolina, Charlotte
- University of South Florida

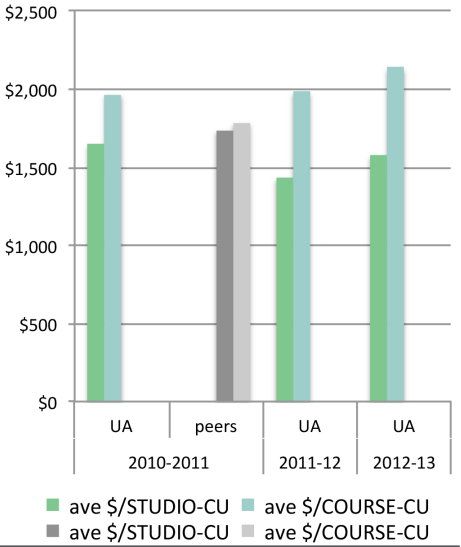


FIG 2.21 UA-TO-COLLAERALS: ADJUNCT PAY/CU

At the time, the School was slightly below the average studio rate paid by these architecture schools in the mid-southern US. (The highest rates were paid by the public, not the private, schools.) We were slightly higher for course teaching (presumably because the SoA delivers many core courses by adjuncts).

Although it doesn't show up in our averages over time, the School has increased pay rates for many individual adjuncts since 2010–2011 (*****). During this period, however, we have added a large number of Adjuncts, including young architects and senior practitioners who are just beginning to teach. Consequently, our high and low pay rates (currently $2,583- to $602-per-CU for studios; $4,250- to $1,547-per-CU for courses) have diverged even as we struggle to increase the average (***).

The extreme various in our Adjunct rates is due to adjustments for:

- practice experience
- degree and academic training
- teaching experience
- reputation of practice where adjunct is associated and/or personal

reputation in practice; potential value of adjunct's affiliation with the School

- travel expenses incurred in order to work at the UA
- anticipated value of adjunct's contribution for position available

Considered only on average, it does not look like we are making much progress on adjunct pay; when considered by continuing-individuals, the story is completely different.

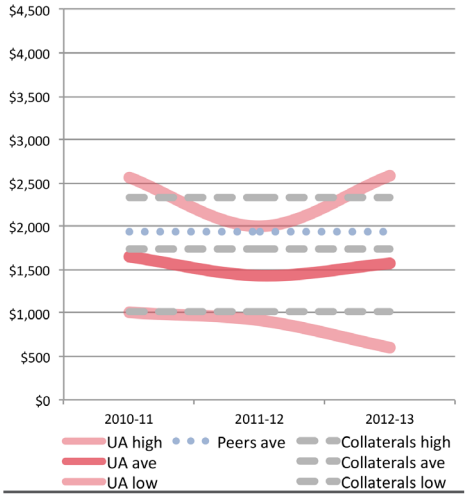


FIG 2.22 UA-TO-OTHERS: ADJUNCT $/CU, STUDIO

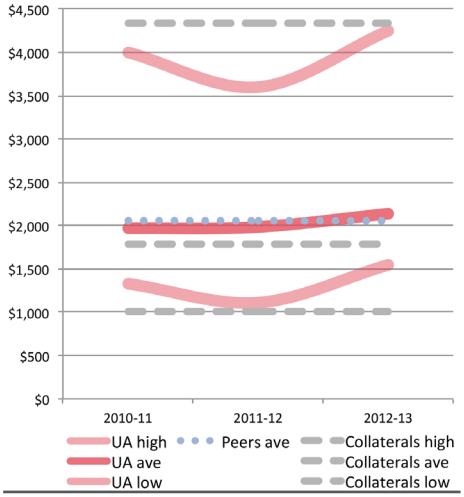


FIG 2.23 UA-TO-OTHERS: ADJUNCT $/CU, COURSES

When comparing pay-per-CU for teaching, adjuncts are treated equitably relative to tenure / track faculty. If we prorate tenure / track pay by our tenure / track faculty's standard 60% teaching load, the amount that adjuncts are compensated per CU is only marginally less than tenure / track faculty. Top pay for both types is in the same zone: $4,667/CU tenure / track; $4,250/CU adjunct. Average and minimum pay is about half the tenure / track rate for adjuncts, but this is to be expected: having less experience and lower faculty qualifications, adjuncts will not command the same rates.

→SALARY-RATES COMPARISON CONCLUSIONS

- NATIONAL RATES: In the past three years, the School has caught up with pay rates for tenure / track faculty both nationally and in the Western Region. Our full Professors are ahead of their peers; our Associate and Assistant Professors are on par.
- PEER RATES: Although the UA is behind the Peer institutions in resources, it is ahead or commensurate with them (except for UT-Austin) in tenure / track pay.
- ADJUNCT PAY: The School's Adjunct pay for course teaching is ahead of both Peer and Collateral schools. For studio teaching, we are slightly

behind these comparison schools.

→INDIVIDUAL COMPENSATION BY TYPE AND RANK

Average salary by rank is one way to look compensation; another is to consider relative pay, year-to-year, for faculty who continue with the School: how are those individuals fairing over time?

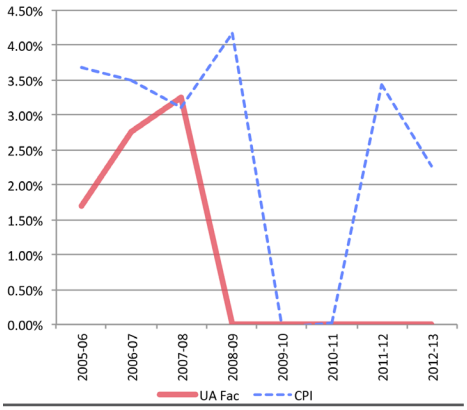


FIG 2.24 UA RAISES-TO-CONSUMER PRICE INDEX

- University Raises

  It has been a difficult eight years for academic salaries. Since 2005, the consumer price index has risen over 20% during which the University has given raises totaling less than 8%: an effective salary cut of 12%. Although the cost of living has been rising since late 2010, there have been no university-wide increases.

  In 2011-2012, the Provost distributed funds to colleges for merit pay increases. Tenure / track faculty were eligible; adjuncts were not. In Architecture, 67% of tenure / track faculty were recipients; raises for those individuals averaged 1.84%.

- School Raises: Tenure / Track

  Although average salaries by rank fluctuated modestly, the impact was much greater when considered by individual. In the past three years, continuing faculty experienced average increases of:

  - Professors: 5.4%
  - Associate Professors: 13.98%
  - Assistant Professors: 11.59%

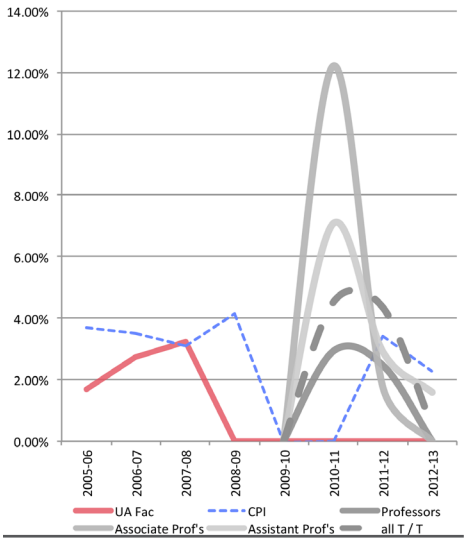


FIG 2.25 SCHOOL FACULTY RAISES, TENURE / TRACK

University of Arizona

School of Architecture

year	UA faculty raises	USA CPI[1]	salary rates for continuing individuals (not rank ave): Professors	Associate Prof's	Assistant Prof's	all tenure / track	adjuncts: $/CU	staff
2002-2003								
2003-2004								
2004-2005								
2005-2006	1.70%	3.67%						
2006-2007[2]	2.75%	3.50%						
2007-2008	3.25%	3.10%						
2008-2009		4.17%						
2009-2010		-0.04%	0%	0%	0%	0%	-5%	0%
2010-2011		0.02%	3%	12%	7%	5%	6%	0%
2011-2012		3.43%	2%	2%	3%	4%	16%	3%
2012-2013		2.26%	0%	0%	2%	0%	9%	0%
total	7.70%	20.11%						
since 2009-10	0.00%	5.67%	5.40%	13.98%	11.59%	9.37%	26.61%	3.30%

1 from Table of Historical Inflation Rates by Month and Year (1914-2013) http://www.usinflationcalculator.com/inflation/historical-inflation-rates/

2 In 2006-2007, Faculty received $1,650, adjusted by FTE. For this comparison, Not having data for this year, we assumed this amounted to: $1650 / $60K = 2.75%

FIG 2.26 UA-TO-SCHOOL: FACULTY + STAFF RAISES

This is exclusive of individual grant revenue earned by faculty and the stipends paid to the Program Chairs. These raises, based on productivity

and in correction of legacy inequities, were made during the same period that the conversion was being made to an adjunct-based service and teaching faculty. Although tenure / track faculty may not have realized it at the time, the alteration in faculty compensation made possible the raises given to tenure / track faculty; and tenure / track inequities were corrected before salary levels were raised for adjuncts.

FIG 2.27 SCHOOL FACULTY RAISES, ADJUNCT

- School Raises: Adjunct
  Per above it will be remembered that our Adjunct pay-rates are:
  - marginally lower than peer schools;
  - that the pay range per CU has been diverging; and
  - that efforts to raise the average rates have been hampered by an expanding adjunct faculty, greater in numbers with a widening disparity in experience and expertise.

  As with the tenure / track faculty, Adjunct pay-per-credit unit per continuing individual has improved.

  - 2009-2011: In the transition to the new Director, several adjuncts left the School. These were primarily teachers with full-time appointments who had been at the UA for a number of years. Paid relatively well per CU-taught, their departure reduced that average pay-per-CU for on-going adjuncts.

  - 2010-2013: In the build-up of Adjunct faculty, under the à la carte pay per service model described above, every attempt was made to make rates for continuing individuals competitive with the Collateral schools. Consequently, Adjuncts assumed expanded responsibilities, took on leadership and service roles, and received raises both in total dollars and rate of pay-per-CU.

  - 2013-2014: Rates for continuing individuals will level-out; we will attempt to improve our average pay.

→COMPENSATION BY GENDER
See 1-1.2.2a.

→COMPENSATION SUMMARY
During the recent difficult years, the College has tried very hard to be good to its people. While the University has been unable to protect its faculty from economic realities, the School has fixed equity issues due to salary compression and gender differences, has become competitive with other schools of architecture nationally, and has rewarded faculty for performance and continuity.

1-2.1.1k faculty search

→TENURE / TRACK FACULTY HIRES: New faculty are selected through international searches. A School Search Committee is appointed and charged by the Director; it is comprised of a representative group of faculty

members, students, staff, and sometimes outside members (University and/or Professional). The Search Committee develops a short-list of candidates who are brought to campus for an interview process that includes a public presentation, tours, interviews with a complete selection of students, faculty, and administrators. The Committee solicits input from all these groups. Based on the recommendation of the Search Committee, the Director makes offers and appointment in consultation with the Dean.

→ADJUNCT HIRES (for appointment details, see 1-2.1.1d):

- Adjunct Lecturer: appointment by Director.
- Lecturer: appointment by Director with approval by Dean and Provost.
- Senior Lecturer: nominated by Director; evaluated by College Faculty Status Committee; appointment by Dean with approval by Provost.

1-2.1.1l faculty workload and performance review

A typical workload for tenure / track Architecture faculty members is 60% teaching, 20% research/creative activity, and 20% service. Workload for adjunct faculty members varies dramatically and rarely includes research.

Faculty are assigned work and reviewed for their performance in a two-stage process.

→DISTRIBUTION OF EFFORT (DOE): This distribution and accounting of effort (DOE) was instituted by Dean Cervelli in 2010 and is administered by the Director. Faculty members negotiate a forecast of effort at the beginning of the academic year with the Director which is entered into a DOE form on the server. Faculty then make goals relative to this assignment; Mentors of tenure-track faculty are expected to review and advise.

→ANNUAL PERFORMANCE REVIEW (APR): At the end of the calendar year,[8] faculty are assessed in a layered review using a linked APR form, also on the server:

- Self-Assessment: Faculty members assess themselves relative to their goals and assignments.
- Mentors: Mentors assess progress of their mentees toward tenure.
- FSC: The School's Faculty Status Committee assesses tenure / track faculty and Adjunct faculty members with multi-year appointments; this Committee does not have jurisdiction over matters of promotion and tenure.
- Director: With input from all the above, the Director provides written assessment and meets for face-to-face consultation; the Director may revise the APR based on the meeting.
- Dean: The Dean reviews the final APR.

8 The calendar year schedule is mandated by the Board of Regents.

1-2.1.1m promotion + tenure

Promotion and Tenure is a rigorous multi-tiered review conforming to University regulations (specified in the University Handbook for Appointed Personnel— http://uhap.web.arizona.edu) as well as College Bylaws (Bylaw 4). In summary:

→TENURE: Tenure-track faculty participate in the DOE+APR process with the additional scrutiny of P+T review.

- YEAR 1: Assigned Mentor; given regular workload assignment; expected to clarify research trajectory.
- YEAR 2: Given workload assignment with higher research load and teaching flexibility that will support research development; expected to begin peer-reviewed publication.
- YEAR 3: Given workload assignment with 3 CU course release, higher research load, and teaching flexibility that will support research development; expected to build record of peer-reviewed publication and awards. Submits tenure dossier I, which is reviewed autonomously and in parallel by the College FSC and Director. Recommendations assessed and candidate reappointed or given one-year dismissal by Dean.
- YEAR 4: Given regular workload assignment; expected to build record of peer-reviewed publication and awards with focus in research trajectory in premiere venues.
- YEAR 5: Given workload assignment with 3 CU course release, higher research load; expected to build record of peer-reviewed publication and awards. Submits tenure dossier II, which is distributed to six outside reviewers (three chosen by candidate; three by Director).
- YEAR 6: Given regular workload assignment; expected to build record of peer-reviewed publication and awards. Submits final tenure dossier III. Based on dossier, APRs, and recommendations by outside reviewers, candidate is reviewed autonomously and in parallel by the College FSC and Director. Recommendations are assessed and candidate is either recommended for tenure to the Provost, or given one-year dismissal, by the Dean.

→QUALIFICATIONS FOR RANK (from CAPLA Bylaws):

- Assistant Professor
  Appointment or promotion to tenure-eligible assistant professor will be recommended largely on evidence of promise, adequate training, depth of knowledge in a particular specialty, and capacity to undertake high quality teaching, research, or service. Assistant professors shall have the terminal degree or equivalent professional experience.

- Associate Professor
  Appointment or promotion to the rank of Associate Professor requires the fulfillment of criteria for Assistant Professor and indicates that the candidate has a demonstrated record of high achievement in teaching and advising; external peer reviewed research, scholarship, and/or creative work at the regional and national levels; and service within the school, college, or university. The college encourages and promotes outreach as an additional qualification for associate professor via teaching, research, and

service. For promotion with tenure, the candidate must demonstrate the capacity for continued excellence and further growth.

- Professor
  Appointment or promotion to Professor requires the fulfillment of criteria for Associate Professor and indicates that the candidate is a distinguished and valued teacher and advisor; has an established national/international reputation as a researcher, scholar, and/or creative practitioner in his or her field; is expected to provide significant leadership and service within the college and university; and engage at a leadership level in outreach at the state, regional, national, and international level. Written validation and recognition by national/international experts outside the University shall weigh heavily in the evaluation of stature.

→POST-TENURE REVIEW: Tenured Faculty are subject to the APR. If overall performance is Satisfactory or better, they continue in the regular APR process and may be eligible for rewards and/or merit increases; if overall performance is Unsatisfactory, the faculty member is required to enter into a Faculty Development Plan or a Performance Improvement Plan, depending on the extent of the deficiency (specified in UHAP).

1-2.1.1n faculty development

See 1-2.4.5c, TRAVEL + FACULTY DEVELOPMENT.

1-2.1.1o visiting critics

See 1-1.5.1.

1-2.1.1p exhibitions since last Team visit

	Spring 2011
1/18-2/10	The work of James Gresham, FAIA
2/14-3/22	The Collaborative Legacy of Merce Cunningham
	Fall 2011
9/9-9/18	AIA-Southern Arizona Design Awards
10/17-10/21	The work of SmithGroup
10/24-11/10	The work of Giuseppe Provenzale
11/21-11/23	Freedom By Design Exhibit
	Spring 2012
2/13-2/29	projects by Brian Delford Andrews
	Fall 2012
1-/2-10/19	AIA-Southern Arizona Design Awards
	Spring 2013
2/11-2/15	Italian drawings from the Orvietto program
2/18-2/20	public service project in Oman, Jordan
3/18-3/29	the Getty Competition Notebooks, Brian Delford Andrews

1-2.1.2 Staff

There are 6.4 staff members dedicated to the School:

Position	Appointment	FTE	Gender	Race/Ethnicity
Academic Advisor	appointed	1	F	W
Administrative Associate	classified	1	F	W
Laboratory Assistant	classified	.45	M	W
Laboratory Assistant	classified	.45	M	H
Laboratory Coordinator	classified	.75	M	W
Laboratory Coordinator	classified	.25	M	W
Laboratory Manager	classified	1	M	W
Program Coordinator	classified	1	F	W
Program Coordinator (Graduate Advisor)	classified	.5	F	W

In addition, the College employs Business Office staff (2.75 FTE), Front Office staff (2 FTE), IT support (1 FTE plus temporary and student employees), and Business Development Staff (2 FTE); collectively they support the School, the School of Planning and Landscape Architecture, Bachelor of Science in Sustainable Built Environments (BSSBE), the University of Arizona — Downtown (UAD), and the Drachman Institute.

SoA is fortunate to have a hard-working staff that is dedicated to the goals of the school, the college, and the university. Morale is high and there is strong collegiality between staff, faculty, and students. We have a high retention rate.

1-2.1.2a Academic Advisors

→Undergraduate Advisor: Sasha Wilson | start 6.28.10

Oversees approximately 400 students, half in their first year who must be recruited, enrolled, then given orientation, monitoring, and guidance. In addition to advising, she manages curricular affairs, such as grade challenges and ethics cases, as well as supporting extra-curricular events such as our Job Interview Fair and CAMP Architecture. She is active in community outreach. Job description:

Assesses student development (academic, career, personal) and promotes growth via developmental tasks; assists students in establishing academic and career goals; refers to counseling services and sets up an action plans for alternative careers and related majors.

Identifies options within degree requirements; evaluates to students' programs of study; monitors academic progress; analyzes progress; determines eligibility and satisfactory progress toward degree; identifies needs and problem areas (e.g., study skills, tutoring) and refers to appropriate resources; communicates findings to administrators.

Maintains student records; documents student issues and progress; performs grade checks, overload petitions, evaluates petitions and

adjustments to student's program of study; evaluates transfer transcripts for equivalence.

Participates in orientations and presents academic information to students and parents during orientation; recruits potential students; disseminates information regarding registration procedures; prepares recruitment packets; calculates GPA's and enrollment statistics; prepares reports.

→Graduate Advisor: Kathleen Landeen | start 03.08.10
In 2010, the College hired a Program Coordinator to advise graduate students; originally split evenly between the three disciplines, Architecture picked up 50% of her salary in 2012-2013. Job description:

Graduate student recruiting; development of recruiting information, publications, and correspondence; advises incoming students; maintains recruitment database.

Monitors graduate admissions; initial transcript evaluation; prepares applications for admissions committee; maintains correspondence with applicants; coordinates orilanentation activities; maintains records on progress to degree: grade reports, independent study forms; plans of study; master's theses/project forms; degree paperwork.

Identifies student assistants and matches to curricular delivery needs; analyzes financial need and coordinates financial assistance; prepares scholarship information; creates and updates content for websites; assists Directors in preparation of reports and work toward accreditation.

1-2.1.2b Architecture Office

→Administrative Associate: Sheila Blackburn | start 05.24.82
Runs the Architecture Office; interface between Director and the School. Job description:

Supervises, monitors or coordinates the Architecture office; oversees monitoring of a variety of account expenditures; maintains and reconciles detailed budgets for various accounts; advises and/or determines which expenditures are within the budget guidelines; informs management of irregularities and proceeds with corrective action.

Prioritizes workload to meet work unit operations; evaluates and recommends operational changes to ensure effectiveness and compliance with University policies; composes confidential correspondence; coordinates business affairs, personnel matters and may interpret policies and procedures.

Liaison to faculty, staff, students, alumni, outside agencies and the public; prioritizes and arranges meetings, conferences and appointments for Director; makes necessary travel reservations and itineraries; determines and prepares background materials needed.

→Program Coordinator: Patti van Leer | start 11.29.10
Digital projects guru; School's accounting facilitator; special projects manager. Job Description:

Performs administrative and support activities; prepares minutes, notices, manuals, agendas, and correspondence; researches, summarizes and analyzes information; calculates statistics and compiles data to prepare special and recurring reports containing specialized or sensitive information following supervisor's general direction; selects relevant information from a variety of sources.

Maintains departmental accounts; monitors expenditures; prepares reports for Director; purchasing. Maintains calendars, prioritizing and arranging appointments; arranges travel; anticipates and prepares background materials needed.

Screens calls and visitors; provides information requiring comprehensive knowledge and may interpret department policy, procedure and operations.

1-2.1.2c Materials Lab

→Laboratory Manager: Paulus Musters | start 09.20.10
Job Description:

Insures maintenance and safe operation of Materials Lab; supervises, reviews, schedules and trains student assistants and other university employees in teaching techniques and safe laboratory practices; supervises subordinate staff; makes personnel decisions.

Plans and monitors shop budget; coordinates budget implementation with Director; recommends new equipment; maintains statistics on facility utilization.

Plans and builds capital improvements for College; monitors projects being fabricated in Lab; develops research culture within Lab; moves furnishings for College.

→Laboratory Coordinator: Jean-Luc Cuisinier | start 06.06.11
Job Description:

Oversees operations in all materials laboratories (wood, metal, machine, glass, rapid prototyping, ceramics, synthetics, concrete); supports pedagogical objectives of the college's laboratory-based curriculum.

Administers safety orientations and lab equipment training (e.g., welding demos, table-saw operation, laser cutter, etc.); supervises lab work and shop monitors.

Performs electronic and mechanical repairs; calibrates equipment; purchases and installs new equipment; maintains consumable supplies; fabricates testing equipment; coordinates computer-based production

equipment specific to labs.

1-2.1.2d staff compensation

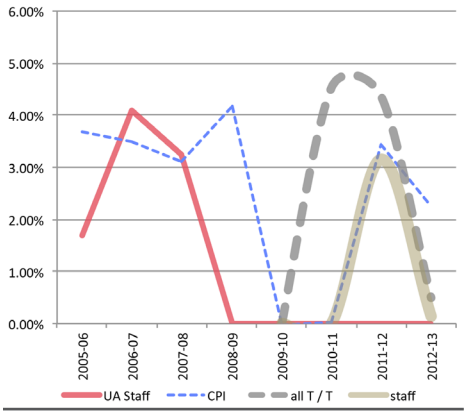


FIG 2.28 SCHOOL STAFF RAISES

Staff have not fared as well as School faculty in raises. Staff raises by the University were similar to those for Faculty (1-2.1.1j). Like Adjuncts, Staff salaries were attended to after tenure / track faculty. Staff were included in the College distribution of the Provost's merit raises in 2011-2012: 67% of School staff received raises (same percent as Faculty), averaging an average 7% increase (higher than Faculty).

These increases paralleled a jump in the Consumer Price Index but there has been no increase since that merit raise increase.

1-2.1.3 Students

1-2.1.3a graduate admissions, M.Arch

See "2.6 | Evaluation of Preparatory/Pre-professional Education" on page 102.

1-2.1.3b Information Literacy

In 2009 the UA University Libraries were ranked 17th in the nation among major research libraries.[9] The University of Arizona main library systems supports the School of Architecture students and faculty with student information research and research skills. The School has a dedicated librarian who offers a variety of on-line tutorials, assessments, and/or research skills specific to architecture students.

1-2.1.3c Student Assistants

Student Assistants are paid positions of various kinds that seek a balance between the functional needs of the School, the recruiting value to attract qualified students, and the educational development of students already enrolled.

→COURSE NEED: Courses may be assigned SAs as a result of:

- SIZE: Courses with 40+ students are eligible for SAs at a rate of 1 SA/30 students.
- INTENSITY: Teaching-intensive courses (e.g., having heavy writing or computing requirements) with 16 or more students are eligible for an SA for all or part of the semester depending on curricular need.
- EXPERT NEED: Courses that require specialized SA-expertise of the kind that can only be developed by students who have previously taken, or been SAs, in that course, are eligible to have SAs on repeating assignment to that course, if they also qualify under one of the other categories.

9 http://www.azcentral.com/arizonarepublic/local/articles/20120920arizona-state-universities-set-enrollment-records.html

- SPECIAL FACULTY: Courses taught by visiting faculty who, according to their contracts, are given exemption from regular course attendance may be eligible for an SA.

→STUDENT QUALIFICATIONS: Students will be selected for SA awards according to the following criteria:

- MERIT: GPA, portfolio, language, work experience, publications, teaching experience, attitude, leadership and participation in the School.
- NEED: Need for the student's particular assets by the courses with SA allocations.

→GRADUATE ASSISTANT AWARDS: Opportunities for paid Student Assistantships increases for M.Arch students as they progress. Assistantships for M.Arch III students are nearly impossible due to lack of disciplinary experience and schedule demands.

In 2012-2013, 50% of M.Arch students received a Student Assistantship in some form; 25% received an additional award of Graduate Tuition Scholarship funds.

17-Apr-2013 **graduate aid+awards**
2012-2013

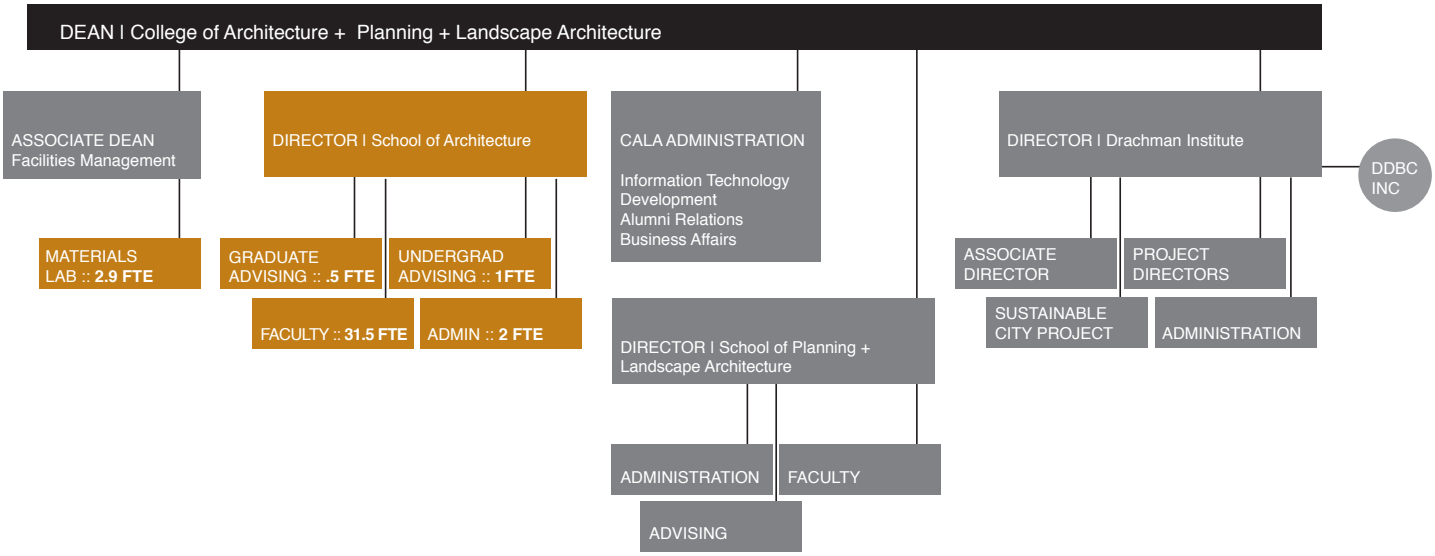
		rising	offers	acceptances	pending	potential	confirmed	budget	awarded	awards relative to degree population	awards relative to total grad arch population	DELTA relative to total grad arch population
M.ARCH	M.ARCH I	19	0	0	0	19	19					
	M.ARCH II	11	9	2	0	20	13					
	M.ARCH III		31	12	0	31	12					
	M.ARCH	**30**	**40**	**14**	**0**	**70**	**44**					
	% Applicants REZ	52%										
	% M.ARCH to total Arch grad pop					71%	67%					
					SEMESTER-AWARDS				38			
					students on TA-ships only				14	32%		
	TA-ships + wages				students on Wages only				8	18%		
					STUDENTS				22	50%	33%	3%
					DOLLARS				$113,748		76%	9%
					students on GTS + GTF				11	25%		
				GTS funds offered/accepted				$100,000	$81,500		81%	15%
				GTF funds offered/accepted				$13,333	$0			
									$195,248			

1-2.1.3d student support services

Students are directly supported through their respective Academic Advisor (1-2.1.2a); Graduate students also have the support and guidance of their Program Chair (1-2.1.1b). For IT support, they have access to full- and part-time IT staff; an IT student assistant is hired every semester and placed on call over weekends when deadlines follow. For Materials Lab support, they have two staff and a platoon of Shop Monitors.

1-2.2 ADMINISTRATIVE STRUCTURE & GOVERNANCE

1-2.2.1 Administrative Structure



The administrative functions depicted here are described in terms of governance in 1-2.2.2 and in terms of position responsibilities in 1-2.1.2a through 1-2.1.2c.

1-2.2.1a degree programs

The School of Architecture offers three degree programs. The M.Arch is covered in Part 2; the other two are summarized below.

→Bachelor of Architecture

The Bachelor of Architecture has been continuously accredited since the early 1960s and is designed to prepare aspiring architects for practice. It includes instruction in architectural design, history, and theory; building structures and environmental systems; project and site planning; construction; professional responsibilities and standards; and related cultural, social, economic, and environmental issues.

The B.Arch is a five-year program in three phases:

- Foundation: Year 1
  provides elementary principles and basic technical skills.
- Milestone 1: evaluation for passage
- Professional Phase—CORE: Years 2-4.5
  develops the required core of humanistic knowledge, creative ingenuity, and professional skills that prepares individuals for complex problems.
- Milestone 2: evaluation for passage
- Professional Phase—APPLICATION: Years 4.5-5
  develops students' ability to work collaboratively on complex real-world problems. Phase culminates with a Capstone project.

→Master of Science in Architecture

The Master of Science in Architecture (MS.Arch) is a post-professional research degree devoted to applied research in the built environment. With a flexible curriculum of approximately three semesters, students pursue an individually prescribed curriculum in "Design and Energy Conservation," "Heritage Conservation," or a personalized course of study. During the first semester students take a common foundation in research methods and an applied research studio, after which curricula vary by specialization. The degree culminates in a Master's Thesis that presents the findings of an original research project.

A principal goal of this post-professional program is to expand the breadth of expertise available to architects and increase the range of job opportunities, across private, public, and academic arenas, for students who have already completed a basic professional degree.

MS.ARCH TRACKS

- Design and Energy Conservation — MS.Arch-D&EC
- Heritage Conservation — MS.Arch-HC
- Individualized Programs — MS.Arch

The Master of Science in Architecture is reinventing itself as a research degree. Before application for the accredited M.Arch, what is now the MS.Arch operated as an unaccredited M.Arch degree; when NAAB sanctioned our new M.Arch candidacy, it stipulated that the old M.Arch be converted to an MS. There are other good reasons for this transformation: 1) the development of an accredited professional M.Arch means the MS.Arch has to seed some curricular territory and revise its terrain; 2) the status of this School in a Research I university will be helped by increasing our funded research; and 3) the declining economic support for the School requires that we supplement our income through all possible means. The MS.Arch program is the best existing curricular specialty to move into funded research. As part of this development, we have dedicated a new tenure-track line to this program, 50%+ assigned to research, with search initiated 2013.

→combined degree programs

- Dual degree: MS.Arch-D&EC + B.Arch

Applicants with a non-accredited Bachelor of Architecture who wish to obtain a NAAB-accredited professional Bachelor of Architecture degree and the post-professional Masters of Science in Architecture degree may apply for advanced standing in the School's B.Arch program at the time of MS.Arch application. Students must complete at least two studios, including a comprehensive project, in addition to other core studies, depending on qualifications. Time for completion of the +B.Arch option is in addition to the MS.Arch curriculum, usually between 1-4 semesters.

- Joint degrees: MS.Arch-D&EC + M.Arch
  The Master of Architecture (M.Arch) is a professional 1-3 year degree; see above. Qualified students must be admitted to both programs, independently, for a duel degree.
- Accelerated Masters Programs: AMP-DEC
  The Accelerated Master's Program (AMP) in Design and Energy Conservation (D&EC) enables SoA undergraduates to complete the B.Arch and the MS.Arch in Design and Energy Conservation (D&EC) in 6 years (5+1). The AMP-DEC expands the breadth of student expertise and develops thorough understanding and advanced skills in "Sustainable Green Building Energy-Efficient Design."

→PhD PROGRAMS
Although CAPLA does not offer a Ph.D., MS.Arch graduates can enroll in three UA Ph.D. programs with "Design and Energy Conservation" qualifying as a minor. We currently have five Ph.D. students, three from architecture and two from other departments.

1-2.2.2 Governance

1-2.2.2a college

The College is governed by Bylaws, reflecting the restructured and expanded College of Architecture, Planning, and Landscape Architecture, revised March 2013. The presiding officer of the faculty (or assembly) is the Chair of the College Assembly who is elected by the faculty. Among the most significant features of the bylaws is the statement defining shared governance:

> The college is more than a community of faculty and administrators. Students, classified staff, and appointed personnel are part of the community of the college and without their contributions, help, and assistance, the college would be a poorer community. In principle, every member of the community has a voice and that voice should be respected, heard, and acknowledged within the community.
>
> Shared governance is not intended to weaken or deny executive authority. It acknowledges that the responsibility for final decisions within the college rest with the Dean and the Dean's designees. Nevertheless, shared governance implies a particular way of consulting and interacting with people before decisions are arrived at, and then explaining these decisions to the affected personnel or their representatives after they have been made.
>
> All members of the college community should be involved in the governance and operation of the college where and when appropriate. The timing and appropriateness of the involvement should be driven by the nature of the issue at hand and by the adoption of the general principle of inclusion rather than a rigid mandate. The intent of this paragraph is the inclusion and involvement of members of the college community at all organizational levels, from the school level through the Dean's office.

The College Bylaws outline the structure of two principal standing committees. The Faculty Status Committee exists to review and recommend policies and standards to the Dean and to assist and evaluate faculty in their pursuit of tenure, promotion, and sabbatical leaves. The Curriculum Committee exists to review (from a college-wide perspective)

and recommend to the Dean, actions concerning curriculum. With intent to maximize coordination and cooperation among the academic units of the college, the Curriculum Committee reports on inconsistencies, unnecessary duplication, and course obsolescence found in the curriculum; it seeks to insure equity in matters pertaining to the whole College across the units. There are also a number of advisory committees made up of faculty and staff from each of the units.

The College Bylaws are within a Handbook that guides faculty, academic professionals, and staff through issues related to promotion and tenure, annual performance review and post-tenure review, merit salary adjustments, sabbatical leave, maternity/paternity leave, family and medical leave, and student academic appeals.

1-2.2.2b school of architecture

Subordinate to the College Bylaws, each School has Bylaws that may expand upon, but not contradict, those of the College that develop the particular culture of the unit. (The School Bylaws have not been revised after a complete revision to the College Bylaws in Fall 2011 and are in need of revision.)

→faculty participation in governance
For legislative rights, see: 1-2.2.2a.
For annual review rights, see: 1-2.1.1l.
For promotion + tenure and other personnel rights see: 1-2.1.1m.

The Faculty is involved in School governance primarily though their participation and control of the following committees (all at a School level, unless noted):

- College Faculty Status Committee
- Faculty Status Committee
- College Curriculum Committee
- Curriculum Committee*
- Admissions and Recruiting Committee* (one for each degree)
- Studio Coordinators
- Studio Stream
- Design Communications Stream
- History + Theory Stream
- Practice Stream
- Technology Stream
- Faculty Search*
- College Constitution + Bylaws
- College Lecture Series*

→student participation in governance
*Students have voting participation on the above committees marked with an asterisk, and on the CAPLA Student Council.

→School policies, described throughout this document, are posted at:
http://capla.arizona.edu/school-architecture-policies

1-2.3 PHYSICAL RESOURCES

CAPLA is housed in two connected buildings, with a remote downtown facility.

1-2.3.1 main campus

1-2.3.1a CAPLA WEST

The original College of Architecture, constructed in 1965 and expanded in both 1970 and 1979, is a the three-story structure with a central atrium, the Sundt Gallery with 2,800 SF that we use for exhibition and assembly. See FIG 2.36. Contained here:

- College Administration
- Dinsmore Conference Room
- Robinette Conference Room
- Mascia Computer Laboratory
- Student + Alumni Center (being renovated at the time of writing)
- Foundation studios (hot-seats); Foundation Jury Alcoves East + West
- 2nd + 3rd Year B.Arch studios
- faculty offices
- print/plot room (see 1-1.6.2c for recent equipment purchases)
- IT offices
- Heliodon Room; Photography lab; GIS lab
- two seminar rooms
- An 88-seat lecture hall (managed through central University scheduling)

1-2.3.1b CAPLA EAST

33,650 sq ft new / 37,200 sq ft remodel | $12.2 million | dedicated 2007
Designed by Jones Studio and Ten Eyck Landscape Architects
2008 American Institute of Architects | Western Mountain Region Merit Award
2010 ASLA | Honor Award for General Design

The design is inspired by celebrating the collaborative nature between the architecture and Landscape Architecture, resulting in a symbiotic relationship between the building and the landscape. Reclaimed water from the roof and HVAC condensate is stored and delivered to the gardens to sustain plant life, which shades the entire southern face of the expansion. See FIG 2.36. Houses:

- offices for both Schools
- faculty offices
- graduate studios
- 4th + 5th Year B.Arch studios
- ARCHON Seminar Room

- Materials Lab: The entire ground level of 7,000 square foot is a state-of-the-art Materials Lab, with facilities for working wood, metals, glass, concrete, and design/build laboratories. The Digital Fabrication Laboratory offers 3D printing, concrete printing, laser cutting, and digital routing. The Lab also builds equipment and furnishings for the College and takes on contract work during the summer to generate revenue. See 1-1.6.2b for recent equipment purchases.
- House Energy Doctor Environmental Science Laboratory (HED-Lab), with:
  - WIND TUNNEL: A 26-feet long contraction-less boundary layer wind tunnel with a large chamber that tests natural ventilation within and around large scale building models. A smoke apparatus allows visualization of air movement in reaction to form; equiped with high definition web-camera.
  - SKY SIMULATOR: An "Over-cast Sky Simulator" that tests large models for daylight utilization and optimization in buildings. Its light source models 800-3,600 foot-candle sky intensities while Li-cor photometers and data loggers collect data.
  - CLIMATE STATIONS: Ten portable "Climate Investigation Stations" for field investigation of microclimates. On-site data collection helps students understand the environment being analyzed.
  - AUDIT TOOLS: Hand-held equipment for level III advanced energy audits, including: blower door, pressurization gages, thermal and infra-red camera, digital non-contact laser guided thermometers, daylight photometers, solar radiation pyronometers, and air balancers.
- Underwood Family Sonoran Landscape Laboratory: A high-performance landscape functioning as both an outdoor classroom and entry plaza. It exemplifies sustainable strategies of water harvesting, climate regulation, air and water cleansing, recycling, urban wildlife habitat and human well-being. The former greyfield is now a thriving habitat that shades the southern exposure of the new building with a vine-covered scrim. An 11,600-gallon tank collects water produced by the building to support a desert oasis of native plants..
- A green roof is being designed fundraising is in progress.

1-2.3.1c CAPLA EAST + WEST

→STUDIOS See FIG 2.36.

- Foundation Studio: 1600 SF | 50 students/section/studio = 32 SF/student.
- 2nd + 3rd YR Studios: 1600 SF | 65 students/section/studio = 25 SF/student.
- 4th + 5th YR + MS. Arch Studios: 7800 SF | 130 students/section/studio = 60 SF/student.
- M.Arch Studios: 3000 SF | 43 students/section/studio = 70 SF/student.

→FACULTY OFFICES See FIG 2.36.

- All tenure / track faculty members have private offices totaling 972 SF for

nine non-administrators (108 SF average). The largest four offices are 180 SF; the smallest three are 84 SF.

- Most of the twenty-three adjunct faculty members who request on-campus quarters share offices totaling 1194 SF (52 SF average). Office sizes range from 42-180 SF per person; up to three per office.

1-2.3.2 University of Arizona, Downtown (UAD)

UA Downtown (UAD) is in the Roy Place Building, named after one of Tucson's most influential architects of the early twentieth century. Originally built in 1929 for Montgomery Ward, UAD is on a ten year lease from the City and serves as an urban laboratory for the development of sustainable urban design strategies that engage the public and set into motion the regulatory environment and services to enable that vision. As a *communiversity*–an interface between college and community–it will connect faculty and students with county, city, business, and community leaders; it will nurture a vibrant downtown economy.

The total area of the UAD is 22,706 SF (11,353x 2 floors), of which CAPLA controls 2,688 SF in studios and offices. See FIG 2.37.

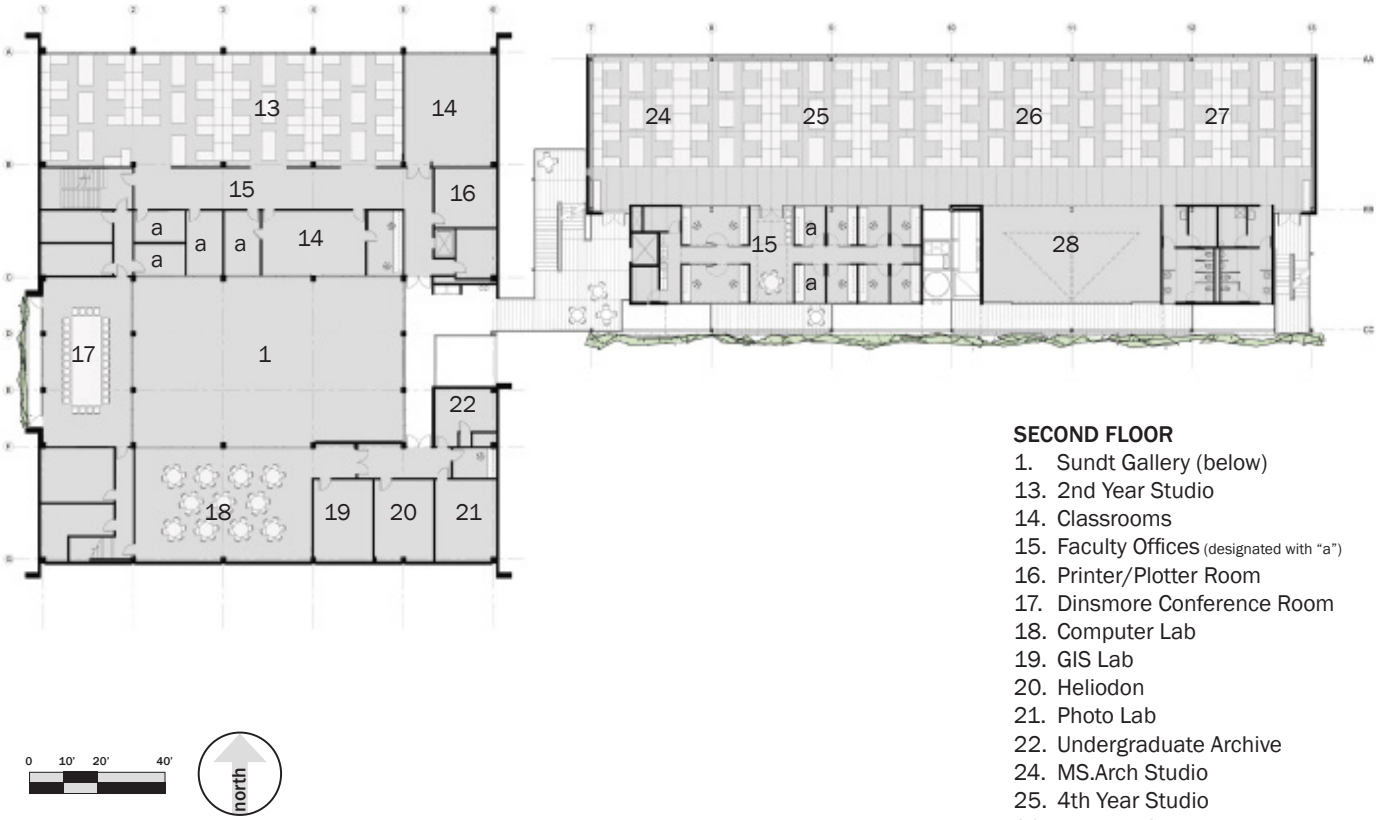
→SUSTAINABILE CITY PROJECT: At the UAD is the Sustainable City Project, a partnership between the Institute of the Environment, the College of Social and Behavioral Sciences, and CAPLA. It's mission is to support and explore sustainable urban development and livable cities through education, outreach, and research. Part think-tank, urban design studio, and community forum, the project will develop community-based solutions to complex urban challenges, including renewable energy, climate change adaptation, economic development, affordable housing, multi-modal transportation, water management, public health, as well as ecosystem and heritage conservation. The Director of the Sustainable Cities Project, is one-third funded by CAPLA with a 60% appointment in the SoA.

→DRACHMAN INSTITUTE: The Drachman Institute is a research, outreach, and public service arm of the College that conducts projects of relevance to Arizona communities. It is headquartered at the UAD and includes:

- the Drachman Design-Build Coalition, Inc., a 501(c)(3) design-build licensed general contractor for service-learning and public service; and
- Water CASA, a water conservation research center (formerly part of the Water Resources Center and the College of Agriculture and Life Sciences).

1-2.3.3 Smith House

A historic residence (1,696 SF) facing CAPLA-EAST on Speedway Blvd. is an accessory facility for the Drachman Institute. See FIG 2.38.



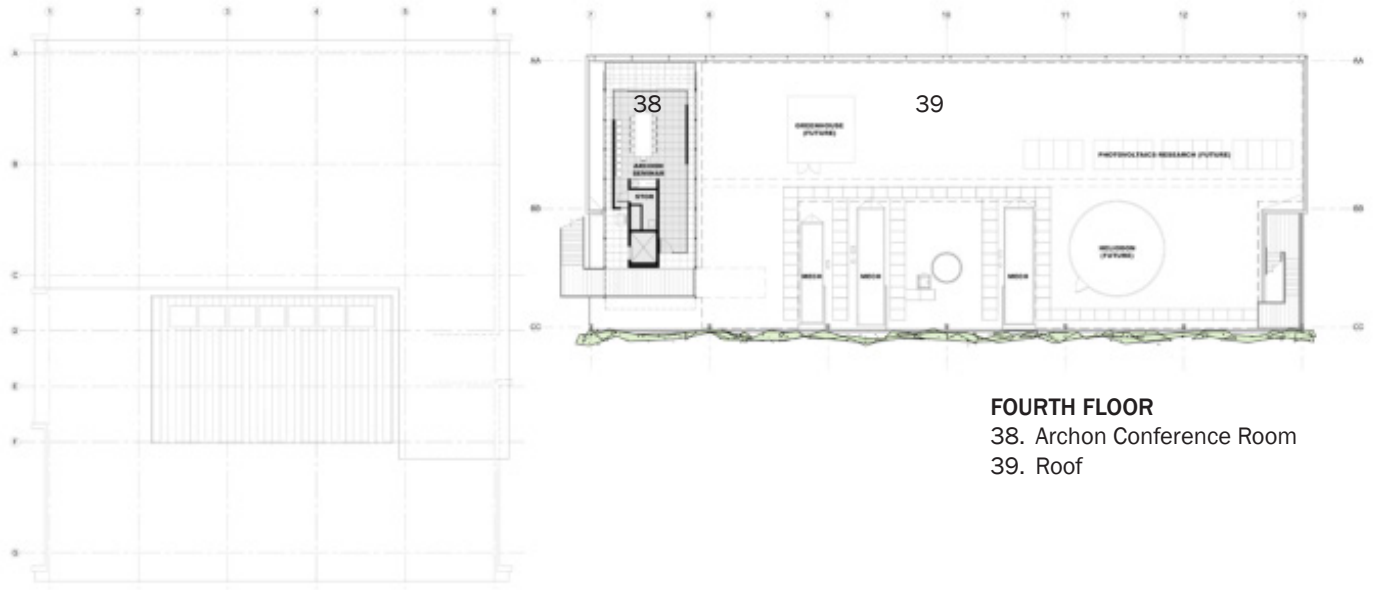
SECOND FLOOR

1. Sundt Gallery (below)
13. 2nd Year Studio
14. Classrooms
15. Faculty Offices (designated with "a")
16. Printer/Plotter Room
17. Dinsmore Conference Room
18. Computer Lab
19. GIS Lab
20. Heliodon
21. Photo Lab
22. Undergraduate Archive
24. MS.Arch Studio
25. 4th Year Studio
26. 5th Year Studio
27. M.Arch Studio
28. "Green Room" (...ce)

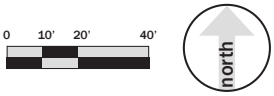
GROUND FLOOR

1. Sundt Gallery
2. Reception & Main Office
3. Foundation Studio
4. Foundation Review Alcove West
5. Foundation Review Alcove East
6. Robinette Conference Room
7. Drachman Conference Room
8. Alumni and Student Advising Center
9. Lecture Hall
10. House Energy Doctor Lab
11. Material Lab
12. Underwood Family Sonoran Landscape Laboratory

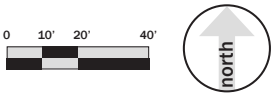
FIG 2.36 CAPLA WEST / EAST, FLOORS 1-ROOF



FOURTH FLOOR
38. Archon Conference Room
39. Roof



THIRD FLOOR
1. Sundt Gallery (below)
29. 3rd Year Studio
30. Classroom
31. Faculty Offices (designated with "a")
32. Printer/Plotter Room
33. Graduate Archive
34. LAR/Planning Studios
35. M.Arch Studio
36. SLAP Admin and Faculty Offices
37. Classroom/Pin-Up Space



1-2.3.4 Cannon-Douglas House

A historic residence (1,143 SF) facing CAPLA-EAST across Speedway Blvd. that will house the new Institute of Place and Well-Being. See FIG 2.38.

1-2.3.5 Information Technology

The College is networked by encrypted wireless and gigabit Ethernet connected to College servers running Windows Server 2008 R2 and 2012. In April 2012, the College invested in refreshing a portion of the server infrastructure to improve availability and performance. A University-wide upgrade to Microsoft Exchange Server 2010 provides email and calendaring for faculty and staff. Students and faculty are supported by the University Information Technology Services (UITS) help desk and a College-sponsored IT support specialist.

The College unveiled a new website (http://capla.arizona.edu) in August 2012, used as an educational tool and for outreach to prospective students and alumni. Program information, course listings, faculty information, events, and student work can all be found here. The College posts course materials on-line, including syllabi, assignments, and schedules; the website will also become our digital accreditation database. Our on-line media database, Imagen, lost its devoted support staff as of September 2010; we are looking for means to support it.

The Frank Mascia Computer Classroom contains twenty-five workstations and is available for individual use and college courses. The workstations are equipped with AutoCAD 2013, Revit 2013, MS Office 2010 Suite, ArcGIS 10.0, ArcInfo, Energy 10, Rhinoceros 4/5 and Sketchup 8. A list of additional software provided by the university is available at: http://www.library.arizona.edu/ic/infocommons-software-alpha.html. Fifteen additional studio-space workstations are available for graduate research, some of which offer large format flatbed and sheet-feeder scanners.

The College has a pay-for-print system hosted through a College print server. This has eliminated free-printing and insures that all students pay the lowest possible price by sharing costs equitably, including plotting. CAPLA has five working plotters and seven laser printers for approximately 700 students at 3 locations.

A small inventory of peripherals is available to students and faculty for checkout, including high-resolution LCD projectors, digital cameras, and laptop computers.

University computer venues include the Multimedia Learning Lab (MML), the flagship multimedia location on the campus with hardware and software for creating 3D animations, virtual realities, complex websites, digital video movies, graphic designs, and digital audio compositions. The Office of Student Computing Resources (OSCR), part of University Information Technology Services (UITS), provides the University

community with a wealth of computing resources, including open-access computer labs, technology help desks, and multi-media resources that are located throughout the campus.

1-2.4 FINANCIAL RESOURCES

1-2.4.5a Budget Overview

FIG 2.39 is a snapshot of the School budget as of 20 February 2013. It will be referred to throughout this section.

1-2.4.5b REVENUE

The Dean is the chief financial officer of the College. All funds flow to the College, and thereafter at the Dean's discretion to the units. Dean Cervelli is collegial and solicitous on all matters, including financial ones. The Director is responsible for financial management at the School level.

The School's budget is categorized into three kinds of accounts:

- STATE: Funds allocated from the University to the School via the College. (University sources for this money include tuition, state appropriations from the legislature, and other sources.)
- DIFFERENTIAL TUITION + PROGRAM FEES (DT+PF): A surcharge paid by students to study architecture, justifiable given the high cost of disciplinary education in space, equipment, and faculty. Differential Tuition is paid by undergraduates; Program Fees by graduate students.
  The State considers all tuition, including DT+PF, as State revenue; when we are subject to a budget cut, we lose both a percentage of State allocation as well as DT+PF (though it is actually deducted from the State accounts).
- OTHER: Includes surplus carried over from the previous year, grant funding, inter-College adjustments, and entrepreneurial funding (such as Camp Architecture revenue).

In 2012-2013, the School's Revenue is comprised of:

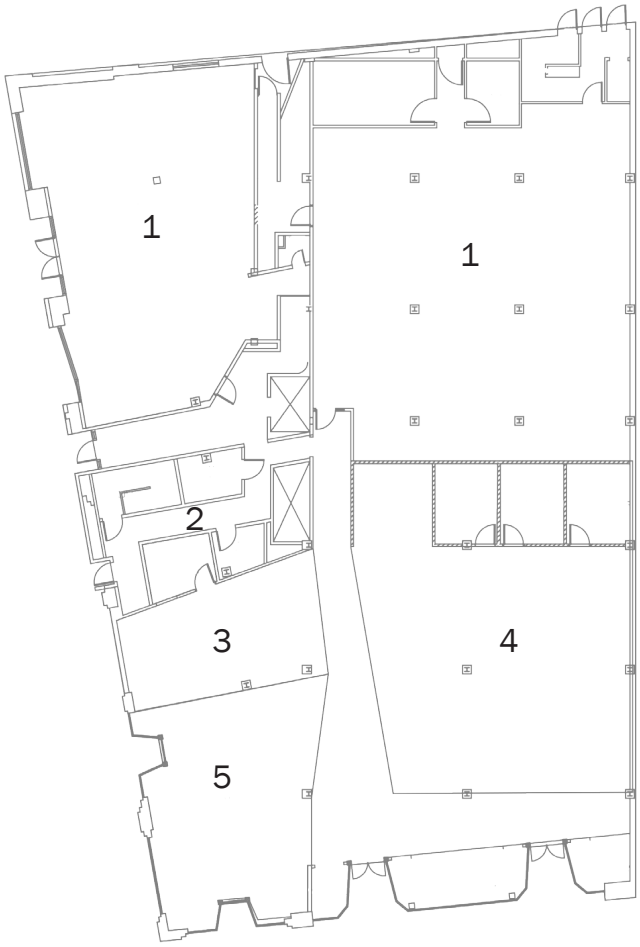
- 73% State;
- 17% Differential Tuition + Program Fees; and
- 11% Other.[10]

1-2.4.5c USES

The School's expenses are categorized in two major groups, Personnel and Operations. In 2012-2013, our expenditure is:

- 85% Personnel
- 15% Operations

10 The amount of Other revenue was unusually high in 2012-2013 due to one-time RCM settlement and funds set back in the previous year anticipating this year's 5% cut. Instead of $260K, we would normally have $75-100K.



FIRST FLOOR

1. Classrooms
2. Storage
3. Lounge
4. Drachman Studios and Offices
5. UA Satellite Bookstore

SECOND FLOOR

6. Breakroom
7. Staff Workroom
8. Classroom
9. SBS Grad Student Room
10. SBS Studio/Lab
11. Offices
12. Outreach
13. Conference Room
14. SoA Urban Design Studio and Offices

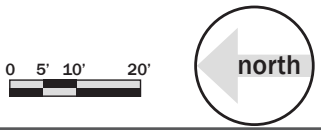
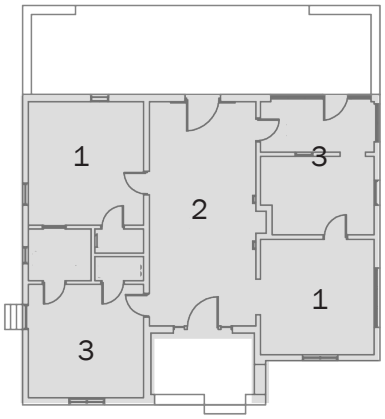
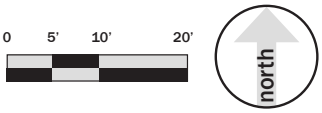


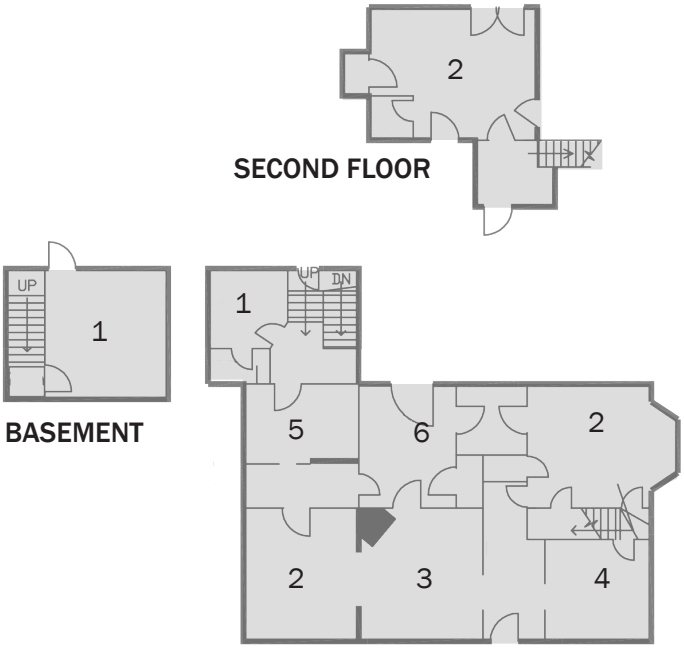
FIG 2.37 UAD: 1ST + 2ND FLOOR



CANNON DOUGLAS HOUSE | INSTITUTE OF PLACE + WELL BEING

1. Faculty Offices
2. Student/Studio/Seminar Room
3. Student/Staff Offices





SMITH HOUSE | DRACHMAN INSTITUTE

1. Storage
2. Offices
3. Conference Room
4. Work Stations
5. Kitchen
6. Library

FIG 2.38 CANON-DOUGLAS HOUSE + SMITH HOUSE: PLANS

University of Arizona
2012-2013 School of Architecture
budget cut INCLUDED below: 5.00%

	STATE		% of this source COL	% of total budget ROW
RESOURCES				
	1,791,627			
TOTAL RESOURCES		$1,791,627	100%	73%
USES				
salaries				
tenure/track faculty	(697,094)			
adjuncts + lecturers	(906,260)			
wages				
SAs + graders				
materials lab monitors				
architecture office	(80,000)			
materials lab + IT staff				
advising	(36,000)			
subtotal, salaries and wages		($1,719,354)	-96%	82%
operations				
admin	(70,000)			
Materials Lab				
IT	(2,000)			
accreditation + APRs				
Lecture Series + Guest Critics				
studios + projects				
travel + faculty development				
recruiting				
search				
AIAS + Citizenship				
capital projects				
subtotal, operating		($72,000)	-4%	20%
operations contingency				
TOTAL USES			($1,791,354) -100%	73%
BALANCE			$273 0%	

FIG 2.39 2012-2013 BUDGET, SCHOOL OF ARCHITECTURE

→Personnel Budget

Includes salaries and wages for faculty, staff, and student workers. Within Personnel, Faculty pay consumes 77%.

salaries			
tenure/track faculty	(697,094)	33%	
adjuncts + lecturers	(906,260)	43%	
wages			
SAs + graders	(203,000)	10%	
materials lab monitors	(64,672)	3%	
architecture office	(87,020)	4%	
materials lab + IT staff	(73,115)	4%	
advising	(55,750)	3%	
subtotal, salaries and wages	($2,086,911)		-85%

• ADJUNCT VS. TENURE / TRACK COSTS: The economics of hiring adjunct vs. tenure / track faculty is what has enabled this School to maintain the size and scope of its programs: adjuncts are less expensive per service performed and are not typically paid to do research. Considered as an average total cost-per-CU, adjuncts are about half the cost of tenure / track faculty; if we add development and support costs, the difference would be greater. Although our adjuncts make up 78% of our Faculty by number of persons, 64% by FTE, and teach 77% of our credits, they consume only

DIFFERENTIAL TUITION + PROGRAM FEES		% of this source COL	% of total budget ROW	OTHER		% of this source COL	% of total budget ROW	TOTAL	COL
409,311				260,405					
	$409,311	100%	17%		$260,405	100%	11%	$2,461,343	100%
								(697,094)	
								(906,260)	
(183,000)				(20,000)				(203,000)	
(34,000)				(30,672)				(64,672)	
				(7,020)				(87,020)	
				(73,115)				(73,115)	
(18,000)				(1,750)				(55,750)	
	($235,000)	-57%	11%		($132,557)	-51%	6%	($2,086,911)	-85%
(10,000)				(43,507)				(123,507)	
(40,000)								(40,000)	
(17,500)				(2,500)				(22,000)	
				(10,000)				(10,000)	
(35,000)								(35,000)	
(30,000)				(30,000)				(60,000)	
(35,000)				(7,000)				(42,000)	
				(12,000)				(12,000)	
(6,000)				(500)				(6,500)	
				(10,000)				(10,000)	
	($173,500)	-42%	48%		($115,507)	-44%	32%	($361,007)	-15%
	($408,500)	-100%	17%		($248,064)	-95%	10%	($2,447,918)	-99%
	$811	0%			$12,341	5%		$13,425	1%

57% of our faculty payroll.

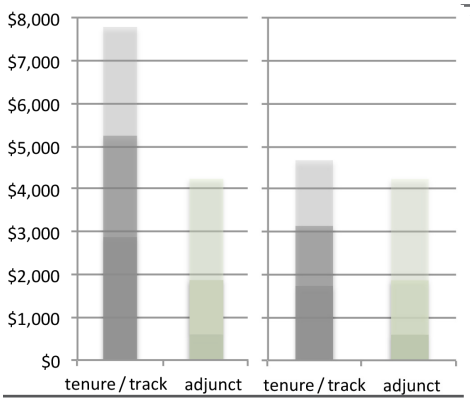


FIG 2.29 LEFT: TOTAL SALARY/CU
RIGHT: TEACHING SALARY/CU

→Operations Budget

Includes all non-personnel expenses required to run the School.

operations		
admin	(123,507)	34%
Materials Lab	(40,000)	11%
IT	(22,000)	6%
accreditation + APRs	(10,000)	3%
Lecture Series + Guest Critics	(35,000)	10%
studios + projects	(60,000)	17%
travel + faculty development	(42,000)	12%
recruiting		
search	(12,000)	3%
AIAS + Citizenship	(6,500)	2%
capital projects	(10,000)	3%
subtotal, operations	($361,007)	-15%

- ADMIN: Shown this year at 34% of Operations, this amount is twice the normal size because it anticipates a potential ERE payment that is in arrears. Usually around $60K, Admin includes copiers and printers for all architecture and staff, office supplies, shipping, membership dues (such as ACSA for the whole faculty), and about $20K for phone service used by the faculty.

- MATERIALS LAB: At $40K, this budget covers only maintenance and expendables to operate the shop, plus rental of a remote storage facility.
- IT: At $22K we cover software licenses and regular replacement of staff and faculty computers; includes no expansion or major IT upgrades.
- ACCREDITATION + APR: Includes the cost of program reviews.
- LECTURE SERIES + GUEST CRITICS: Discussion of these programs is elsewhere. Architecture pays 52% of the College lecture series.
- STUDIOS + PROJECTS: Includes pedagogical projects and support. Included this year under this budget item are field trips (Saguaro National Park West; Mount Lemmon National Park; Los Angeles, CA; San Francisco, CA; Yuma, CA; Phoenix, AZ; Chicago, IL; Marfa, TX;); participation in virtual conferences; two design/build studio projects; moving and technology allowances for two new tenure-track hires; plus minor equipment purchases for Faculty.

  POLICY ON FUNDING FIELD TRIPS
  TRIPS-out of state
  FACULTY: School pays trip cost per University regulations
  STUDENTS: School pays University fleet costs; otherwise students pay travel; school pays educational costs (admissions to institutions for educational purposes); students pay gas, parking, food, and other costs
  TRIPS-in state
  FACULTY: School pays trip cost per University regulations
  STUDENTS: School pays University fleet costs; school pays educational costs (admissions to institutions for educational purposes); students pay gas, parking, food, and other costs
- TRAVEL + FACULTY DEVELOPMENT: In this category, 80% is budgeted for Faculty and 20% Administration.
  - Faculty: Includes scholarly travel and faculty development. In the past three years, the School has made a concerted effort to develop all faculty, especially tenure-track. All faculty are eligible, including adjuncts. This year, we funded fourteen faculty to deliver papers, posters, or talks at twenty five conferences.

    POLICY ON FUNDING FACULTY DEVELOPMENT
    The Dean's guidelines for funding faculty travel and development (may be adjusted by each school Director) are:
    1st tier - $2000 cap for adjunct/tenured faculty.
    2nd tier - $3000 cap for tenure-track faculty.
    3rd tier - $4000 cap for tenure-track faculty with proven record of accomplishment or at a critical place in the tenure-track process.
  - Administration: Includes non-scholarly travel by faculty members as well as administrative personnel student support. In 2012-2013, supported

activity included:
FACULTY: representation at conferences (ACADIA, San Francisco; AULA, Albuquerque.
STUDENTS: individual student travel to conferences (Taliesin West) and paper presentations (CAADRIA, Singapore).
DIRECTOR: travel to conferences (ACSA, Austin; AULA, Albuquerque), AIA meetings (Denver), and meetings (Los Angeles).

- SEARCH: Cover this year's faculty search for one tenure-track position.
- AIAS + CITIZENSHIP: Includes sponsorship of student groups, such as AIAS GrassRoots, Forum, and the Leadership Institute.
- CAPITAL PROJECTS: Includes minor renovation projects, such as the reconfiguration of the GreenRoom to become suitable for jury use.

The Operations budget is at its lowest dollar and percent amount of the last three years, because of increased faculty size and raises for faculty and staff.

1-2.4.5d financial history

Some context may assist in understanding the School, how it responds to funding challenges, and why it is its current condition.

University of Arizona

School of Architecture

	CUTS		RESOURCES								USES			
year	state budget cut to	percent of cut	STATE		DIFFERENTIAL TUITION + PROGRAM		OTHER		total		Personnel		available for Operations	
2002-2003		7.3%	$1,832,242	100%		0%		0%	1,832,242		($1,583,571)	-86%	($248,671)	-14%
2003-2004														
2004-2005	($31,776)	2.6%												
2005-2006	($16,254)	1.0%												
2006-2007	($21,980)	1.3%												
2007-2008	($52,269)	3.0%	$2,205,149	97%	$76,121	3%		0%	2,281,270		($2,043,822)	-90%	($237,448)	-10%
2008-2009	($174,942)	9.2%												
2009-2010	($113,216)	7.0%												
2010-2011			1,937,528	83%	398,498	17%	$0	0%	2,336,026		($1,627,445)	-70%	($708,581)	-30%
2011-2012	($109,384)	5.0%	1,760,343	75%	435,470	19%	144,858	6%	2,340,671		($1,752,038)	-75%	($588,633.15)	-25%
2012-2013	($109,593)	5.0%	1,791,627	73%	409,311	17%	260,405	11%	2,461,343		($2,086,911)	-85%	($374,432)	-15%
total	($629,414)	-41%							134.34%					

From this table we can see:

→CUTS: In the past decade, the School has undergone a 41% decrease in state revenue in the form of cuts to state support and Differential Tuition + Program Fees (DT+PF); 10% of these have fallen in the last two years.

→INCREASES: In spite of these cuts, the School budget is 34% higher over the same period; 8% of this in the past five years ago. How was this possible?

- DT+PF: When Dean Cervelli arrived in 2008, she campaigned for, and got approved by the Board of Regents, a major increase in Differential Tuition and Program Fees. This generated a significant addition to the School's budget and effectively reversed the previous three years' cuts.
- 2010-2011: In addition to new DT+PF, the School received a new line for the new Director ($150K permanent) along with $50K for his start-up funding. All of the Director's equipment and most of his travel have come out of this fund. Also this year, the new M.Arch degree took its first class, adding new PF revenue.
- 2011-2012: The School gained $26K in permanent revenue from the Provost's merit increases; it had DT+PF gains from an increase in the Foundation class and more M.Arch students. It lost 40% of the salaries of three retiring senior faculty; 60% returned to the School.
- 2012-2013: Dean Cervelli got the Provost to honor from her hiring package an additional $83K for a new history + theory line; a second new line from her hiring package has been added for the new healthcare faculty member.[11] The School got a one-time $109K RCM1 payment plus a new permanent RCM1 adjustment (see below).
- UPGRADES: 2010-2011 was the second year without a budget cut since 2002 and the first year of increased revenue due to DT+PF; it was Director Miller's first year. He used the opportunity to substantially upgrade digital technology and the Materials Lab (1-1.6.2a through 1-1.6.2d); the excess was carried forward to ease future cuts.[12]
- RCM1: Around 2008, the University began planning for Responsibility Centered Management (RCM). Applicable only to academic programs, RCM promised to cede part of their economic destiny to Colleges, making the University more transparent and equitable, by charging for units for costs but rewarding them for production. In short, Colleges would earn differential revenue relative to the 2010-2011 base year for student credit hours, majors, and degree completion. Improvement above the base year would result in added revenue; poor performance would result in a revenue deduction. There were different formulae for graduate vs. undergraduate programs. Payout would occur the year following production, meaning units had to invest in advance (or beg the Provost for a loan).

  With the economy in recession (hitting design and construction particularly hard), more budget cuts on the horizon, and no other prospects for revenue generation (having just hit its students with a major DT+PF increase), the College took on RCM in a big way; we were the most active College at the University in working to understand and deploy

11 Assistant Professor Edelstein, who started January 2013, is not included in the budget or FTE numbers in this report.
12 The University is authorized to sweep funds that carry over, but hasn't during the period in question.

the incentives in a way that would improve the quality of our programs and improve our bottom line. One such initiative was the creation of the Bachelor of Science in Sustainable Built Environments (BSSBE).

- In 2010-2011 the School planned a three-phase RCM campaign (described elsewhere);
- In 2011-2012 it launched the first phase (substantially increasing the Foundation program in credit units and students) and preparing to increase the size of the professional degree;
- In late spring 2012, when the first round of RCM payments were due, the interim President and Provost rescinded the program.

To be fair, the new (then Interim) Provost, Andrew Comrie, responded helpfully to Dean Cervelli's plea for RCM relief. In recompense for our RCM1 investments, he provided $150K in permanent funding (though this was approximately a third of the anticipated revenue).

There are a handful of bottom-line impacts on the School from RCM1:

- The Faculty proved it could respond quickly, innovatively, and with a net improvement to teaching;
- RCM1 caused us to expand the richness of the curricula, adding Concentrations to the B.Arch degree. Students and their educations are better for this commitment.
- RCM1 and its implications cost the School Director about 40% of his time over two years; and
- While the rescinding of RCM1 left a vast wake of bitterness and uncertainty, it has, surprisingly, failed to deposit a permanent malaise over Faculty and students. (RCM2 is now launching with promised implementation after AY 2013-2014.)

- M.ARCH: The M.Arch degree was launched prior to RCM1, under the belief that many courses could be co-convened with their B.Arch counterparts, thereby costing little for great benefit. This has not proven to be true, due both to the size of co-convened courses and the learning needs of graduate vs. undergraduate students. (About 20% of the M.Arch's required, non-elective courses are currently co-convened).

1-2.4.5e financial projections

- REVENUE-to-SPENDING: While the School will break-even this year, it is operating at 110% of this year's renewable revenues. This happened, in part, because programs were put in place in anticipation of RCM1 revenues; RCM2 will not be in place in time to help. We will be carefully trimming the budget for 2013-2014.
- ENROLLMENTS-to-BUDGET: Until RCM2 takes effect, there is no correlation between students enrolled and funding provided by the

University, other than our percentage of Differential Tuition and Program Fees. Currently depressed enrollments (1-1.5.3c; "2008-2013 RECESSION + ENROLLMENTS" on page 32) will, therefore, impact the latter source of revenue but not the former.

- DOLLARS PER STUDENT: This year, the School had 472 students for an average expenditure of $5,214.71 per student, not include value accrued from the College budget. There is no meaningful way to break out funding to graduate vs. undergraduate students.

  The University does not keep track and we have no way of calculating expenditure per student in other professional schools, as required in the 2009 Conditions I.2.4.[13]

- FUTURE BUDGETS: Our budget in 2013-2014 will be approximately $2,251,154, down 9% from this year for reasons already explained. Enrollment is projected to be down by 7%, resulting in an average expenditure of $5,153.74 per student.
- FUNDED RESEARCH: We have a potentially lucrative program developing as part of our collaborative Institute for Place and Wellbeing (1-2.1.1h). It will pioneer a new generation of research into health and the built environment and will add greatly to the prestige of the College.
- NEW TENURE TRACK HIRE: We have a search under way for a new tenure-track position in energy and building technology, slated for a high-percentage assignment to funded research. We need this capability to increase our research revenue and extend into the future a legacy program and core area of expertise.
- ERE: The University has been shifting ERE responsibility to units in order to make funding more transparent and spending more tangible; there may be some ERE payments in arrears that would cost the School about $40K. The veracity and implications of this are being investigated.
- FUNDED PROJECTS: All tenure track faculty are aware of the need to generate funded research; all have been productive in generating funding and have offset some of the costs of their tenure-track development and scholarship. Some of this has offset costs of operating the Materials Lab.

1-2.5 INFORMATION RESOURCES

1-2.5.1 library resources

→The Facility: An Architecture Library was founded in 1965 to serve the predominantly undergraduate, design-oriented College. Transferred from the College of Architecture to the University's Main Library in 1993, the collection was housed in the Architecture building until 2005; from

13 We contacted the University Budget Office, the Provost's Office, and the Office of Institutional Research and Planning Support.

2005-2010 it was held across from CAPLA in the Fine Arts Library of the Music Building; finally in 2010 it was absorbed into the Main Library and Science and Engineering Library. While the Architecture Collection is a functional component in the Library System, it's usefulness and availability to the School suffers by its removal of about one-half mile. This has been a financial necessity.

Architecture professors Schrenk and Robinson have met this year with librarians about the library space in Engineering that holds most of our collection to request improvements in lighting, furniture, etc. Nothing has yet come of these efforts, but we have established a relationship with library staff about support for student research and writing.

→The Collection: The evolving composition of the collection reflects changes in the School, educational trends, and changes in society. The Library continues to collect heavily in desert architecture, construction systems, and Latin American architecture; it will generally make acquisitions requested by our faculty. The mission statements of the University, the College, and the University Library reflect a commitment to undergraduate education as well as service to the professional community and the general public. The Architecture Library supports these objectives by providing a reference and research collection that is available as a resource for practicing architects in surrounding communities and for the general public.

→Subject Coverage: Holdings cover built work of all time periods, styles, and geographical locations, as well as materials regarding professional practice. History, theory, and criticism are featured along with monographs on architects and works related to construction, engineering, landscape architecture, and planning. Periodicals are being phased-out due to web availability. An expansion of coverage has occurred in the last few years to include sustainability, design, emerging materials, preservation, and community urban design.

→Visual Resources and Other Non-Book Resources. The Library subscribes to ArtStor, an on-line database of nearly a million images. These include famous historical landmarks as well as images and architectural plans of historical sites past and present. Images from basic textbooks are included as well as images from major museum collections and private collections (http://www.artstor.org.ezproxy1.library.arizona.edu/index.shtml). We have retired our slide collection as well as Imagen, our in-house Online Multimedia Database, due to its cost and the ubiquity of quality material available on the web. We have deaccessioned the Arizona Architectural Archives, also as a financial imperative.

→Library Services: The Architecture Librarian will provide services during posted office hours as well as by appointment and via email. Through

SABIO (http://www.library.arizona.edu/), the online information gateway maintained by the University Library, students have access to the Avery Index to Architectural Periodicals, The Architectural Index, Arizona Digital Sanborn Maps, and the Art Index as well as a variety of interdisciplinary databases including Academic Search Elite (Ebscohost), ArticleFirst, Lexis-Nexis, Expanded Academic Index, PAIS and ABI Inform.

The Librarian will provide instruction in library resources and information literacy at the request of the faculty or on a one-on-one basis to students. Information literacy and lifelong learning skills are also stressed in bibliographic instruction.

1-2.5.2 Liaison

Assistant Professor Clare Robinson is the School's liaison to the University Library, effective Fall 2012. Our assigned Librarian is Assistant Librarian Cindy Elliot, a member of the research services team (elliot@u.library.arizona.edu).

1-2.5.3 in-house miscellany

To bridge the problem of distance, Professor Robinson is building a small circulating collection from donations, faculty loaners, and School purchases in order to promote student familiarity and love of published artifacts. This will be kept in the Architecture Office as of Summer 2013 and will be casually monitored by the Office Staff. We currently have 63 volumes containing: Monographs, Building Type, History + Theory, and Practice (drawing, representation, sustainability, etc.) works. Highlights include Five Architects, Learning from Las Vegas, Ester McCoy's monograph on Craig Ellwood, and John Vlach's Back of the Big House.

1-3 | Institutional Characteristics

1-3.1 STATISTICAL REPORTS

1-3.1.1 M.Arch student characteristics

1-3.1.1a demographics[14]

graduate students	M.Arch+MS.Arch			UA		
	2010	2011	2012	2010	2011	2012
Female	38%	25%	41%	52%	52%	
American Indian/Alaska Native	8%	10%	2%	3%	3%	
Black/African American	5%	4%	4%	3%	3%	
Hispanic/Latino	15%	13%	11%	10%	10%	
Non-Resident Alien	23%	17%	27%	20%	20%	
Not Specified		6%		6%	6%	
Other/2 or more races			8%	5%	5%	
White	49%	50%	48%	53%	53%	

14 The Office of Institutional Research and Planning Services (ORPS) does not distinguish between the M.Arch and MS.Arch programs, therefore this data is for all graduate students in the School.

1-3.1.1b qualifications

Relative to the previous Team visit, we can now accept qualified applicants to MArch II. Also, the Admissions Committee has become more careful about identifying applicants who benefit from additional summer immersion studies.

Application materials and basic eligibility for admission have not changed. We have migrated from a Program-based application portal (2010 & 2011 applicants) to a Graduate College portal (2012 & 2013) and will be moving to a UA based portal in Spring 2014).

1-3.1.1c time to graduation

SoA **program student characteristics**

	M.Arch III	M.Arch II	M.Arch I	combined
time to graduation				
Class of 2013	3 yrs (12 students)	2 yrs (4 students)	0	
Class of 2014	3 yrs	2 yrs	0	
within 100% time to completion				
Class of 2013	80%	67%	0	76%
Class of 2014	58%	100%	0	62%
within 150% time to completion				
Class of 2013	87% (13 students)	83% (5 students)	0	76%
Class of 2014	62%	100%	0	64%
Class of 2015	87% (13 students)			

1-3.1.2 **faculty characteristics**

As reported (1-2.1.1a), there is not an M.Arch faculty that is distinguishable from the general Faculty, upon which the following is based.

1-3.1.2a demographics

SoA **faculty composition**

University of Arizona

	by rank: PERCENT					by rank: NUMBER					by gender: tenure / track		by gender: adjunct		by gender: all		by ethnicity							
	Professor	Associate Professor	Assistant Professor	all tenured + tenure	Adjuncts + Lecturers	Professor	Associate Professor	Assistant Professor	all tenured + tenure	Adjuncts + Lecturers	male	female	male	female	male	female	african american	hispanic	other	white	american indian / asian	all ethnic minorities
2007 - 2008	15%	8%	13%	35%	65%	6	3	5	14	26												
2008 - 2009	21%	4%	4%	29%	71%	5	1	1	7	17	71%	29%	65%	35%	67%	33%						
2009 - 2010	17%	3%	10%	31%	69%	5	1	3	9	20	67%	33%	65%	35%	66%	34%						
2010 - 2011	21%	7%	7%	34%	66%	6	2	3	11	21	70%	30%	68%	32%	69%	31%		6%	13%	81%		19%
2011 - 2012	9%	5%	7%	20%	80%	4	2	3	9	35	67%	33%	66%	34%	66%	34%		7%	9%	84%		16%
2012 - 2013	8%	8%	6%	22%	78%	4	4	3	11	39	45%	55%	77%	23%	70%	30%		6%	12%	82%		18%

Demographics for the University are:

UA **full-time faculty**

	2010	2011
female	37%	38%
American Indian/Alaska Native	1%	1%

1-3.1.2b promotions + tenure

Since the last Team visit Spring 2011, one person was promoted to Associate Professor and granted tenure (9% of tenure / track faculty). Within the University over the same period, 95 candidates for tenure and/or promotion advanced to the Provost's office: 93 were approved.[15]

1-3.1.2c licensure

See 1-2.1.1f. Over 95% of these faculty are licensed in Arizona.

1-3.2 ANNUAL REPORTS

Per the 2009 Conditions, NAAB will provide to the Team all annual reports relevant to this visit. The statement by the official responsible for preparing statistical data is at 4.13.

1-3.3 FACULTY CREDENTIALS

See FIG 2.31-FIG 2.33 for M.Arch Faculty teaching assignments.
See 4.11 for M.Arch Faculty resumes.

15 UA Office of Academic Affairs, April 2013.

Part 2

Educational Outcomes and Curriculum

2-1 | Student Performance

2-1.1 OVERVIEW

The Master of Architecture is a professional degree with an emphasis on critical practice and sustainable design honed by the poetics of place. The program fosters the development of an architect who is both a scholar and a maker: the integration of passive and active building technologies, theory/history, digital fabrication, design communications, materials and fabrication, and practice methods. Our rigorous and comprehensive curriculum provides graduates with the necessary skills to enter a diverse range of positions in architecture, design, and construction.

At the core of the program is a carefully orchestrated series of studios and synthesized support topics that allow for the mastery of fundamentals and advanced processes with the experimentation required for critical practice. The sequence culminates in a master's project, which includes research and the production of a comprehensive design project.

The Master of Architecture (M.Arch) degree is available via one of three curricular tracks, according to the student's prior preparation. The three-year course accommodates students with a non-design baccalaureate degree; the two-year professional program accepts students with an undergraduate studio-based architecture degree. Students holding a Bachelor of Architecture may receive advanced placement. Each applicant's experience is individually assessed and a personal curriculum developed to insure success. In our nomenclature:

- M.Arch III: pre-professional studies, for students with no design background;
- M.Arch II: professional studies, for students with a pre-professional design background; includes advanced placement for those with a professional

baccalaureate degree.
- M.Arch I: Advanced stage or placement in M.Arch II.

CIP CODE: 04.0201 Architecture (BArch, BA/BS, MArch, MA/MS, PhD). A program that prepares individuals for the independent professional practice of architecture and to conduct research in various aspects of the field. Includes instruction in architectural design, history, and theory; building structures and environmental systems; project and site planning; construction; professional responsibilities and standards; and related cultural, social, economic, and environmental issues.

2-1.2 STUDENT PERFORMANCE CRITERIA

The School takes seriously the proper sequencing and delivery of student performance criteria. Changes to the degree's SPC Matrix since the last Team visit are shown in FIG 2.40-FIG 2.42.

Changes in summary:

2-1.2.1 History + Theory sequence

A new sequence was developed, initiated by several ambitions:

- Cross-Disciplinary: Cover a more diverse range of built environment issues, including landscape architecture and urban design.
- Global Scope: Include building histories from non-Western traditions.
- Increased Theory: Significantly increase coverage of design theory, through history as well as contemporary.
- Graduate Culture: Improve the seriousness and expectations for our graduate studies.
- Research Skills: Improve the reading, writing, logic, and research skills developed in the History + Theory Stream.

The new sequence, which was endorsed by school Curriculum Committees from both Architecture and SLAP as well as the College Curriculum Committee, resulted in adding a new cross-disciplinary course at the beginning of the sequence. This caused a re-shuffling of course schedules in all semesters and a reassignment of SPC responsibilities.

- ARC 529 Introduction to the Built Environment: A new course, thematically organized and cross-disciplinary in content and enrollment; required of all CAPLA graduate students from all disciplines. Strong emphases on fundamental research and thinking skills. SPCs reassigned here.
- ARC 530 History + Theory 1: Made global in scope; no SPC change.
- ARC 531 History + Theory 2: Made global in scope; no SPC change.
- ARC 532 History + Theory 3: More emphasis on contemporary theory; SPCs added to complete History + Theory sequence.

MArch program
University of Arizona

2012.10.22

NAAB 2009 STUDENT PERFORMANCE CRITERIA
REQUIRED COURSES MATRIX

claim
secondary claim

		REALM A: Critical Thinking and Representation											REALM B: Integrated Building Practices, Technical Skills and Knowledge												REALM C: Leadership and Practice								
	Criterion #	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	C1	C2	C3	C4	C5	C6	C7	C8	C9
SPC EXPECTED TO HAVE BEEN MET IN PREPARATORY SUMMER PROGRAM																																	
ARC 510a	IMMERSION STUDIO 1																																
ARC 540a	DESIGN COMMUNICATION 1																																
SPC EXPECTED TO HAVE BEEN MET IN PRE-PROFESSIONAL PROGRAM																																	
ARC 510b	IMMERSION STUDIO 2								■																								
ARC 520a	BUILDING TECHNOLOGY 1 - STRUCTURES 1		■																														
ARC 526	SITE ANALYSIS AND PLANNING															■																	
ARC 530	HISTORY 1: WORLD ARCHITECTURE																																
ARC 540b	DESIGN COMMUNICATION 2																																
ARC 510c	IMMERSION STUDIO 3			■			■											■															
ARC 520b	BUILDING TECHNOLOGY 2 - MATERIALS AND METHODS 1																								■								
ARC 520c	BUILDING TECHNOLOGY 3 - ENVIRONMENTAL CONTROL SYSTEMS 1											■														■							■
ARC 531	HISTORY 2: WORLD ARCHITECTURE																																
ARC 527	ARCHITECTURAL PROGRAMMING			■		■					■		■	■												■	■					■	
SPC MET IN NAAB-ACCREDITED PROGRAM																																	
ARC 510d	ADVANCED STUDIO 1: POETICS AND PLACE			■			■	■	■					■	■	■										■							
ARC 520d	BUILDING TECHNOLOGY 4 - MATERIALS AND METHODS 2							■														■		■									
ARC 532	HISTORY 3: MODERN ARCHITECTURE	■								■																							
ARC 510e	ADVANCED STUDIO 2: URBAN FOCUS		■	■							■																						■
ARC 520e	BUILDING TECHNOLOGY 5 - STRUCTURES 2				■																■												
ARC 550c	ETHICS AND PRACTICE																		■							■	■	■	■	■	■	■	
ARC 533	HISTORY 4: THEORY AND PRINCIPLES OF URBAN DESIGN	■								■	■																						■
ARC 510F	ADVANCED STUDIO 3: TECHNICAL INTEGRATION / COMPREHENSIVE														■		■	■		■	■	■	■										
ARC 909	MASTERS PROJECT PREP												■																				
ARC 541	CONTRACT DOCUMENTS				■												■		■				■		■		■	■		■			
ARC 520f	BUILDING TECHNOLOGY 6 - ENVIRONMENTAL CONTROL SYSTEMS 2														■					■			■										
ARC 909	ADVANCED STUDIO 4: RESEARCH		■			■						■																					
ARC 520g	BUILDING TECHNOLOGY 7 - STRUCTURES 3																				■												
	Criterion #	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	C1	C2	C3	C4	C5	C6	C7	C8	C9
		Communication Skills:	Design Thinking Skills:	Visual Communication Skills:	Technical Documentation:	Investigative Skills:	Fundamental Design Skills:	Use of Precedents:	Ordering Systems Skills:	Historical Traditions and Global Culture:	Cultural Diversity:	Applied Research:	Pre-Design:	Accessibility:	Sustainability:	Site Design:	Life Safety:	Comprehensive Design:	Financial Considerations:	Environmental Systems:	Structural Systems:	Building Envelope Systems:	Building Service Systems:	Building Materials and Assemblies:	Collaboration:	Human Behavior:	Client Role in Architecture:	Project Management:	Practice Management:	Leadership:	Legal Responsibilities:	Ethics and Professional Judgment:	Community and Social Responsibility:

FIG 2.40 M.ARCH SPC MATRIX, AS OF LAST TEAM VISIT

M.Arch degree

School of Architecture - University of Arizona

2013.01.30

NAAB 2009 STUDENT PERFORMANCE CRITERIA
REQUIRED COURSES MATRIX

claim
secondary claim
revision

		REALM A: Critical Thinking and Representation											REALM B: Integrated Building Practices, Technical Skills and Knowledge												REALM C: Leadership and Practice								
	Criterion #	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	C1	C2	C3	C4	C5	C6	C7	C8	C9
SPC EXPECTED TO HAVE BEEN MET IN PREPARATORY SUMMER PROGRAM																																	
ARC 510a	IMMERSION STUDIO 1																																
ARC 540a	DESIGN COMMUNICATION 1																																
SPC EXPECTED TO HAVE BEEN MET IN PRE-PROFESSIONAL PROGRAM																																	
ARC 510b	IMMERSION STUDIO 2								■																								
ARC 520a	BUILDING TECHNOLOGY 1 - STRUCTURES 1		■																														
ARC 526	SITE ANALYSIS AND PLANNING															■																	
ARC 530	HISTORY + THEORY OF ARCHITECTURE 1																																
ARC 540b	DESIGN COMMUNICATION 2																																
ARC 510c	IMMERSION STUDIO 3			■			■											■															
ARC 520b	BUILDING TECHNOLOGY 2 - MATERIALS AND METHODS 1																								■								
ARC 520c	BUILDING TECHNOLOGY 3 - ENVIRONMENTAL CONTROL SYSTEMS 1											■														■							■
ARC 531	HISTORY + THEORY OF ARCHITECTURE 2																																
ARC 527	ARCHITECTURAL PROGRAMMING			■		■					■		■	■												■	■					■	
SPC MET IN NAAB-ACCREDITED PROGRAM																																	
ARC 529	INTRODUCTION TO THE BUILT ENVIRONMENT	★				■			■	■	■															■							
ARC 510d	ADVANCED STUDIO 1: POETICS AND PLACE			■			■	■	■					■	■	■										■							
ARC 520d	BUILDING TECHNOLOGY 4 - MATERIALS AND METHODS 2							■														■		■									
ARC 532	HISTORY + THEORY OF ARCHITECTURE 3	★				■				■																							
ARC 510e	ADVANCED STUDIO 2: URBAN FOCUS		■	■							■																						■
ARC 520e	BUILDING TECHNOLOGY 5 - STRUCTURES 2				★																■												
ARC 550c	ETHICS AND PRACTICE																		■							■	■	■	■	■	■	■	■
~~ARC 533~~	~~HISTORY 4: THEORY AND PRINCIPLES OF URBAN DESIGN~~																																
ARC 510F	ADVANCED STUDIO 3: TECHNICAL INTEGRATION / COMPREHENSIVE														■		■	■		■	■	■	■										
ARC 909	MASTERS PROJECT PREP												■																				
ARC 541	CONTRACT DOCUMENTS				★												■		■				■		■		■	■		■			
ARC 520f	BUILDING TECHNOLOGY 6 - ENVIRONMENTAL CONTROL SYSTEMS 2														■					■			■										
ARC 909	ADVANCED STUDIO 4: RESEARCH	★	■			■						■																					
ARC 520g	BUILDING TECHNOLOGY 7 - STRUCTURES 3																				■												
	Criterion #	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	C1	C2	C3	C4	C5	C6	C7	C8	C9
		Communication Skills:	Design Thinking Skills:	Visual Communication Skills:	Technical Documentation:	Investigative Skills:	Fundamental Design Skills:	Use of Precedents:	Ordering Systems Skills:	Historical Traditions and Global Culture:	Cultural Diversity:	Applied Research:	Pre-Design:	Accessibility:	Sustainability:	Site Design:	Life Safety:	Comprehensive Design:	Financial Considerations:	Environmental Systems:	Structural Systems:	Building Envelope Systems:	Building Service Systems:	Building Materials and Assemblies:	Collaboration:	Human Behavior:	Client Role in Architecture:	Project Management:	Practice Management:	Leadership:	Legal Responsibilities:	Ethics and Professional Judgment:	Community and Social Responsibility:

★ satisfies only part of the SPC, AS FOLLOWS:

A1 Communication Skills: Ability to read, write, speak and listen effectively.
arc 909: only course responsible for the verbal claim.

A4 Technical Documentation: Ability to make technically clear drawings, write outline specifications, and prepare models illustrating and identifying the assembly of materials, systems, and components appropriate for a building design.
arc 541: only course responsible for "outline specifications"

FIG 2.41 M.ARCH SPC MATRIX, CHANGES

Master of Arch

School of Architecture - University of Ariz

claim
secondary claim

REALM A: Critical Thinking + Re

criterion:		A1	A2	A3	A4	A5	A6	A7
IMERSION SUMMER								
ARC 510a	IMMERSION STUDIO 1							
ARC 540a	DESIGN COMMUNICATION 1							
PRE-PROFESSIONAL PHASE								
ARC 510b	IMMERSION STUDIO 2							
ARC 520a	BUILDING TECHNOLOGY 1 - STRUCTURES 1							
ARC 526	SITE ANALYSIS AND PLANNING							
ARC 529	INTRODUCTION TO THE BUILT ENVIRONMENT	★						
ARC 540b	DESIGN COMMUNICATION 2							
ARC 510c	IMMERSION STUDIO 3							
ARC 520b	BUILDING TECHNOLOGY 2 - MATERIALS + METHODS 1							
ARC 520c	BUILDING TECHNOLOGY 3 - ENVIRONMENTAL CONTROL SYSTEMS 1							
ARC 527	ARCHITECTURAL PROGRAMMING							
ARC 530	HISTORY + THEORY OF ARCHITECTURE 1							
PROFESSIONAL PHASE								
ARC 510d	ADVANCED STUDIO 1: POETICS + PLACE							
ARC 520d	BUILDING TECHNOLOGY 4 - MATERIALS + METHODS 2							
ARC 531	HISTORY + THEORY OF ARCHITECTURE 2							
ARC 510e	ADVANCED STUDIO 2: URBAN FOCUS							
ARC 520e	BUILDING TECHNOLOGY 5 - STRUCTURES 2				★			
ARC 532	HISTORY + THEORY OF ARCHITECTURE 3	★						
ARC 550c	ETHICS AND PRACTICE							
ARC 510F	ADVANCED STUDIO 3: TECHNICAL INTEGRATION + COMPREHENSIVE							
ARC 520f	BUILDING TECHNOLOGY 6 - ENVIRONMENTAL CONTROL SYSTEMS 2							
ARC 541	CONTRACT DOCUMENTS				★			
ARC 909	MASTERS PROJECT PREP							
ARC 909	MASTER'S PROJECT	★						
ARC 520g	BUILDING TECHNOLOGY 7 - STRUCTURES 3							
criterion:		A1	A2	A3	A4	A5	A6	A7

A1 Communication Skills
A2 Design Thinking Skills
A3 Visual Communication Skills
A4 Technical Documentation
A5 Investigative Skills
A6 Fundamental Design Skills
A7 Use of Precedents

★ satisfies only part of the SPC, AS FOLLOW

A1 Communication Skills: Ability to read, writ
arc 909: only course responsible for the v

A4 Technical Documentation: Ability to make
components appropriate for a building des
arc 541: only course responsible for "outl

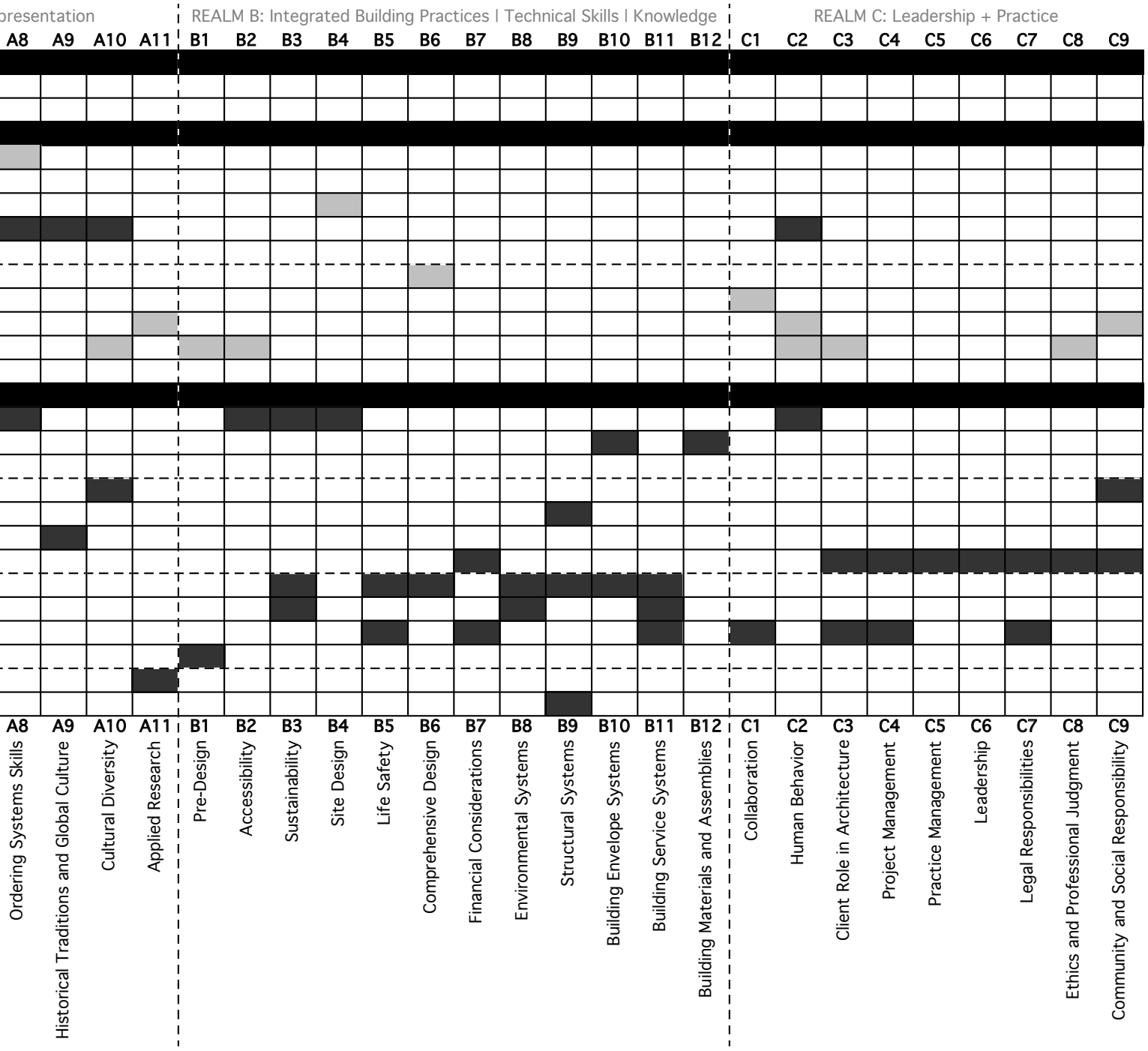
FIG 2.42 M.ARCH SPC MATRIX-2013.02.06

itecture

ona

NAAB 2009 STUDENT PERFORMANCE CRITERIA

REQUIRED COURSES MATRIX



/S:

e, speak and listen effectively.

verbal claim.

technically clear drawings, write outline specifications, and prepare models illustrating and identifying the assembly of materials, systems, and sign.

ine specifications"

2-1.2.2 split SPC assignments

The Curriculum Committee recognized a need to be more rigorous in managing the faithful delivery of SPCs, particularly with so many new faculty members. For SPCs A1 + A4, it split and clarified responsibility for coverage in the matrix.

2-2 | Curricular Framework

2-2.1 REGIONAL ACCREDITATION

The University is regionally accredited by the North Central Association of Colleges and Schools. The last accreditation was 2011 (FIG 2.43).

2-2.2 CURRICULUM

The Master of Architecture degree is the second professional degree in the School. Both promote the values and themes outlined in 1-1.1.3; both have their curricula organized in Streams.

2-2.2.1 CURRICULAR STREAMS

The School's curricula are gathered into five curricular streams:

2-2.2.1a Technology

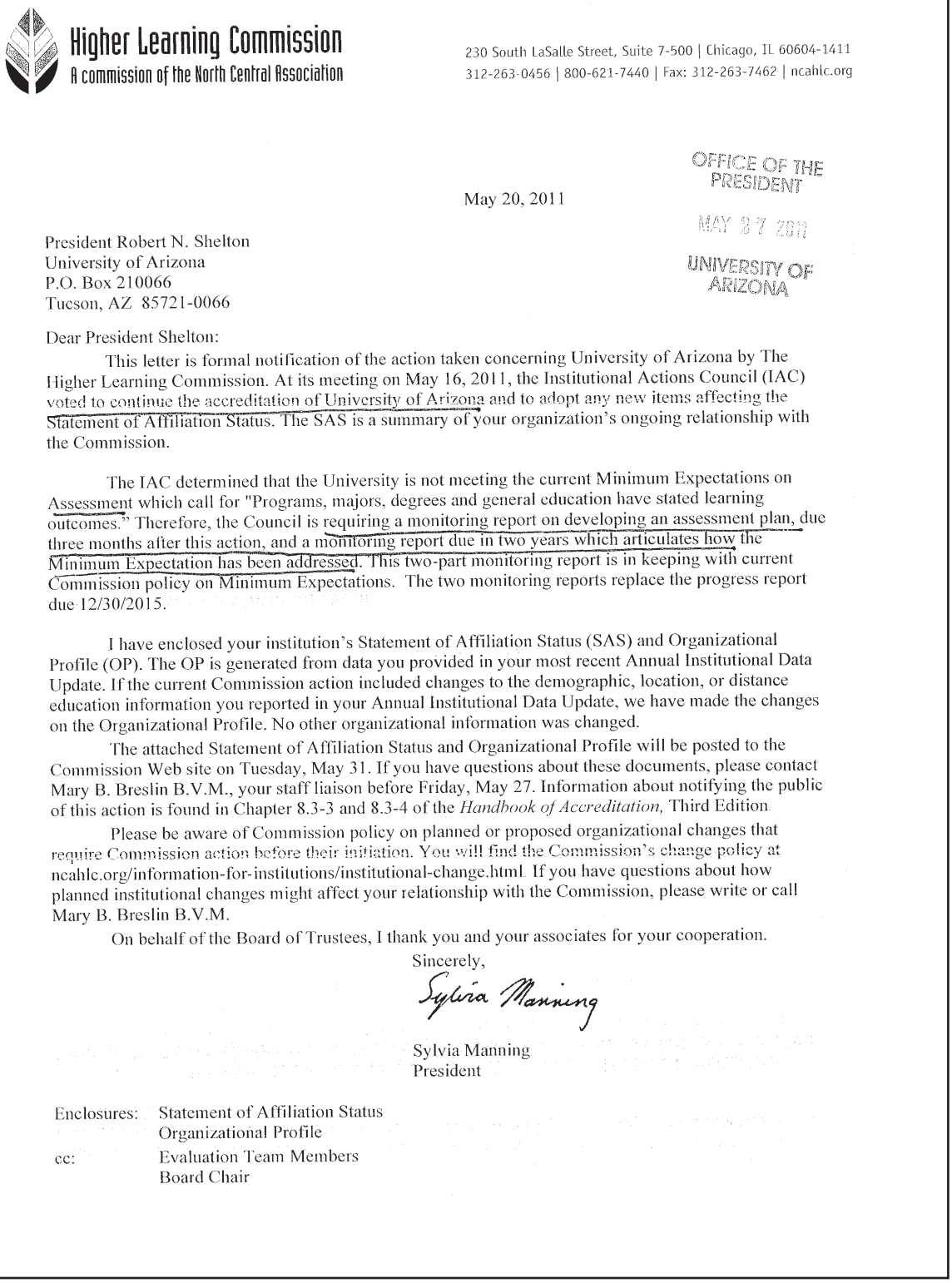
Courses that focus on the site, climate, and material resources. Familiarity with the local geography, traditional materials, and conservation practices, as well as inventive experimentation with and testing of new materials and methods of energy conservation, are critical factors in the design of a well-tempered architecture.

2-2.2.1b History + Theory

Studies that examine architecture as a sensual and intelligent expression of culture. A liberal but well-focused survey analyzing functional and aesthetic continuities in buildings, cities, and landscapes as well as revisions over time and space is necessary for the preservation of and innovation in architecture. This sequence is global and cross-disciplinary in scope, embodying landscape architecture and urban design, history as well as theory. See 1-1.6.3, 1-2.1.1i, 2-1.2.1.

2-2.2.1c Design Communications

This stream emphasizes the study, design, representation, rationalization, simulation and construction of architectural ideas through the development of digital communication tools, techniques, and methodologies. In an era when tools of design are being linked to methods of fabrication and assembly, the communication between designers and builders, including their tools, is an essential aspect of building delivery. These skills are also means of effective interaction with clients, citizens, and ultimately the users of architecture.



Higher Learning Commission
A commission of the North Central Association

230 South LaSalle Street, Suite 7-500 | Chicago, IL 60604-1411
312-263-0456 | 800-621-7440 | Fax: 312-263-7462 | ncahlc.org

OFFICE OF THE PRESIDENT
MAY 27 2011
UNIVERSITY OF ARIZONA

May 20, 2011

President Robert N. Shelton
University of Arizona
P.O. Box 210066
Tucson, AZ 85721-0066

Dear President Shelton:

This letter is formal notification of the action taken concerning University of Arizona by The Higher Learning Commission. At its meeting on May 16, 2011, the Institutional Actions Council (IAC) voted to continue the accreditation of University of Arizona and to adopt any new items affecting the Statement of Affiliation Status. The SAS is a summary of your organization's ongoing relationship with the Commission.

The IAC determined that the University is not meeting the current Minimum Expectations on Assessment which call for "Programs, majors, degrees and general education have stated learning outcomes." Therefore, the Council is requiring a monitoring report on developing an assessment plan, due three months after this action, and a monitoring report due in two years which articulates how the Minimum Expectation has been addressed. This two-part monitoring report is in keeping with current Commission policy on Minimum Expectations. The two monitoring reports replace the progress report due 12/30/2015.

I have enclosed your institution's Statement of Affiliation Status (SAS) and Organizational Profile (OP). The OP is generated from data you provided in your most recent Annual Institutional Data Update. If the current Commission action included changes to the demographic, location, or distance education information you reported in your Annual Institutional Data Update, we have made the changes on the Organizational Profile. No other organizational information was changed.

The attached Statement of Affiliation Status and Organizational Profile will be posted to the Commission Web site on Tuesday, May 31. If you have questions about these documents, please contact Mary B. Breslin B.V.M., your staff liaison before Friday, May 27. Information about notifying the public of this action is found in Chapter 8.3-3 and 8.3-4 of the *Handbook of Accreditation,* Third Edition.

Please be aware of Commission policy on planned or proposed organizational changes that require Commission action before their initiation. You will find the Commission's change policy at ncahlc.org/information-for-institutions/institutional-change.html. If you have questions about how planned institutional changes might affect your relationship with the Commission, please write or call Mary B. Breslin B.V.M.

On behalf of the Board of Trustees, I thank you and your associates for your cooperation.

Sincerely,

Sylvia Manning

Sylvia Manning
President

Enclosures: Statement of Affiliation Status
Organizational Profile

cc: Evaluation Team Members
Board Chair

FIG 2.43 NCA ACCREDITATION OF UA, 20 MAY 2011

Knowledge is delivered progressively, starting with fundamentals (such as raster verses vector information), the introduction of rudimentary three-dimensional digital models, and developing awareness of 2d and 3d methodologies and output. The curriculum then advances to "smart" models and analysis tools, BIM, and the application of these techniques to studio work , field applications, and fabrication processes.

In addition to supporting the design process and the quality and legibility of studio work, the Stream teaches digital agility so students can interface between appropriately selected programs. Consequently, students are taught, not only how to use a program, but why they are learning it, what its logic does to the work process and product, and its optimal purpose. Students are encouraged to work smarter, not harder.

→Digital Technology Matrix: In order to supervise the introduction and development of digital design and fabrication skills, the Design Communications Stream developed a software + skills matrix that works like a companion to the NAAB SPC matrix (FIG 2.45). Against all the courses in the M.Arch are shown the softwares, skills, and design communication skills that need to be taught with an indication of their current and projected proficiency.

2-2.2.1d Practice

Lessons that develop an ethical dimension that governs management, legal, and delivery abilities. Architecture is an act that imposes itself on the world, and thus is ultimately in service of human needs, in compliance with and reform of technical protocols and building codes, and in interaction with the construction trades. In addition to required instruction in these topics, hands-on experience in design/build collaborative projects is an effective introduction to this practice.

2-2.2.1e Studio

Involving the synthesis of all other streams, the studios are organized in a progressive thematic sequence that serves as scaffolding for the whole curriculum: foundation, human dimension, programming, land ethic, tectonics, systems, urban form, research options, and capstone.

2-2.2.2 curriculum

The M.Arch curriculum and schedule is shown in FIG 2.44, with semester credit hours by phase. Course descriptions for these courses are in 4.1.

2-2.2.3 off-campus programs

The School has no required off-campus programs. Students may elect to take the School's summer program in Orvietto, Italy, or join a foreign exchange program provided they can complete the required curriculum or receive transfer credit.

incoming classes 2013-2014

M.Arch curriculum

	M.Arch III	M.Arch II	M.Arch I
PRE-PROFESSIONAL PHASE			
Summer 1			
ARC 510a immersion studio I: groundwork	4		
ARC 540a design communication 1	3		
	7		
Fall 1			
ARC 510b immersion studio 2	6		
ARC 520a building technology 1 – structures 1	3		
ARC 526 site planning and analysis	2		
ARC 529 intro to the built environment	3		
ARC 540b design communication 2	3		
	17		
Spring 1			
ARC 510c immersion studio 3	6		
ARC 520b building technology 2 – materials + methods 1	3		
ARC 520c building technology 3 – environmental control systems 1	3		
ARC 527 architectural programming	2		
ARC 530 history + theory of architecture 1	3		
	17		
year	**41**		
PROFESSIONAL PHASE			
Summer 2			
ARC 509a immersion studio	4*	4	
ARC 509b immersion seminar	3*	3	
		7	
Fall 2			
ARC 510d advanced studio 1: poetics + place	6	6	
ARC 520d building technology 4 – materials + methods 2	3	3	
ARC 531 history + theory of architecture 2	3		
ARC 529 intro to the built environment		3	
	12	12	
Spring 2			
ARC 510e advanced studio 2: urban focus	6	6	
advanced elective	3	3	
ARC 520e building technology 5 – structures 2	3	3	
ARC 533 history + theory of architecture 3	3		
ARC 550c ethics and practice	2	2	
ARC 530 history + theory of architecture 1-seminar		1	
	17	15	
year	**29**	**34**	
Summer 3			
ARC 509a immersion studio	4*	4*	4*
ARC 509b immersion seminar	3*	3*	3*
Fall 3			
ARC 510f advanced studio3: technical integration + comprehensive[Θ]	6	6	6
ARC 520f building technology 6 – environmental control systems 2	3	3	3
ARC 541 contract documents[Θ]	3	3	3
ARC 909 - masters project preparation	3	3	3
ARC 529 intro to the built environment			3
ARC 531 history + theory of architecture 2-seminar		1	
	15	16	18
Spring 3			
ARC 909 masters project	6	6	6
ARC 520g building technology 7 – structures 3	3	3	3
ARC 533 history + theory of architecture 3-seminar		1	
advanced elective	3	3	3
advanced elective	3	3	3
	15	16	15
year	**30**	**32**	**33**
total required credits[Ω β]	**100**	**66**	**33**

notes

Θ ARC 510f + ARC 541 taken concurrently

Ω NAAB 2009 Conditions: min 168 total CU; 30 grad CU

β NAAB 2009 Conditions: min 45 non-arch CU

* optional developmental course

approved by SoA Curriculum Committee: 2013.02.06

FIG 2.44 M.ARCH CURRICULUM

2-2.2.4 travel study

→FIELD TRIPS: The School supports faculty in taking students on field trips, with limited funding for student learning activities (1-2.4.5c, "POLICY ON FUNDING FIELD TRIPS").

→CONFERENCES: Some travel support is offered to students whose work is accepted at conferences.

→COURSE TRAVEL: M.Arch students travel every year of the degree program.

- ARC 510b: This M.Arch III studio travels to Saguaro National Park West and Mount Lemmon National Park as part of a studio series that moves progressively through various ecological/climate zones.
- ARC 520b Materials + Methods 1: M.Arch III students travel to Phoenix for an extensive tour of the region's best residential, commercial, and institutional architecture; they also make firm visits.
- ARC 510e: M.Arch II students travel to Chicago for their urban design studio, in a cooperative studio with the College of Architecture at Illinois Institute of Technology.
- ARC 909: For Master's Project and its preparation, M.Arch I students travel to Los Angeles, San Francisco, and Yuma, CA. where they visit project sites, firms, and significant architecture.

2-2.2.5 curriculum review and development

See 1-1.5 "Self-Assessment Procedures"

→CURRICULUM WALK-THROUGH: Every semester, every faculty member teaching in the M.Arch program pins up examples of High- and Low-Pass work, then walks the curriculum chronologically looking for opportunities to build synergy between courses, improving project requirements, and moving benchmarks. The Program Chair also has regular (several times per semester) meetings with the students and brings their feedback to these sessions. This has helped us work through many of the problems encountered as we deliver these courses, that were patterned in B.Arch courses, for the first time to graduate students.

→CURRICULUM COMMITTEE: Meeting bi-weekly, the Curriculum Committee continually reviews and adjusts the curriculum from the perspective of the five Streams. It was this process that led to innovations in the History + Theory curriculum, for example (2-1.2.1).

2-3 | Evaluation of Preparatory/Pre-professional Education

The M.Arch program's acceptance requirements vary by point of admission.

School of Architecture **DIGITAL TECHNOLOGY MATRIX**

Master of Architecture

approved by SoA Curriculum Committee: 2013.03.18

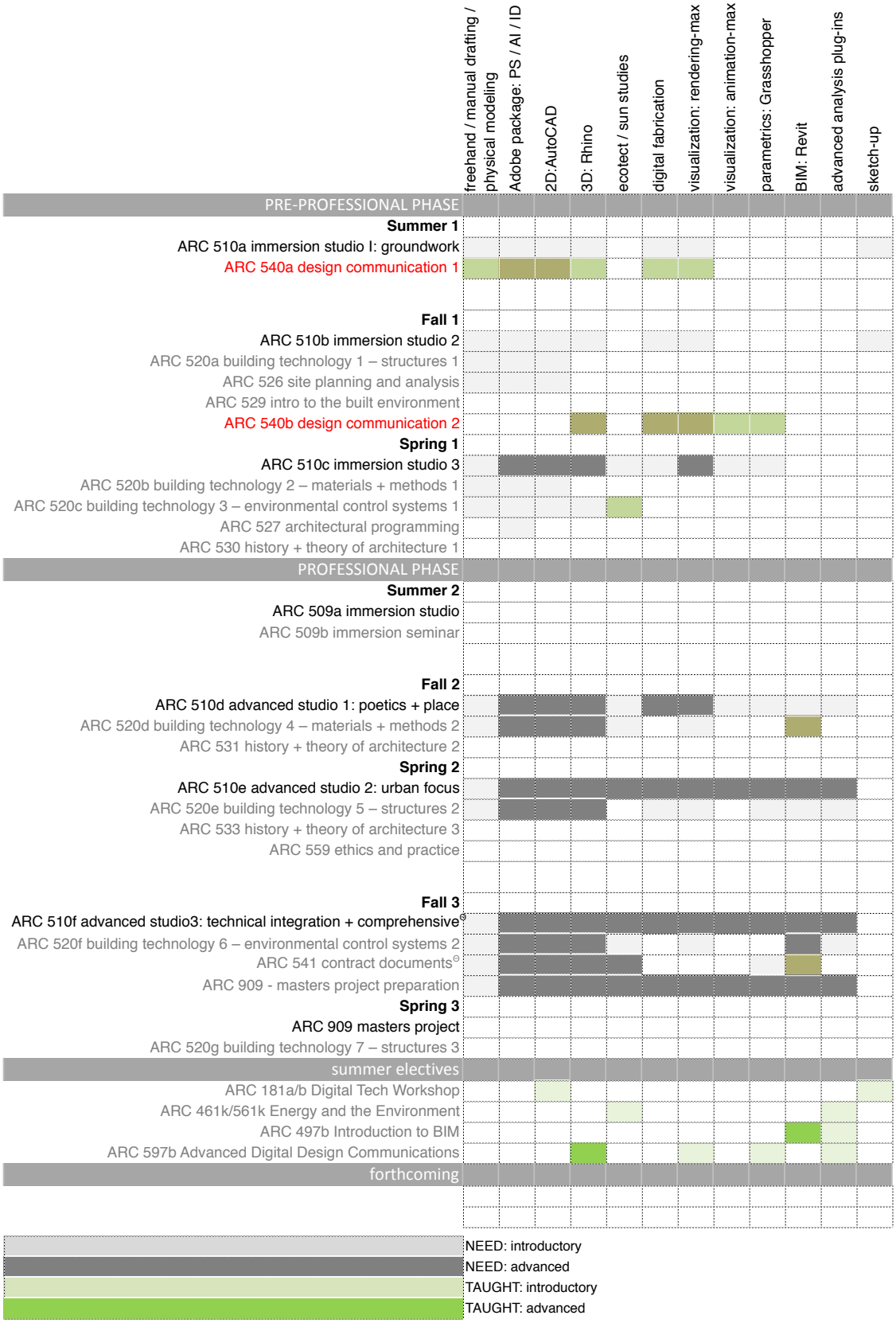


FIG 2.45 MASTER OF ARCHITECTURE-DIGITAL TECHNOLOGY MATRIX

2-3.1 M.ARCH III ELIGIBILITY

- 4-year bachelor degree in a field other than architecture, including degree certification;
- GPA: 3.0 (4-point scale); and
- required credits: college Algebra, Trigonometry, and Physics with lab.
- GRE: not required.

2-3.2 M.ARCH II ELIGIBILITY

- 4-year bachelor degree, major in architecture, including degree certification;
- GPA: 3.0 (4-point scale); and
- required credits (semester system):
  - 4 design studios = 24 credits
  - 2 courses in design fundamentals = 6 credits
  - 2 building technology courses = 6 credits
  - 2 structures courses = 6 credits
  - 2 environmental technology courses = 6 credits
  - college Algebra, Trigonometry or Calculus, and Physics with lab.
- GRE: not required.
- Portfolio: design work that shows competence in fundamental design and graphic skills (qualification: 2-3.6.3).

2-3.3 M.ARCH II ADVANCE PLACEMENT (M.ARCH I)

- 5-year accredited bachelor degree (professional) in architecture, including degree certification;
- GPA: 3.0 (4-point scale); and
- required credits (semester system):
  - 8 design studios = 48 credits
  - 2 courses in design fundamentals = 12 credits
  - 4 building technology courses = 6 credits
  - 3 structures courses = 9 credits
  - 2 professional practice courses = 6 credits
  - 2 architecture history courses = 6 credits
  - college Algebra, Trigonometry or Calculus, and Physics with lab.
- GRE: not required.
- Portfolio: design work that shows competence in fundamental design and graphic skills (qualification: 2-3.6.3).

2-3.4 ADMISSION MATERIALS REQUIRED, ALL APPLICANTS

- application for admission via UA Graduate College on-line portal
- supporting documentation:

- statement of intent or purpose
- curriculum vitae or resume
- official transcripts from all institutes of higher education attended
- electronic portfolio
- three or more letters of recommendation

2-3.5 INTERNATIONAL APPLICANT REQUIREMENTS

- English Language proficiency (TOEFL iBT score of 79 overall, 26 on speaking section, or IELTS (7.0), or completion of a degree from an English Speaking Institution)
- financial guarantee

2-3.6 PLACEMENT

2-3.6.1 M.Arch Admissions Committee

This committee is comprised of:

- Program Chair
- Graduate Advisor
- two faculty who teach regularly in the M.Arch studios.

2-3.6.2 review process

- Applications are screened by the M.Arch Graduate Advisor (1-2.1.2a).
- Portfolios are reviewed by the M.Arch Admissions Committee for necessary skill building and advanced placement
- Where students request credit for coursework previously taken, application is forwarded to the appropriate Stream Coordinator for review or referral; recommendation is advanced to the Program Chair who makes the final determination.
- The Graduate Advisor keeps detailed records of the review, including documentation submitted by the applicant.

2-3.6.3 skill building

Where portfolio suggests a weakness in basic design, graphic skill, or fundamental knowledge, student will be required to pass one of the listed summer workshops or immersion studios.

2-3.6.4 advanced placement

In order to receive credit from non-accredited preparatory or pre-professional programs where Student Performance Criteria are claimed, students must comply with:

- Advanced Placement Policy

Students submit applications for advanced placement before starting the program, but no later than the end of the first semester in residence. Supporting documentation must be submitted with the original application and include a copy of transcripts, course syllabus, and student deliverables. Applications are reviewed based upon the performance criteria for the course by the Instructor of Record, who then makes a recommendation to approve or deny. The Program Chair makes the final decision. Decisions may be appealed to the School Director.

- Satisfactory Academic Progress Policy
  Students must maintain a minimum 3.0 grade point average to be in good standing and are expected to submit administrative paperwork in a timely manner. Students are encourages to meet with the Program Chair each semester or before registering for the subsequent semester.
- Probation Policy
  Students who have been identified as probationary, or at risk of academic probation, must meet with the Program Chair and Graduate Coordinator to set up a Probationary Plan of Action intended to closely monitor student progress until beyond risk of academic disqualification.

2-4 | Public Information

2-4.1 STATEMENT ON NAAB-ACCREDITED DEGREES

The required statement is posted on our website:
http://architecture.arizona.edu/accreditation-status-and-professional-registration

2-4.2 ACCESS TO NAAB CONDITIONS AND PROCEDURES

The necessary documents are publicly available on our website:
http://architecture.arizona.edu/accreditation-status-and-professional-registration

2-4.3 ACCESS TO CAREER DEVELOPMENT INFORMATION

The necessary links are publicly available on our website:
http://architecture.arizona.edu/accreditation-status-and-professional-registration

2-4.4 PUBLIC ACCESS TO APRS AND VTRS

The necessary documents are publicly available on our website:
http://architecture.arizona.edu/accreditation-status-and-professional-registration

2-4.5 ARE PASS RATES

The necessary links are publicly available on our website:
http://architecture.arizona.edu/accreditation-status-and-professional-registration

Part 3

Progress Since the Last Site Visit

3-1 | Summary of Responses to the Team Findings

The last team visit, Spring 2011, came during the second semester of operation of the M.Arch degree. Because we opened the degree one year-level at a time:
M.Arch III in 2010-2011
M.Arch II in 2011-2012
M.Arch I in 2012-2013),
the Team could only observe one cohort of students working in the second or third semester of pre-professional studies. The Team told us we were doing well to have *any* conditions met at that juncture; we had several.

Consequently, it would be counterproductive to offer extensive responses to Conditions Not Met when many could not have *been* met at the last visit. This chapter will offer cross-references and very short notes, only to specific conditions worthy of special comment, and will attempt to orient the coming Team to areas of interest and issues on which we are working.

3-1.1 RESPONSES TO CONDITIONS NOT MET

3-1.1.1 1.2.4 Financial Resources

See 1-2.4

3-1.1.2 1.2.5 Information Resources

See 1-2.5. Accreditation teams have been lamenting our lack of on-site Library since it was moved out of the College in 2005. We simply do not have funds to remedy this; meanwhile, web access to research and reference materials has hugely expanded over the same period. Our plan to run a lending library out of the Architecture Office (1-2.5.3) will, we hope, instill a love of library materials until a better solution arises. There is a planned fine arts library adjacent to CAPLA in the University master plan. There is no time schedule for its construction.

3-1.1.3 A.2 Design Thinking Skills

3-1.1.4 A.3 Visual Communication Skills
See 2-2.2.1c.

3-1.1.5 A.4 Technical Documentation
The School has made huge advances over the last three years in embracing BIM and building it into our culture. See 1-1.5.2g, 1-1.6.2f.

All studios are expected to contribute to making technical proficiency a part of the School's culture. See 1-1.2.1a.

3-1.1.6 A.6 Fundamental Design Skills

3-1.1.7 A.7 Use of Precedents
This will be aided by our new History + Theory curriculum.

3-1.1.8 A.8 Ordering Systems Skills

3-1.1.9 A.9 Historical Traditions and Global Culture
In hiring two new tenure / track faculty who have re-design the History + Theory curriculum, the School is greatly expanding its scholarly depth and scope of global traditions. See 1-1.6.3

3-1.1.10 A.10 Cultural Diversity
See 1-1.3.2a

3-1.1.11 A.11 Applied Research

3-1.1.12 B.1 Pre-Design

3-1.1.13 B.2 Accessibility

3-1.1.14 B.3 Sustainability

3-1.1.15 B.4 Site Design
ARC 526 | Site Planning and Analysis is taught by faculty from Landscape Architecture and offered in parallel with a project sequence in ARC 510b that uses three ecological zones to emphasize the site and environmental responsibility of design. The Faculty have put particular care in launching the M.Arch with a solid grounding in site and environment.

3-1.1.16 B.5 Life Safety

3-1.1.17 B.6 Comprehensive Design

The M.Arch Faculty have found it challenging to bring students, particularly those in the M.Arch III program, into compliance with this SPC in just 3.5 years (perhaps, in part, because of the 5-year B.Arch that is this School's legacy). As students have advanced, comprehensive projects have been tested in various studios as we learned what our students could handle by which juncture. We are now working toward a comprehensive project in ARC 520f (Fall M.Arch I), in advance of the Master's Project. This has been one of the greatest challenges of the degree, and one we take very seriously.

3-1.1.18 B.7 Financial Considerations

Because this was a Condition Not Met in the last B.Arch assessment, we have been particularly attentive to it as a School. Recent reports from the responsible Faculty member:

→ARC 459/550c | Ethics and Practice
- Acquisition Costs: costs of acquiring property related to a project;
- Project Financing and Funding: Means of financing a project, relationships with financial institutions;
- Financial Feasibility: Alignment of funding stream with project goals; value engineering;
- Operational Costs: Maintence and replacement costs

→ARC 441/541 | Construction Documents
- Acquisition Costs
- Financial Feasibility
- Operational Costs
- Construction Estimating: overall hard costs of project development

Unfortunately the Faculty member offering these courses was a one-year hire; his replacement for these courses is already coordinating the transfer at the time this report is being written.

Financial Considerations is also primary subject in ARC 497b/597b | Business for Architects (albeit an elective).

3-1.1.19 B.8 Environmental Systems

3-1.1.20 B.9 Structural Systems

We have an innovative, hands-on approach to teaching structures. M.Arch students build structural components, subject them to stress-tests in the Materials Lab, then analyze their performance in slow-motion play-back. The combination of structural calculation plus hands-on learning develops a visceral understanding of structural performance and material properties. See 1-1.5.2a

3-1.1.21 B.10 Building Envelope Systems

3-1.1.22 B.11 Building Service Systems Integration

3-1.1.23 B.12 Building Materials and Assemblies Integration

3-1.1.24 C.1 Collaboration

3-1.1.25 C.2 Human Behavior

3-1.1.26 C.3 Client Role in Architecture

3-1.1.27 C.4 Project Management

3-1.1.28 C.5 Practice Management

3-1.1.29 C.6 Leadership

3-1.1.30 C.7 Legal Responsibilities

3-1.1.31 C.8 Ethics and Professional Judgment

3-1.1.32 C.9 Community and Social Responsibility

3-1.2 RESPONSES TO CAUSES OF CONCERN

The Team cited only one cause.

3-1.2.1 I.2.1 Human Resources and Human Resources Development

2011 Team Assessment: The financial situation has direct impact on the faculty loads and student/teacher ratios. The development of research activity will also compete with time needed for teaching and service, and represents a big shift in focus for this school.

We share this concern with the Team and, as the extensive reporting on our financial situation in Part 1 will demonstrate, we have done everything possible to alleviate it and, otherwise, work around it. So far, student/teacher ratios have not suffered; nor has teaching quality. Loads on faculty are admittedly heavy.

3-1.3 RESPONSES TO IN COMPLIANCE NOTES

3-1.3.1 I.1.1 History and Mission

2011 Team Assessment: The program has identified, however, a need for enhanced funded grants activity to fulfill the research mission of the larger institution and

capitalize on revenue incentives in the RCM (Responsibility Centered Management) financial model now used by the university. While increased research activity will benefit the financial and pedagogical position of the School, there is significant concern about this mandate's impact on faculty capacity and curricular structure. Resolving this issue with respect to the degree program's identity, culture and finances is a primary concern.

We would ask the Team to consider the degree to which we have built a strong Faculty of adjunct teachers who have no Research responsibility. We believe we have addressed the last Team's concern regarding "identity, culture and finances" given the means available to us.

3-1.3.2 I.2.1 Human Resources & Human Resource Development

2011 Team Assessment: The Team is concerned that the 15:1 student:teacher ratio (of the initial student cohort) is not sustainable for a viable graduate program in architecture. Average ratios are more in neighborhood of 12:1 for studio, and the school should find ways for entering classes to have a balance more appropriate to graduate studies.

The School has addressed this concern. In 2012-2013, student : teacher ratios in studios were:

- M.Arch III — 12:1
- M.Arch II — 13:1
- M.Arch I — 10:1

3-1.3.3 I.2.5 Information Resources

2011 Team Assessment: The Team is still concerned that there seems to be less of a library culture than one might want in a school hoping to provide a deep and broad education.

See 3-1.1.2

3-1.3.4 I.3.1 Statistical Reports

2011 Team Assessment: Attention should be paid to creating a faculty compliment for the program that mirrors the faculty diversity of the college at large; and the female enrollment ratio in the M.Arch is approximately half that of the larger university.

We are aware and working on the concern over diversity.

- In 2012-2013, 25% of studio teachers and 31% of required course teachers in the M.Arch program were female (relative to 30% in the Faculty at large).
- Females increasingly make up the M.Arch student body. In 2012-2013:
  - M.ARCH I 26%
  - M.ARCH II 46%
  - M.ARCH III 58%

See 1-1.2.2b

3-1.3.5 II.4.5 ARE Pass Rates

2011 Team Assessment: There is no evidence that the program has made this information available.

See 1-1.6.6 and 2-4.5

3-2 | Summary of Responses to Changes in the NAAB Conditions

We have no concerns regarding the 2011 Procedures; the 2009 Conditions have been in place since we initiated the M.Arch program.

Part 4

Supplemental Information

COURSE DESCRIPTIONS

- Course descriptions (one page) for all M.Arch courses.

FACULTY RESUMES

- Faculty CVs (one page) for all faculty who have taught in the M.Arch program since it opened in 2010–2011.

LEARNING CULTURE

- School Policy on Studio Culture
- Director's Policy on Studio Culture

POLICIES

- statement by UA official responsible for statistical data
- Policy on Student Assistantships
- CAPLA Faculty, Staff, and Student Handbook:
  http://capla.arizona.edu/capla-governance

VISITING TEAM REPORT

- Per 2009 Conditions, visiting team reports and annual school reports will be provided to the Team directly by NAAB

CATALOG

- The University Catalogue may be accessed at:
  http://catalog.arizona.edu/2012-13/

ARC 509A advanced architectural design skill development (4 credits)

Course Description:
An immersive skills development studio for architectural design, focused on architectural and communicative poetics through exercises utilizing a variety of relevant tools and media.

Course Goals & Objectives:

- An understanding of advanced aspects of architectural design, including the control of spatial and elemental character, complex ordering systems, the relationship between architecture and the human body, complex programming, arid climate design strategies, tectonic assemblies, and the work of architecture as part of a larger whole.
- An ability to critically employ advanced exploratory and communicational conventions of architectural discourse, including hand and computer aided drawing, physical and computer modeling, computer rendering and animation, graphic composition, and verbal presentation skills.

Student Performance Criteria addressed:
None

Topical Outline

Digital drawing, modeling and rendering	(30%)
Study of Composition, order and proportion	(10%)
Study of inhabitation and human scale	(10%)
Site and contextual analysis	(10%)
Case study analysis	(10%)
Light Studies	(10%)
Physical modeling	(10%)
material and tectonic investigation	(10%)

Prerequisites:
Arc 510B and Arc 510C or admission to M.Arch2 program

Textbooks/Learning Resources:
Arnheim, Rudolf. 'Elements of Space,' and 'Solids and Hollows' *The Dynamics of Architectural Form*, University of California Press, 1975.
Calvino, Italo. (Selected Chapters), *Invisible Cities*, Harcourt, 1974.
+ more

Offered: Summer only; annually

Faculty assigned: Wilson Peterson (Lecturer), Paul Reimer (Lecturer)

ARC 510A fundamentals in architectural design (4 credits)

Course Description:
An immersive introduction to the fundamentals of architectural design and a variety of media employed in the service of exploration and communication.

Course Goals & Objectives:

- An understanding of fundamental aspects of architectural design, including spatial and elemental composition, simple ordering systems, the relationship between architecture and the human body, and the work of architecture as part of a larger whole.
- An ability to critically employ the fundamental exploratory and communicational conventions of architectural discourse, including hand and computer aided drawing, physical and computer modeling, computer rendering and animation, graphic composition, and verbal presentation skills.

Student Performance Criteria addressed: None

Topical Outline

Digital drawing, modeling and rendering	(30%)
Study of Composition, order and proportion	(10%)
Study of inhabitation and human scale	(10%)
Site and contextual analysis	(10%)
Case study analysis	(10%)
Light Studies	(10%)
Physical modeling	(10%)
material and tectonic investigation	(10%)

Prerequisites: None

Textbooks/Learning Resources:
Arnheim, Rudolf. 'Elements of Space,' and 'Solids and Hollows' *The Dynamics of Architectural Form*, University of California Press, 1975.
Calvino, Italo. (Selected Chapters), *Invisible Cities*, Harcourt, 1974.
Frampton, Kenneth. 'Introduction,' *Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture*, MIT Press, 1995.
Habraken, N.J. 'Gates,' *Structure of the Ordinary*, MIT Press, 1998.
Hildebrand, Grant. 'Finding a Good Home,' *Origins of Architectural Pleasure*, University of California Press, 1999.
Holl, Steven. 'Anchoring,' *Anchoring*, Princeton Architectural Press, 1991.
+ more

Offered: Summer only; annually

Faculty assigned: Wilson Peterson (Lecturer), Paul Reimer (Lecturer)

Number & Title of Course (total credits awarded): ARC 510b, Immersion Studio II, 6 credits.

Course Description (limit 25 words): Design studio dedicated to defining and establishing a Land Ethic in the design and building process. Focus on principles including ordering systems and environmental conditions.

Course Goals & Objectives (list):

- Discussion and clarification of the concept of land ethic and ethical propositions.
- Observation and analysis of natural phenomena and cultural history in Southern Arizona and the Sonoran Desert region.
- Formulation of construction proposals that are guided by and embody ethical relationships with the land through experimental investigation of concepts and empirical observations.

Student Performance Criterion/a addressed (list number and title):
NA pre-professional phase

Topical Outline (include percentage of time in course spent in each subject area):
Studio (90%)
Seminar (5%)
Field Journeys (5%)

Prerequisites:
enrollment in the Master of Architecture program

Textbooks/Learning Resources:
Stephen J. Phillips & Patricia W. Comus, ed., *A Natural History of the Sonoran Desert*. Tucson/ Berkeley: Arizona Sonora Desert Museum & University of California Press, 2000.

Offered (semester and year):
Fall only; annually

Faculty assigned (list all faculty assigned during the two academic years prior to the visit):
Christopher Domin (Associate Professor, tenured)

Number & Title of Course (total credits awarded): ARC 510c, Tectonic Assembly, 6 credits.

Course Description (limit 25 words): Design of buildings with emphasis on fundamental design and visual communication skills, spatial integration and tectonic assembly.

Course Goals & Objectives (list):

- Design comprehensive small architectural buildings
- Integrate site and program parameters into a comprehensive design project
- Embrace bioclimatics as a fundamental design principle
- Embrace material assemblies in architectural design
- Become familiar and utilize basic structure in architectural design

Student Performance Criterion/a addressed (list number and title):
A.3. Visual Communication Skills
A.6. Fundamental Design Skills
B.6.Comprehensive Design

Topical Outline (include percentage of time in course spent in each subject area):
Visual Communication Skills (20%)
Fundamental Design Skills (30%)
Comprehensive Design (50%)

Prerequisites:
510b

Textbooks/Learning Resources:

Offered (semester and year):
Spring only; annually

Faculty assigned (list all faculty assigned during the two academic years prior to the visit):
Rob Bass
Martin Despang
Larry Medlin

Number & Title of Course:
ARC 510d, Advanced Studio I: Poetics of Place. 6 credits.

Course Description:
As the first Advanced Design Studio, students in this course will develop and demonstrate abilities to apply fundamental design, communication, and ordering skills toward the design of a multi-story public/institutional building of medium scale with program elements requiring varying spatial, structural and environmental characteristics. Emphasis will be on the appropriate interface between site design and building design in service of universal accessibility and sustainability at diverse scales.

Course Goals & Objectives (list):
- Students should gain the ability to apply basic design skills to the spatial and material ordering of a building of medium scale and complexity in relationship to its site and environment, informed by precedent research and site analysis, and applying principals of universal design, sustainable building and site strategies.
- Students should gain the ability to communicate design intentions through clear and competent use of visual communication methods.

Student Performance Criterion/a addressed (list number and title):

A.3. Visual Communication Skills	A.6. Fundamental Design Skills
A.7. Use of Precedents	A.8. Ordering Systems Skills
B.2. Accessibility	B.3. Sustainability
B.4. Site Design	C.2. Human Behavior

Topical Outline
Through focused exercises, research, and the full spectrum of design activities, students will address the following topics: human perception and movement in relation to accessibility and universal design, site and program analysis and design, case study analysis of projects elevant to the assigned building site and program, spatial and programmatic ordering, development of a complete design for a site and building(s) of medium scale and complexity, focused development of a significant space within the larger project, and comprehensive representation and communication of a design.

Prerequisites:
Successful completion of ARC510c or admission to MArch II program.

Textbooks/Learning Resources:
Pallasmaa, Juhani. *The Eyes of the Skin: Architecture and the Senses*. Wiley: New York, 2005.
+ more

Offered (semester and year): Fall only; annually.

Faculty assigned: Mark Ryan (adjunct), Beth Weinstein (F/T)

Number & Title of Course: ARC 510e, Urban Focus, 6 credits.

Course Description:
Design of buildings / infrastructure of a complex, systemic nature, addressing contemporary urban context/issues

Course Goals & Objectives (list):
1. Design a building and/or building complex to accommodate a variety of uses (housing, retail, offices) and to integrate this design with the infrastructure of an urban site: utilities, pedestrian and vehicular circulation networks, green spaces.
2. Meaningfully analyze a built or urban context, to understand the historical and cultural factors that shape its forms and spatial patterns,
3. Analyze site, program and legal requirements in a manner that informs, guides and limits their designs, and demonstrate in their work awareness of the social responsibility of the architect to design for a public that is diverse in terms of age, physical ability, culture and income.
4. Employ energy efficient and bioclimatic strategies appropriate to a given climate to achieve healthful environments.
5. Document and communicate their designs and decision making process in clear drawings and models.

Student Performance Criterion addressed:
A. 2. Design Thinking Skills
A. 3. Visual Communication Skills
A. 10. Cultural Diversity
C.9. Community and Social Responsibility

Topical Outline
Project 1: Housing + this urban context (20%)
Project 2: Performance space in an urban context (25%)
Project 3: Mixed Use Housing in another urban context (50%)
Collaboration (5%)
Journal / Sketchbook (5%)

Prerequisites:
510d

Textbooks/Learning Resources:
Diverse books and essays; short essays posted on D2L

Offered:
Spring only; annually

Faculty assigned (list all faculty assigned during the two academic years prior to the visit):
Wll Peterson (adjunct), Teresa Rosano (adjunct), Beth Weinstein (F/T)

Number & Title of Course (total credits awarded): ARC 510f, Comprehensive Design Studio, 6 credits.

Course Description (limit 25 words):
Graduate level design studio with an emphasis on an integrated, building systems logic—showing appropriate interfaces with systematic clarity and efficient utilization of resources.

Course Goals & Objectives (list):
Through the assigned design project students shall develop and demonstrate their ability to:

- Research, analyze and present (written and graphic) findings concerning pertinent case studies.
- Analyze context, site conditions, program and the diverse systems required (heating/cooling, lighting, acoustics, energy, water, building transportation, structure, enclosure and egress).
- Integrate site and program parameters and the required technological systems into a comprehensive design project.

Student Performance Criterion/a addressed (list number and title):
B.3. Sustainability
B.5. Life Safety
B.6. Comprehensive Design: A.2. Design Thinking Skills, A.4. Technical Documentation, A.5. Investigative Skills, A.8. Ordering Systems, A.9. Historical Traditions and Global Culture, B.2. Accessibility, B.3. Sustainability, B.4. Site Design, B.5. Life Safety, B.8. Environmental Systems, B.9. Structural Systems
B.8. Environmental Systems
B.9. Structural Systems
B.10.Building Envelope Systems
B.11.Building Service Systems

Topical Outline (include percentage of time in course spent in each subject area):
Precedent studies (10%)
Concept Design (20%)
Schematic Design (15%)
Technical Systems (15%)
Final Comprehensive Design (40%)

Prerequisites:
Arc 510e or equivalency

Textbooks/Learning Resources: numerous

Offered (semester and year):
Fall only; annually

Faculty assigned: Just one year, Fall 2012: Susannah Dickinson (F/T) and Tommy Suchart (Adjunct)

ARC 520A Building technology 1: Structures 1 (3 credits)

Course Description:
Force, Form, Material, Connection: Introduction to statics, structural analysis and design

Course Goals & Objectives:
- Understanding of basic structural principles
- Understanding of fundamental structural elements and systems
- Understanding of the role of the architect in structural design
- Ability to diagram simple abstract structural conditions
- Ability to design simple abstract structural elements and systems
- Ability to discuss structure using appropriate technical terminology

Student Performance Criteria addressed:
A2 Design Thinking Skills

Topical Outline

Calculations and structural analysis	(40%)
Physical modeling and empirical testing	(40%)
Case studies	(20%)

Prerequisites: None

Textbooks/Learning Resources:
Schodek, Daniel and Bechthold, Martin. *Structures* Sixth Ed. Prentice Hall, 2007
Reference Texts:
Ching, Francis, Onouye, Barry, Zuberbuhler, Douglas. *Building Structures Illustrated*. Third Ed. John Wiley & Sons, 2009
Allen, Edward & Iano, Joseph: *The Architect's Studio Companion.* Third Edition. John Wiley & Sons, 2002
Sandaker, Bjorn; Eggen, Arne & Cruvellier, Mark. *The Structural Basis of Architecture*. Second Ed. Routledge, 2011

Offered: Fall only; annually

Faculty assigned: Wilson Peterson (Lecturer)

Number & Title of Course (total credits awarded): ARC 520b, Materials and Methods 1 (M.Arch), 3 credits.

Course Description (limit 25 words): Introduction to major categories of building materials and methods of construction through the study of material principles, historical precedents and contemporary processes.

Course Goals & Objectives (list):
1. Awareness of historical and modern use of major materials: earth/loam, ceramic/masonry, concrete, wood, steel, glass
2. Introduction to historical and contemporary use of regional materials
3. Understanding of composition, basic properties and terminology of select materials
4. Ability to apply appropriate material technologies within building assemblies
5. Recognize and respect scheduled deadlines as an integral aspect of the course
6. Accept responsibility of self-discipline while working independently and collaboratively in a creative and productive manner

Student Performance Criterion/a addressed (list number and title):
NA pre-professional phase

Topical Outline (include percentage of time in course spent in each subject area):
Lecture (30%)
Seminar (20%)
Laboratory (50%)

Prerequisites:
Arc 510B Immersion Studio II, Co-Requisite: ARC 510C, Immersion Studio III

Textbooks/Learning Resources:
Constructing Architecture: Materials, Processes, Structures [Paperback]
Andrea Deplazes, ed. Birkhäuser Architecture: Second Edition

Louis I. Kahn: Building Art and Building Science [Paperback]
Thomas Leslie, George Braziller: 2005

Offered (semester and year):
Spring only; annually

Faculty assigned (list all faculty assigned during the two academic years prior to the visit):
Christopher Domin (Associate Professor, tenured)

Number & Title of Course: ARC 520c, Fundamentals of he Environment, 3 cu

Course Description:
Introduction to fundamentals of the luminous, thermal and acoustic environments including daylight, solar geometry, solar physics, human thermal comfort, climatic and microclimate design.

Course Goals & Objectives (list):
After taking this course, students should have a/an:
1. Understanding of the principles of sustainability in design decisions that conserve the natural world.
2. Understanding of fundamentals of the physical and environmental systems such as light and daylight, solar energy and geometry, climate, comfort, and acoustics.
3. Understanding of the theories and methods that clarify the relationships between human behavior and human thermal comfort and the physical environment through proper climatic design response.
4. Ability to analyze and evaluate the success of designs through model testing, computer simulation and empirical analysis in the fulfillment of programmatic, technical, contextual and aesthetic objectives.

Student Performance Criterion addressed:
A.11 Applied Research
C.2 Human Behavior
C.9. Community and Social Responsibility

Topical Outline

Lab: thermal comfort	10%
Lab: solar geometry, passive solar, shading, site design	15%
Lab: air flow / passive cooling	10%
Lab: day lighting	10%
Lab: acoustics	10%
Case Study research + synthesis	15%
Seminar	15%
Exercises	10%

Prerequisites:
520b

Textbooks/Learning Resources: numerous

Offered:
Spring only; annually

Faculty assigned
Beth Weinstein (F/T)

Number & Title of Course (total credits awarded): ARC 520d, Building Techology III, Materials and Methods II, Building Envelope Systems

Course Description (limit 25 words):
The advanced study of materials and methods of construction in architecture. Topics include: common and state-of-the-art materials, assemblages and construction techniques examined through principles, concepts, and their integration in architecture. This course emphasizes building envelopes, and the materials and methods of construction related to large-scale buildings.

Course Goals & Objectives (list):
After taking this course, students should have an:

1. Understand to role of material, detail and assembly strategies in building enclosures for the making of sustainable/regenerative and healthful environments
2. Understanding the integration into enclosure systems of environmental strategies, such as lighting, acoustics, climate modification
3. Understanding basic principles, appropriate applications, and performance of building enclosure materials, details and assembly systems.
4. Ability to work collaboratively in a team with other students.

Student Performance Criterion/a addressed (list number and title):
B10 Building Envelope Systems
B12 Building Materials and Assemblies
C6 Leadership

Topical Outline

1.0	**Fundamentals**	**20**	**15%**
2.0	**Precedent Detailing**	**25**	**10%**
3.0	**Studio Project Detailing**	**25**	**15%**
	Quizzes	10	**15%**
	Notebooks	10	**15%**
	Participation + Attendance	10	
	TOTAL	**100**	

Prerequisites: None

Textbooks/Learning Resources:
Mehta, Building Construction: Principles, Materials and Systems, New York, Pearson, 2009
+ more

Offered (semester and year): Fall only; annually
Faculty assigned: Michael Kothke, Architect, Lecturer

Number & Title of Course (total credits awarded): ARC 520E: Building Technology V – Structures II, 3 credits.

Course Description (limit 25 words): Lectures will present the principles and concepts related to schematic structural design, tributary areas, beam analysis, wood structural elements, connections and systems.

Course Goals & Objectives (list):

- Ability to conceive and develop a schematic comprehensive structural design for a simple small scale architectural design
- Understanding of the interrelationships of structural systems, elements and connections
- Ability to utilize an empirical methodology to transform intuition into a critical understanding and knowledge of structures
- Ability to analyze and diagram structural conditions
- Understanding of the factors of integrating structure and architecture
- Ability to determine loads/reactions, shear diagrams and moment diagrams for beams
- Understanding of the technical and conceptual components of wood structures
- Ability to conceive, design, develop, model and evaluate a simple wood structure
- Ability to analyze simple beams, columns and connections
- Awareness of building codes and issues related to wood construction

Student Performance Criterion/a addressed (list number and title):
B9: Structural Systems

Topical Outline (include percentage of time in course spent in each subject area):
Laboratory projects: documentation, fabrication and testing (40%)
Structural lectures: design, calculation and analysis of wood structural systems and concepts (60%)

Prerequisites:
ARC520D: Building Technology VI

Textbooks/Learning Resources:
None

Offered (semester and year):
Spring only; annually

Faculty assigned
Ian Regan (Adjunct)
David Bullaro (Adjunct)

Number & Title of Course ARC 520f, Active Environmental Control Systems / Building Technology VI (Lecture + Lab), 3 credits.

Course Description (limit 25 words):
The course relates to large-scale, complex buildings, building codes, life safety, movement systems, passive and active environmental control systems, energy conservation and emerging ECS systems.

Course Goals & Objectives (list):

- Understand the names and functions of significant environmental control system components.
- Have a basic knowledge of the history of major environmental control systems.
- Understand how the environmental control systems relate to and interact with the building.

Student Performance Criterion/a addressed (list number and title):
B3 Sustainability
B8 Environmental Systems
B11 Building Service Systems

Topical Outline (include percentage of time in course spent in each subject area):
Commercial kitchen systems (5)
HVAC systems (25)
Electrical power systems (15)
Acoustical control (5)
Conveying systems (5)
Communications systems (5)
District Heating and Cooling systems (5)
Plumbing systems (15)
Lighting systems (10)
Solar Thermal systems (5)
Life Safety systems (5)

Prerequisites:
Arc 520c

Textbooks/Learning Resources:
Joseph B. Wujek and Frank R. Dagostino. “Mechanical and Electrical Systems in Architecture, Engineering, and Construction, (Prentice Hall, Fifth Edition, 2010)

Offered (semester and year):
Fall only; annually

Faculty assigned (list all faculty assigned during the two academic years prior to the visit):
Ray Barnes (Adjunct Lecturer)

ARC 520G Building technology 7: Structures 3 (3 credits)

Course Description:
The study and design of steel and concrete structures.

Course Goals & Objectives:

- Understanding of the principals and properties of steel and concrete structures
- Understanding of various types of concrete structure: site-cast, pre-cast, pre-stressed.
- Ability to size simple steel beams, columns and connections
- Ability to size and designate reinforcement for simple concrete slabs, beams, columns and footings
- Ability to schematically layout appropriate steel and concrete structural systems
- Ability to integrate lateral force design strategies in an architectural design

Student Performance Criteria addressed: B9 Structural Systems

Topical Outline

Calculations and structural analysis	(35%)
Schematic structural design	(35%)
Case studies	(20%)
Discussion and presentations	(10%)

Prerequisites: Arc 520e

Textbooks/Learning Resources:
Required Text
Schodek, Daniel and Bechthold, Martin. *Structures* Sixth Ed. Prentice Hall, 2007
Reference Texts:
Ching, Francis, Onouye, Barry, Zuberbuhler, Douglas. *Building Structures Illustrated*. Third Ed. John Wiley & Sons, 2009
Allen, Edward & Iano, Joseph: *The Architect's Studio Companion.* Third Edition. John Wiley & Sons, 2002
Ambrose, James and Patrick Tripeny. *Simplified Design of Steel Structures.* Eighth Edition, Hoboken: John Wiley & Sons, Inc. 2007
Ambrose, Jamesand Patrick Tripeny. *Simplified Design of Concrete Structures*. Eighth Edition, Hoboken: John Wiley & Sons, Inc. 2007
Sandaker, Bjorn; Eggen, Arne & Cruvellier, Mark. *The Structural Basis of Architecture*. Second Ed. Routledge, 2011

Offered: Spring only; annually

Faculty assigned: Wilson Peterson (Lecturer)

Number & Title of Course (total credits awarded): ARC 526, landscape analysis and site planning.

Course Description (limit 25 words):

This is a lecture, discussion and field-oriented course that introduces students to inventory and analysis of physical, biological, and socio-cultural elements at the landscape and site scale. Course readings and assignments focus on understanding how these systems are analyzed as part of the design process, utilizing principles of traditional site planning and design, and ecological planning. Students are also introduced to design programming, locational analysis, and other aspects of traditional design processes.

Course Goals & Objectives (list):

By the end of this course, you will have developed the ability to:

- Observe and record the biophysical and socio-cultural conditions and elements of a site and its surroundings;
- Understand and be able to represent, both graphically and verbally, the important adjacent conditions influencing design solutions for a site;
- Analyze information collected from a site in order to evaluate the effectiveness of alternative design solutions, based on a given program; and

Student Performance Criterion/a addressed (list number and title):

Realm B: Integrated Building Practices, Technical Skills and Knowledge:

B. 4. Site Design: *Ability* to respond to site characteristics such as soil, topography, vegetation, and watershed in the development of a project design.

Prerequisites:

None

Textbooks/Learning Resources:

- Beer, Anne R. and Catherine Higgins. *Environmental planning for site development: a manual for sustainable local planning and design*. London, New York: E & FN Spon. 2000.
- + more

Offered (semester and year):

Fall only; annually

Faculty assigned

Elizabeth Scott

Number & Title of Course (total credits awarded): ARC 527, Architectural Programming, 2 credits

Course Description (limit 25 words):
Programming and design methodologies including problem seeking, goal identification, code search, observation, questioning, relationship diagrams, brainstorming, space allocation, and simulation as techniques for processing information for building design.

Course Goals & Objectives (list):
After taking this course, students should have acquired the *abilities* and *understandings* outlined in the NAAB Performance Criteria

Realm A: Critical Thinking and Representation

A3 Visual Communication Skills
A5 Investigative Skills
A10 Cultural Diversity
B1 Pre-Design
B2 Accessibility
C2 Human Behavior
C3 Client Role in Architecture
C8 Ethics and Professional Judgement

Student Performance Criterion/a addressed (list number and title):
See above

Topical Outline (include percentage of time in course spent in each subject area):

Project 1.0	Programming Analysis	Wk 3	**15%**
Project 2.0	Accessibility Study	Wk 7	**10%**
Project 3.0	Programming Analysis	Wk 9	**15%**
Project 4.0	Cross/Trans/Disprogramming	Wk 13	**15%**
Project 5.0	Analysis and Synthesis	Wk 17	**15%**

Prerequisites: None

Textbooks/Learning Resources:
Cherry, Edith. Programming for Design. John Wiley & Sons. New York. 1999
Kelley, Tom. The Ten Faces of Innovation. Currency Doubleday. New York. 2005

Offered (semester and year): Spring only; annually

Faculty assigned Michael Kothke, Architect, Lecturer

ARC530: History/Theory of Architecture 1 (3 Credits):

Course Description (limit 25 words): This course explores the architecture of different cultures from around the world beginning with the earliest evidence of human habitation and ending with the arrival of the renaissance.

Course Goals & Objectives (bulleted list):
1. To understand the historical development of architecture from a global perspective.
2. To understand how cultural and technological changes influenced the development of architecture.
3. To develop a familiarity with important ancient and medieval architectural landmarks and to be able to identify major works from individual cultures.
4. To become familiar with the basic vocabulary of architecture.

Student Performance Criterion/a addressed (list number and title):
A.1 Communication Skills
A.3 Visual Communication
A.5 Investigative Skills
A.7 Use of Precedents
A.8 Ordering Systems Skills
A.9 Historical Traditions and Global Culture
A.10 Cultural Diversity
C.2 Human Behavior

Topical Outline (include percentage of time in course spent in each subject area):
Native American (5%)
Caves to Early Cities (5%)
Egyptian Architecture (10%)
Early Pre-Columbian (5%)
Minoan/Mycenean Architecture & Intro. to Classical Greek Architecture (5%)
Greek Architecture: The Temple and the Sacred Precinct (5%)
Greek Architecture: Classical and Hellenistic Greek Cities (5%)
Early Asian Architecture: India & Cambodia (5%)
Early Asian Architecture: China & Japan (5%)
Etruscan Architecture and The Roman Colonial City (5%)
Roman Architecture I The Republic - the Flavians (5%)
Roman Architecture II Trajan & Hadrian and the Far Reaches of the Empire (5%)
Late Rome/Early Christian Architecture and Byzantine Architecture (5%)
Early Islamic Architecture (5%)
Romanesque Architecture (10%)
Gothic Architecture in France (5%)
Gothic Architecture Elsewhere (10%)

Prerequisites: None

Textbooks/Learning Resources:
- Fazio, Moffett, Wodehouse, *A World History of Architecture*. McGraw-Hill, 2008
- Mallgrave, Harry Francis, *Architectural Theory: An Anthology from Vitruvius to 1870*. Wiley-Blackwell, 2005
- Additional assigned readings available on D2L.

Offered: Fall each year

Faculty assigned: L. Schrenk F/T, A. Köth

ARC531: History/Theory of Architecture II (3 Credits):

Course Description (limit 25 words): This course explores the architecture of different cultures from around the world focusing on Western architecture from the Renaissance to the mid 19th century.

Course Goals & Objectives (bulleted list):
1. To understand the historical development of architecture from a global perspective.
2. To understand how cultural and technological changes influenced the development of architecture.
3. To develop a basic understanding of the major concepts and developments in architectural theory.
4. To develop a familiarity with important architectural landmarks and designers, and with the basic vocabulary of architecture.

Student Performance Criterion/a addressed (list number and title):
A.1 Communication Skills
A.3 Visual Communication
A.5 Investigative Skills
A.7 Use of Precedents
A.8 Ordering Systems Skills
A.9 Historical Traditions and Global Culture
A.10 Cultural Diversity
C.2 Human Behavior

Topical Outline (include percentage of time in course spent in each subject area):
Early Renaissance (10%)
Later Renaissance and Palladio/Mannerism in Italy (10%)
Baroque Architecture in Italy (5%)
Renaissance and Baroque in France and Elsewhere (10%)
Architecture in the "New World": Aztec & Inca (5%)
Asian Architecture: China & Japan (5%)
Islamic Architecture: Mughal Architecture & Ottoman (10%)
African Architecture (5%)
Colonial American (5%)
Neo-Classicism (10%)
Greek Revival and the Picturesque (10%)
The Industrial Revolution (5%)
Victorian Architecture (10%)

Prerequisites: None

Textbooks/Learning Resources:
- Fazio, Moffett, Wodehouse, *A World History of Architecture*. McGraw-Hill, 2008.
- Mallgrave, Harry Francis, *Architectural Theory: An Anthology from Vitruvius to 1870*. Wiley-Blackwell, 2005.
- Additional assigned readings available on D2L.

Offered: Spring each year

Faculty assigned: L. Schrenk F/T, A. Köth

Number & Title of Course (total credits awarded): ARC 533, History of World Architecture III, 3 credits.

Course Description (limit 25 words):
This course explores architectural history and theory thematically, focusing on key social, economic, and political paradigms that have shaped architectural practice in the twentieth century.

Course Goals & Objectives (list):

1. To familiarize the student with the principle architectural, landscape, and urban achievements in twentieth century history and theory.
2. To present a historical understanding of history and theory by considering ideas and images in their socio-political, economic, cultural contexts.
3. To help the student acquire and develop the fundamental critical tools of visual, historical, and theoretical interpretation.
   A descriptive professional analytical vocabulary with which to express architectural ideas; the ability to identify and evaluate theoretical ideas and historical ideas; and a sense of the complex constitution of history and theory.
4. To highlight the differences and continuities among theoretical ideas by making them accessible, comprehensible, and meaningful.
5. To teach effective written communication through training in argumentation
6. To teach the student to think critically about the aspirations of designers and theoretical ideas involved in architectural design – past and present.

Student Performance Criterion/a addressed (list number and title):

A.1. Communication Skills	A.9. Historical Traditions and Global Culture

Topical Outline
Written Communication (20%)
Discussion (20%)
Reading (40%)
Quizzes, exams (20%)

Prerequisites:
ARC 530 & 531 or permission of the instructor

Textbooks/Learning Resources:
Required readings: posted on course website (see full version of syllabus)
Recommended text: William Curtis, *Modern Architecture Since 1900*

Offered (semester and year): Fall only; annually

Faculty assigned (list all faculty assigned during the two academic years prior to the visit): Clare Robinson Anke Köth Annie Nequette

Number & Title of Course (total credits awarded): ARC 541,Contract Documents, 3 credits.

Course Description (limit 25 words): The study of the concepts, vocabulary, intent, and skills necessary to understand Contract Documents focusing on the creation of a set of working drawings.

Course Goals & Objectives (list):

- Understand and demonstrate how to design and document a project that shows the breadth of their fundamental design skills including programmatic adherence, investigative exploration and logical design decisions with technically accurate and precise documentation skills. Accessibility, life safety, building code, building systems, economics, and structural rigor will all be part of the outcome. Teamwork will be an especially important objective.
- Understand how to make technically accurate representations, provide an outline specification and provided well documented detailing that highlights building systems and appropriate construction methods for the project with Building Codes and Life Safety requirements considered and implemented.
- Understand a design program and adhere to the Client's needs.
- Understand the use of the site analysis and a resultant site plan in regards to design, code, permitting and accessibility.
- Understand and implement Life Safety principles within the project through adherence to relevant Building and Life Safety Codes.

Student Performance Criterion/a addressed (list number and title):

A4. Technical Documentation
B5. Life Safety
B6. Comprehensive Design
B7. Financial Considerations
B11. Building Service Systems
C1. Collaboration
C3. Client Role in Architecture
C4. Project Management
C7. Legal Responsibilities

Topical Outline (include percentage of time in course spent in each subject area):

Technical Documentation (40%)
Comprehensive Design (20%)
Building Service Systems (10%)
Financial Exercises (10%)
Building and Life Safety Code (10%)
Specifications (10%)

Prerequisites: None

Textbooks/Learning Resources: None

Offered (semester and year): Fall only; annually

Faculty assigned Martin Despang (F/T) David Bullaro (Adjunct)

ARC 459 / 550c: Ethics and Practice, 2-CU

Course Description:
The strategy of the course is to expose students to the ethical and practical issues, which the architect faces in and around the architectural discipline given the current climate of economic and ecological challenges. The intent is to develop an understanding of the ethical commitment to environment, society at large, client, collaborators, employees and self that an architectural practice demands. This course will assist in planning for initial employment or entrepreneurial initiative as to help students prepare for their future careers. Additionally students will gain an understanding of emerging modes of practice.

Course Goals & Objectives:
1. An overview and understanding of the wide variety of methods of professional practice.
2. The awareness of the necessity and potential of collaborative practices through integrated project deliveries.
3. Introduction to the increased importance of understanding construction, fabrication and manufacturing processes within the profession.

Student Performance Criterion Addressed:
A.1. Communication Skills
B.7. Financial Considerations
C.3. Client Role in Architecture
C.5. Practice Management
C.6. Leadership
C.7. Legal Responsibilities
C.8. Ethics and Professional Judgment:

Topical Outline:
Lectures (60%)
Presentation skills (30%)
Reading (10%)

Prerequisites:

ARC 441/541 Construction Documents

Textbooks/Learning Resources:
Segal, Paul. Pr*ofessional Practice: A Guide to Turning Designs into Buildings.* W.W. Norton & Co., 2006.
+ more

Offered:
Spring only; annually

Faculty Assigned:
SP 13: Ruben Caldwell (F/T Adjunct)
SP 12: Martin Despang (F/T Associate Professor)

Number & Title of Course (total credits awarded): ARC 561e, Sustainable Design and the LEED© Initiative, 3credits.

Course Description (limit 25 words):
A comprehensive course that focuses on sustainable design through energy conservation, passive solar architecture, and advanced computer energy simulation techniques using eQUEST and the USGBC LEED-NC rating system.

Course Goals & Objectives (list):
- Make the students aware of the principles and theories that deal with environmental context and the architect's responsibility with respect to global environmental issues, including sustainability, relevant codes, regulations and standards.
- Help students understand and review major environmental systems that emphasize energy conservation and passive solar techniques including investigation of human factors, climate/microclimate and building envelope through energy modeling software.

Student Performance Criterion/a addressed (list number and title):
B.3. Sustainability
B.10. Building Envelope System

Topical Outline (include percentage of time in course spent in each subject area):
1. laboratory computer exercises emphasizing performance prediction and code compliance using ComCheck and eQUEST computer software (40%)
2. Parametric analysis for performance optimization, cost analysis, and LEED© documentation with special submittal forms used for ranking the design (60%)

Prerequisites:
None

Textbooks/Learning Resources:
LEED 2009 Reference Package
US DOE eQUEST Reference Manual

Offered (semester and year):
Spring only; annually

Faculty assigned (list all faculty assigned during the two academic years prior to thevisit):
Dr. Nader Chalfoun, Professor of Architecture and Environmental Sciences

Number & Title of Course (total credits awarded): ARC 561f, Nature of Structure, Elective, 3 credits.

Course Description:
The derivation of functional designs from natural precedents. Intellectual mechanisms: Analogy and Bohm's concept of similar differences and different similarities. Empirical mechanisms: drawing, physical modeling.

Course Goals & Objectives:
- Understand nature as a functional and inspirational design precedent
- Critically understand, harvest, abstract, and apply natural precedents
- Utilize analytical and empirical methods for the understanding and design of structure
- Develop a comprehensive structural concept of force, form, material and connection

Student Performance Criterion/a addressed:
N/A

Topical Outline:
Precedent (15%)
Abstraction (25%)
Application (25%)
Alteration (25%)
Summary (10%)

Prerequisites:
None

Textbooks/Learning Resources:
There are no required texts or course packs for this course. Assigned readings will be specific to individual research determined jointly by instructor and student.

Offered:
Fall only; annually

Faculty assigned:
Christopher Trumble

Number & Title of Course (total credits awarded): ARC 561k, Energy and the Environment , 3credits (fully online).

Course Description (limit 25 words):
fully online course that fosters awareness and thorough understanding of the qualitative and quantifiable environmental forces that contribute to energy use in buildings. It introduces basics for understanding solar energy and light, climate and microclimate, and human comfort as related to the built environment..

Course Goals & Objectives (list):
- Awareness of principles governing the natural world.
- Awareness of fundamentals of the physical and environmental systems such as solar energy, climate, daylight, and acoustics.
- Understanding of the theories and methods that clarify the relationships between human behavior and human thermal comfort and the physical environment

Student Performance Criterion/a addressed (list number and title):
B.3. Sustainability
B.8. Environmental Systems
C.2. Human Behavior

Topical Outline (include percentage of time in course spent in each subject area):
The course is structured into 14 sections each includes 1) a topic lecture, 2) a skill development exercise, and 3) a quiz. Each lecture will explain the pedagogical goals of each section which then will be further understood through completion of a skill development exercise. A quiz will be taken at the end of each section to test participants understanding of the content

Prerequisites:
None

Textbooks/Learning Resources:
1. Sets of Reading materials & educational videos are posted on the course website
2. Concepts and Practice of Architectural Daylighting, Fuller Moore, Van Nostrand Reinhold, NY, 1985
3. Heating Cooling and Lighting, Norbert Lechner, 2001 (2nd edition)

Offered (semester and year):
Summer 1; annually

Faculty assigned (list all faculty assigned during the two academic years prior to thevisit):
Dr. Nader Chalfoun, Professor of Architecture and Environmental Sciences

Number & Title of Course (total credits awarded): ARC 571f, Introduction to Heritage Conservation, 3 credits.

Course Description (limit 25 words):
An overview of the interdisciplinary paradigms, principles, programs, and players in the field of heritage conservation ranging from local to international contexts

Course Goals & Objectives (list):
After taking this course, students should be able to:

- Understand the terms, concepts, and philosophical foundations of heritage conservation.
- Understand the legal, regulatory, and economic development tools of heritage conservation;
- Understand the treatment standards for historic properties.
- Be aware of geographic, cultural, technological, economic, and political factors that shape the built environment and its preservation.

Student Performance Criterion/a addressed (list number and title):
A.5 Investigative Skills
A.7 Use of Precedents
A.9 Historical Traditions and Global Culture
A.10 Cultural Diversity

Topical Outline (include percentage of time in course spent in each subject area):
Lecture, Discussion (60%)
Research, Writing (40%)

Prerequisites:
None

Textbooks/Learning Resources:
Brand, Stewart. *How Buildings Learn.* (Viking, 1994)

Bucher, Ward. *Dictionary of Building Preservation.* (Preservation Press, 1996)

Celebrating Tucson's Heritage. (City of Tucson, Arizona, 1996)

+ more

Offered (semester and year):
Fall only; annually

Faculty assigned (list all faculty assigned during the two academic years prior to the visit):
R. Brooks Jeffery (F/T)

Number & Title of Course (total credits awarded):
ARC 471s/571s Urban Design - History & Theory (lecture class + grad seminar, 3 credits)

Course Description (limit 25 words): The role of architecture in the creation of urban form is explored. Case studies illustrate the concepts and issues essential to the design of cities.

Course Goals & Objectives (list):

- Students will learn the salient theories of urban design throughout Western history, with an emphasis on the transplanting of European culture to Latin America and arid-region design.
- Students will understand the important concepts of urban design, and how they can be applied in the design of individual buildings with the larger city in mind.

Student Performance Criterion/a addressed (list number and title):

A.1. Communication Skills
A.2. Design Thinking Skills
A.3. Visual Communication Skills
A.5. Investigative Skills
A.7. Use of Precedents
A.8. Ordering Systems Skills
A.9. Historical Traditions and Global Culture
A.10. Cultural Diversity
A.11. Applied Research

Topical Outline (include percentage of time in course spent in each subject area):
1. Historical development of cities, from the earliest settlements to the Industrial Revolution (33%).
2. Regional developments in Latin America and arid regions, including the Sonoran Desert (33%).
3. Critical review of contemporary urban design theory, including "The New Urbanism", Transit-Oriented Development and High-density/Low-rise incremental growth (33%).

Prerequisites: Required for 2nd yr. M.Arch.3 students and 4th yr. undergraduate B.Arch. majors.

Textbooks/Learning Resources:
Bacon, Edmund N.. *Design of Cities* (Revised Edition) New York: Penguin Books, 1976.
Duany, Andres. *The Smart Growth Manual* New York: McGraw-Hill, 2010
Jacobs, Jane. *The Death and Life of Great American Cities* New York: Modern Library, 1993.
Kostof, Spiro. *The City Shaped: Urban Patterns and Meanings Through History* New York: Bulfinch Press 1993
Kriken, John Lund. *City Building: Nine Planning Principles for the Twenty-First Century* New York: Princeton Architectural Press, 2010
Otero, Lydia R.. *La Calle: Spatial Conflicts and Urban Renewal in a Southwest City* Tucson: The University of Arizona Press. 2010

Offered (semester and year): Fall only; annually.

Faculty assigned (list all faculty assigned during the two academic years prior to the visit):
Robert Vint, Architect (adjunct faculty)

Number & Title of Course (total credits awarded): ARC 571t, Drawing as a Way of Thinking, 3 credits.

Course Description (limit 25 words): This course examines drawing, not only as a means of illustrating a project, but also as a means of examining the ideas behind a project and then utilizing those concepts as a way of furthering both the drawings and theory.

Course Goals & Objectives (list):

- Introduce students to various theories and histories of representation
- Discuss the different tenets of representation and illustration
- Comprehend the many movements and styles that representation has encompassed
- Execute numerous drawing types with skill, precision and craft
- Implement various mediums while carrying out the various drawing assignmenrts

Student Performance Criterion/a addressed (list number and title):
A.1. Communication Skills
A.3. Visual Communication Skills

Topical Outline (include percentage of time in course spent in each subject area):
Drawing and other representational techniques (95%)
Presentation skills (5%)

Prerequisites:
None

Textbooks/Learning Resources:
None

Offered (semester and year):
Fall only; annually

Faculty assigned (list all faculty assigned during the two academic years prior to the visit):
Brian Delford Andrews (adjunct)

Number & Title of Course (total credits awarded): ARC 581f, Biomimetics, 3 credits.

Course Description (limit 25 words):
This course emphasizes the study and application of biological principles as essential design parameters, Biomimetics.

Course Goals & Objectives (list):
i. Understanding the concepts of nature and technology and their connection.
ii. The study of generative design strategies for complex geometry; parametric design, emergence, self-organization, swarm intelligence, data integration and agent-based design.
iii. Research in the area of how architecture can perform more ecologically; integrating performative tools/simulation into the design process to ensure more appropriate environmental adaptivity.
iv. 'Material is an active participant in the genesis of form' (Manuel De Landa) - studying options of how materiality becomes one of the design parameters.

Student Performance Criterion/a addressed (list number and title):
none

Topical Outline (include percentage of time in course spent in each subject area):
Research component (20%)
Schematic design (25%)
Development and fabrication process (55%)

Prerequisites:
Arc 540b or equivalent

Textbooks/Learning Resources:
ACADIA Conference Proceedings, Silicon and Skin; Biological Processes and Computation, 2008. (made available by instructor)
Ball, Philip. *The Self-Made Tapestry.* Oxford: Oxford University Press, 1999.
Bateson, Gregory. *Steps to an Ecology of Mind.* Chicago: University of Chicago Press, 1972.
+ more

Offered (semester and year):
Spring only; annually

Faculty assigned (list all faculty assigned during the two academic years prior to the visit):
Susannah Dickinson (F/T)

Number & Title of Course (total credits awarded): ARC 597b, Middle Landscapes: History and Theory of Suburban Architecture, Landscape Architecture and Planning, 3 credits.

Course Description (limit 25 words):
This course parses the suburban middle-class environments of the 1950s and 1960s and examines how these spaces functioned socially, politically, and economically.

Course Goals & Objectives (list):

1. To recognize the principle elements of suburban architecture and landscapes in the United States during the post-World War II period
2. To draw connections between the built environment and any changes in social, economic, and political agendas or contexts.
3. To meaningfully confront the challenges posed by suburban environments
4. To engage in intellectually provocative and well-reasoned discussion
5. To research and analyze textual and visual material from the library (or archive)
6. To mount effective written communication in support of particular interpretations
7. To think critically about the aspirations of designers, developers, and government policies involved in the creation of the middle-class suburban landscape in the United States

Student Performance Criterion/a addressed (list number and title):
N/A

Topical Outline (include percentage of time in course spent in each subject area):
Written and visual communication (40%)
Discussion (30%)
Reading (30%)

Prerequisites:
None

Textbooks/Learning Resources:
Required reading: posted on course website (see full syllabus)

Offered (semester and year):
Spring only; annually

Faculty assigned (list all faculty assigned during the two academic years prior to the visit):
Clare Robinson

Number & Title of Course (total credits awarded): ARC 597b, Architecture Principia, 3 credits.

Course Description (limit 25 words): This course systematically examines the over-arching Principles of Architecture. Each Principle is unpacked and viewed through a lens that allows the students to understand and hence appropriate for there own.

Course Goals & Objectives (list):

- Develop and understanding of the extensive study of the Principles of Architecture
- Investigate key issues and case studies to further a comprehension of the Principles of Architecture
- Instill the comprehensive knowledge of Architectural Principles that can then be utilized when developing current studio projects
- Formulate a hypothesis that critiques the concepts of continuity of form and space within the study of Architectural Principles

Student Performance Criterion/a addressed (list number and title):
A.1. Communication Skills
A.3. Visual Communication Skills
Analysis Skills

Topical Outline (include percentage of time in course spent in each subject area):
Drawing and other representational techniques (50%)
Presentation skills (20%)
Analysis skills (20%)

Prerequisites:
None

Textbooks/Learning Resources:
Architecture Principia, Borden, Andrews (Person Press 2013)

Offered (semester and year):
Fall only; annually

Faculty assigned (list all faculty assigned during the two academic years prior to the visit):
Brian Delford Andrews

Number & Title of Course (total credits awarded): ARC 597b, Urban Projects, 3 credits.

Course Description (limit 25 words):
Research, develop, and execute five discrete projects emphasizing the physical, social, environmental, and economic issues of the urban environment. Students will discuss potential topics and work in individual and team environments to conceptualize, design, develop, and execute the projects.

Course Goals & Objectives (list):
1. Ability to think critically about assumed cultural institutions and practices.
2. Ability to read articles and books and discuss and write about the authors' opinion/information clearly and concisely.
3. Understand the complexity of issues regarding the urban environment, engendering the elements of urban design: place, people, and infrastructure.
4. Ability to create graphics and text to convey a story and meaning.

Student Performance Criterion/a addressed (list number and title):
A.1. Communication Skills
A.3. Visual Communication Skills

Topical Outline (include percentage of time in course spent in each subject area):
Reading and Discussion 50%
Concept Generation 15%
Design Development 15%
Execution 15%
Presentation 5%

Prerequisites:
None

Textbooks/Learning Resources:
Auge, Marc. *Non-places: Introduction to an Anthropology of Supermodernity.* London: Verso, 1995. Prologue, 1-7.
Borasi, Giovanna and Mirko Zardini. *What You Can Do With the City.* Montreal: Canadian Centre for Architecture / SUN, 2008. 12-17, 20-25, 28-37, and miscellaneous culled projects.
+ more

Offered (semester and year):
Spring 2013

Faculty assigned (list all faculty assigned during the two academic years prior to the visit):
Bill Mackey (adjunct)

Number & Title of Course (total credits awarded): ARC 597B, Advanced Visual Communication, 3 credits.

Course Description (limit 25 words):

This course will explore contemporary digital design visualization techniques. Specifically, the course will focus on the following four topics: 1. Geometry; 2. Parametric design; 3. Performance visualization.

Course Goals & Objectives (list):

- Use Rhino/T-splines/Vray/Grasshopper to model and generate complex geometry.
- Use Grasshopper and Ecotect to perform basic solar analysis on designs.
- Have an introductory to intermediate understanding of the theoretical and historical issues relating to parametric design and advanced geometry.
- Document and present their work in a clear and graphically elegant way using Adobe Illustrator, Photoshop, and InDesign.

Student Performance Criterion/a addressed (list number and title):
A.3. Visual Communication Skills

Topical Outline (include percentage of time in course spent in each subject area):
1. Advanced Geometric Modeling (30%)
2. Parametric design (50%)
3. Performance visualization (20%)

Prerequisites:
None

Textbooks/Learning Resources:
Tedeschi, Arturo. Parametric Architecture with Grasshopper. Potenza: Le Penseur. 2011.

Ahluist, Sean, Achim Menges. Computational Design Thinking. West Sussex: John Wiley & Sons, 2011.

Offered (semester and year):
Summer session II 2012

Faculty assigned (list all faculty assigned during the two academic years prior to the visit):
David Newton (adjunct)

Number & Title of Course (total credits awarded): ARC 597b Construction Law for Architects 3 cu

Course Description (limit 25 words): This course is an introduction to construction law, understanding the legal framework within which the Architect and its design team will work with the Owner, the Construction Team and the supporting cast. Standard industry contracts will be used to review the responsibilities of the parties in the construction process.

Course Goals & Objectives (list):

- Acquire an understanding of the role of the Architect as leader of the design team.
- Acquire a basic understanding of the legal issues in the construction process.
- Acquire an understanding of the need to communicate and problem solve as a party to the construction process.
- Acquire an understanding of basic contract terms and alternatives.
-

Student Performance Criterion/a addressed (list number and title):

Prerequisites:
None

Textbooks/Learning Resources:
Contract forms will be posted online or sent via e-mail, outline of course will be available. Purchase of:
Copeland Glen, Frank George C, Gervasio Joseph A., Holdsworth Edward, Meier Wellington, Jr., Tierney
David, Walling Craig, Wyatt Jesse, *Construction Quality-Do it Right or Pay the Price,* Pearson Education,
Inc. (2012)
Allensworth, William, Altman, Ross J., Overcash, Allen, and Patterson, Carol J. *Construction Law,*
American Bar Association, (2009)
The Architect's Handbook of Professional Practice AIA
The Fifty-Nine-Story Crisis, The New Yorker, May 29, 1995, pp 45-53 - copy will be provided.

Offered (semester and year):
Fall only; annually

Faculty assigned: Mel Cohen

Number & Title of Course (ARC 597c, Business for Architects, 3 credits.

Course Description (limit 25 words): Business for Architects is an elective course that expands on the business topics introduced in ARC 459/559, Ethics and Practice, providing depth, practical applications, and field experience.

Course Goals & Objectives (list):

- The Construction Industry: Architecture as a part of the construction industry and the national economy. The many roles that architects play in the business of design and construction.
- Firm Organization: How architectural firms organize themselves to provide design services. Roles, relationships and collaboration in architectural practice and the approaches taken by local and national architectural firms.
- Clients and Marketing: Who clients are and how they buy architectural services. How to market clients with effective public relations, well-crafted proposals and compelling presentations.
- Project Management: Developing fee proposals, creating a project budget and managing a project from initial design through to project completion.
- Project Delivery: Alternative methods by which buildings are designed and built, and the contractual obligations of the architect.

Student Performance Criterion/a addressed (list number and title):

Lectures/Discussion	Reading Assignments
Field Visits and Field Reports	Reports, Business Plan and Presentations
Examinations	Graduate Research Paper

Topical Outline

The Construction Industry 5%	Firm Organization 15%
Clients and Marketing 20%	Project Management 15%
Project Delivery 5%	Risk Management 5%
Financial Management 15%	Construction 5%
Business Planning 15%	

Co or Prerequisite: ARC 459/559, Ethics and Practice

Textbooks/Learning Resources:
Frank A. Stasiowski FAIA, *Out on Your Own: The Guide to Building a Successful A/E/C Firm*, PSMJResources, Inc. 2002
The American Institute of Architects. *The Architect's Handbook of Professional Practice*, 13th Edition. Edited by Joseph A. Demkin. John Wiley & Sons, 2008

Offered (semester and year): Spring only; annually
Faculty assigned David Wald-Hopkins AIA LEED-AP, Adjunct Lecturer

Number & Title of Course (total credits awarded): ARC 597j, Documentation and Interpretation of the Historic Built Environment, 3 credits.

Course Description (limit 25 words):
Examination of the methods to document buildings, districts and cultural landscapes combined with the methods to interpret their historical and design significance according to professional standards.

Course Goals & Objectives (list):
After taking this course, students should be able to:

- Conduct research using primary and secondary information resources;
- Develop skills in the surveying, recording and communicating historic details, buildings, sites, districts and cultural landscapes according to professional standards;
- Be knowledgeable of the cultural, historic, geographic, technological, economic and political factors that shaped the built environment, and specifically in the Greater Southwest;
- Develop analytical skills to interpret the meaning of built environments to a larger audience.

Student Performance Criterion/a addressed (list number and title):

A.1 Communication Skills
A.4 Technical Documentation
A.5 Investigative Skills
A.7 Use of Precedents
A.9 Historical Traditions and Global Culture
A.10 Cultural Diversity
A.11 Applied Research
C.1 Collaboration
C.4 Project Management

Topical Outline (include percentage of time in course spent in each subject area):
Lecture, Discussion (20%)
Fieldwork (40%)
Research, Writing (40%)

Prerequisites:
ARC 571f – Introduction to Heritage Conservation

Textbooks/Learning Resources:
numerous

Offered (semester and year):
Spring only; annually

Faculty assigned (list all faculty assigned during the two academic years prior to the visit):
R. Brooks Jeffery (F/T)
Jennifer Levstik (adjunct)

ARC 497u/597u: Material- Geometry- Ergonomics, 3-CU

Course Description (limit 25 words):
This workshop investigates geometry, ergonomics, material properties, precedents, modeling, digital fabrication, and joinery techniques in the design and fabrication of an ergonomic object.

Course Goals & Objectives (list):

After taking this course, students should be able to:

- Understanding of the inherent properties, fabrication processes and creative/technical potential of one or more materials
- Ability to employ geometric principles (implicit/explicit, generative, organizational and structural) in the design process
- Understanding of ergonomic conditions/criteria and the ability to effectively accommodate and incorporate them in the design process
- Ability to effectively integrate and synthesize the multiple programmatic criteria of a single design

Student Performance Criterion/a addressed (list number and title):

Topical Outline (include percentage of time in course spent in each subject area):
Drawing and other representational techniques (30%)
Presentation skills (20%)
Conceptualization and Prototyping 50%

Prerequisites:
Admission into the professional phase

Textbooks/Learning Resources:
N/A

Offered (semester and year):
Spring only; annually

Faculty assigned (list all faculty assigned during the two academic years prior to the visit):
Jean-Luc Cuisinier (adjunct)

Name: Brian Delford Andrews

Courses Taught (academic years 2011–2012 and 2012–2013):
Fall 2011
ARC 301 Design Studio-Land Ethics
ARC 497B Principia
ARC 498 Capstone Prep
Spring 2012
ARC 452 Capstone Studio
ARC 471 Modern Masters
ARC 471T Drawing as a way of Thinking
Summer 2012
ARC 481E Architecture of the Mediterranean
ARC 497B Special Topics in Architecture
Fall 2012
ARC 201 Design Studio
ARC 497B Principia
ARC 498 Capstone Prep
Spring 2013
ARC 452 Capstone Studio
ARC 471T Drawing as a way of Thinking
ARC 202 Design Studio

Educational Credentials:
B.Arch., Tulane University, 1985
M.Arch., Princeton University, 1989

Teaching Experience:
Visiting Professor, Boston Architectural Center, 1986
Assistant Professor, University of Virginia, 1990-1998
Associate Professor, Syracuse University, 1998-1999
Robert Mills Distinguished Professor, Clemson University, 1999-2000
Assistant Professor, University of Southern California, 2000-2008
Visiting Professor, University of Nevada Las Vegas, 2008-2009
Hyde Chair of Excellence, University of Nebraska, 2009-2010
Assistant Professor, American University of Sharjah, 2010-2011
Visiting Professor, University of Arizona, 2011-Present

Professional Experience:
Atelier Andrews, 2000-Present
Andrews/Leblanc, 1993-2000

Licenses/Registration:
Virgina

Selected Publications and Recent Research:
Architecture Principia, Architectural Principles of Material Form. (Pearson, 2013)
Militaristic Detritus, (University of Nebraska, 2012)

Name: Ray Barnes, AIA LEED AP

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 222 Building Technology II
ARC 421/520f Building Technology V
ARC 461e/561e Sustainable Design & the LEED Initiative (co-taught with Nader Chalfoun)
ARC 461p/561p Environmental Science Laboratory (co-taught with Nader Chalfoun & Colby Moeller)
ARC 601 Integrative Graduate Region Studio (co-taught with Nader Chalfoun)
ARC 909 Thesis committees

Educational Credentials:
AS., Pima Community College, 1973
B.Arch., University of Arizona, 1982
M.Arch., University of Arizona, 2010

Teaching Experience:
Adjunct Lecturer, University of Arizona, Tucson, 2011-present

Professional Experience:
Principal, Raymond E Barnes Design Architecture, Tucson, AZ, 1999-2012
Principal, Barg Meeks Barnes Inc. A.I.A., Architects, Tucson, AZ, 1992-1999
Project Architect/Manager, James Barg & Assoc. A.I.A., Tucson, AZ, 1986-1992
Sr. Project Captain, Anderson DeBartolo Pan, Inc., Tucson, AZ, 1983-1986
Designer/Captain, Buck Lewis, Inc., Architects & Engineers, Tucson, AZ, 1982
Drafter, WBC Consultants, Inc. (Engineers), Tucson, AZ, 1981
Asst. Superintendent, Rodgers Construction Int'l, Ft. Worth, TX, 1978-1980
Superintendent / Project Mgr., Tierra Construction Co., Tucson, AZ, 1975-1976
Drafter & Model Builder, Judith Chafee, Architect, Tucson, AZ, 1973

Licenses/Registration:
Arizona

Selected Publications and Recent Research:
"On the Boards: Raymond E Barnes Design Architecture," (SAC AIA Perspective Newsletter, 2004)
"The Outside-in House" (Paper presented to ASES National Convention, Denver, CO, 2012)

Professional Memberships:
The American Institute of Architects
American Solar Energy Society
American Society of Heating Refrigerating and Air-Conditioning Engineers
U.S. Green Building Council

Name: Rob Bass

Courses Taught (academic years 2011–2012 and 2012–2013):
Arc 510c Tectonic Assembly

Educational Credentials:
B.Architecture University of Arizona 1989
M.Architecture University of Arizona 2010

Teaching Experience:
Adjunct Lecturer, College of Architecture, University of Arizona 1999- 2006, 2013

Work Experience
GDA Southwest, Tucson, AZ, Architectural Designer, 1989–1991
Architecture One, Tucson, AZ, Architectural Designer, 19899–1991
Rob Bass Architect Tucson, AZ, (self employed), 19939–2002
GDA Southwest Architects, Tucson, AZ, Architectural Designer, 20029–2004
ABA Architects, Tucson, AZ, Design Coordinator, 20049–2006
SmithGroup, Phoenix, AZ, Architectural Designer, 20069–2007
Langdon Wilson Architecture, Phoenix, AZ, Design Coordinator, 20079–2009
Rob Bass Architect, Tucson, AZ, (self employed), 20079–2009

Registration
Registered Architect, State of Arizona, since 1993 #27472

Name: Richard G. Brittain

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 301 Design Studio III: Land Ethic
ARC 481d/581f Architectural Photography

Educational Credentials:
M. Arch., University of Arizona, Tucson, 1979
B. Arch., University of Arizona, Tucson, 1979
B.S., University of Illinois, Champaign-Urbana, 1973

Teaching Experience:
Assistant Research Professor, School of Architecture, University of Arizona, 1993-2011
Research Associate, College of Architecture, University of Arizona, 1984-1993
Research Assistant, College of Architecture and Mine Reclamation Center, University of Arizona, 1979-1983
Teaching Assistant, College of Architecture, University of Arizona, 1978-1979

Licenses/Registration:

Selected Publications and Recent Research:

- Casa del Agua and Desert House: Two Residential Demonstration-Research Projects on Water and Energy Efficiency
- Public lecture presentation published in new book tided Exploring the Built Environment. Essays on the Presentations of Diwan A1-Mimar and Affiliated Public Lectures, edited by Mohammad al-Asad and Majd Musa, published by Center for the Study of the Built Environment (CSBE) and Darat al Funun-The Khalid Shoman Foundation, Amman, Jordan, 2007
- The Desert House Water Conservation Project Summary Report 1994-2001, co-author, submitted to City of Phoenix Water
- Services Deparbnent, 2003
- Casa Del Agua: Water Conservation Demonstration House 1986 Through 1998·, co-author, Journal of the American Water Resources Association, Vol. 37, No.5, 2001
- Casa Del Aqua Water Conservation Demonstration House Summary Project Report 1986-1998, co-author, submitted to Tucson
- Active Management Area, Arizona Department of Water Resources and US Department of Interior Bureau of Reclamation, 2000
- Construction Technique *Discover the Natural Attractions of Rammed-Earth Architecture*· article by Justin Henderson, SandersHuffman
- residence, Tucson, Arizona, House Beautiful Home Building, Spring/Summer 2000

Name: David Bullaro, RA

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 441-541 Contract Documents
ARC 520E Building Technology V – Structures II

Educational Credentials:
B.Arch., University of Arizona, 2004

Teaching Experience:
Adjunct Professor, University of Arizona, 2012-Present

Professional Experience:
Intern/Architect, Line and Space, LLC Tucson Arizona 2004-2010
Self Employed 2010-Present

Licenses/Registration:
Arizona

Selected Publications and Recent Research:
None

Professional Memberships:
None

Name: Ruben Caldwell

Courses Taught (academic year 2012–2013):
ARC 498 Capstone Prep
ARC 451 Advanced Topics II—Design Build
ARC 452 Capstone Studio
ARC 459 Ethics and Practice
ARC 550c Ethics and Practice
ARC 499 Independent Study—Design and Fabrication

Educational Credentials:
B.A. Colgate University, 2000
M. Arch Columbia University, 2011

Teaching Experience:
Teaching Assistant, Columbia University, 2009–2011
Associate in Architecture, Columbia University, 2011–2012
Adjunct Lecturer, The University of Arizona, 2012–present

Professional Experience:
Designer, Daniel Frisch Architecture, 2007
Co-Founder, Studio TACK, LLC, 2011–Present

Name: Nader Chalfoun, Ph.D., LEED© AP, CEA

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 223 Building technology II, ECS
ARC 601 Graduate region Studio
ARC 461d/561d Advanced Computer Energy Analysis
ARC 461e/561e Sustainable Design and the LEED© Initiative
ARC 461k/561k Energy and the Environment (Fully on-line)
ARC 461p/561p Environmental Science Laboratory
ARC 597b Special Projects in Architecture
ARC 599 Independent Study
ARC 900 Graduate Research Studio
ARC 909/910 Graduate Master's Thesis

Educational Credentials:
B.Sc. University of Cairo, College of Engineering, Architectural Dept., Egypt,1972
Diplomat, Solar Studies, St. Étiènne University, France, 1978
M. Arch., University of Arizona, College of Architecture, USA, 1985
Ph.D., University of Arizona, Arid Lands Resource Sciences, USA, 1989
USGBC LEED© Accredited Professional, USA, 2007
Certified Energy Auditor (CEA), Association of Energy Engineers, USA, 2008

Teaching Experience:
Assistant Professor, University of Cairo, Egypt, 1973-1983
Associate Professor of Architecture, University of Arizona, USA, 1990-1999
Professor of Architecture/Environment, University of Arizona, USA, 1999-present

Professional Experience:
Principal Architect & Senior Consultant, Planetary Design Corporation (PDC), Phoenix, Arizona, USA 1992-1994
Research Scientist, Government of Egypt, Academy of Scientific Research and Technology, Egypt, 1989-1990

Licenses/Registration:
Registered Environmental Consultant, Syndicate of Egyptian Engineers, #702/2
Registered architect, Syndicate of Egyptian Engineers, #6884/2

Selected Publications and Recent Research:
Effects of Dynamic Shading, and Window to Wall Ratio on Daylight and Consumption in Office Buildings, (Chalfoun-Abboushi, 2012).

Using Computer Simulation as a Tool to Develop a Net-Zero Energy Code for Tucson, Arizona, Chalfoun, 2012)

Professional Memberships:
The International Design for Extreme Environments Association (IDEEA-USA)
Society of Building Science Educators (SBSE)
International/American Solar Energy Societies (ISES) (ASES)

Name: Melvin C. Cohen, Esq.

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 497b/597b, Section 002 Special Projects in Architecture Construction Law for Architects

Education Credentials:
University of Cincinnati, Bachelor of Arts with honors, 1970
University of Pittsburgh, Juris Doctor, 1973

Teaching Experience:
Professor, University of Arizona 2012

Professional Experience:
Mesch, Clark & Rothschild 1989 to Present
Watt & Cohen 1978-1989
Pima County, Arizona, Deputy County Attorney, Civil Division 1973-1977

Licenses/Registration:
State Bar of Arizona (1974)
U.S. District Court in Arizona (1974)
United States Court of Appeals, Ninth Circuit (1974)

Professional Memberships:
The American Bar Association
Pima County Bar Association
The American Institute of Architects

Name: Jean Luc Cuisinier, R.A.

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 297 fabrication I
ARC 397 fabrication II
ARC 497u/597u: Material- Geometry- Ergonomics
ARC 497 b Special Project in Arch. (Workshop)

Educational Credentials:
B.Arch., University of Arizona, 2007

Teaching Experience:
Teacher assistant, University of Arizona, 2005-2007
Adjunct Lecturer, University of Arizona, 2011-present

Professional Experience:
Intern, CDG Architects, Tucson AZ, 2005-2010
Project Architect, Architecture Company, Tucson AZ, 2010 –present
Material Lab Coordinator, University of Arizona, 2011- present

Licenses/Registration:
Arizona

Selected Publications and Recent Research:
Na

Professional Memberships:
Na

Name: Martin Despang

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 441/551 Contract Documents
ARC 459/559 Ethics and Practice
ARC 510c Immersion Studio III
ARC 401 Systems Integration
ARC 451 Research Studio (2010-2011)
ARC 497b/597b Materiality in Design (2010-2011)

Educational Credentials:
Master of Architecture equivalent, University of Hannover, Germany 1994
University of Nebraska-Lincoln, USA 1990-1991
Vordiplom / University of Hannover, Germany 1990

Teaching Experience:
University of Arizona, Associate Professor of Architecture, 2010–2012
University of Nebraska at Lincoln, Associate Professor of Architecture (tenured 2008), 2005–2010
University of Applied Sciences Bremen/Germany: University of Applied Sciences Bremen/Germany: 2003–2005

Professional Experience:
Founding Principal of Despang Architekten , Hannover Germany, 2000–present

Licenses/Registration:
Registered / licensed architect in Lower Saxony, Germany since 1996, Reg. Nr. 13595

Selected Publications and Recent Research:
2009 GLAS , *(*Heimbs flagship store Hannover Germany), Leinfelden Echterdingen/Germany, May 2009
AIT Magazine 7/8 2009, Farmhouse Voges," *(* redux of vernacular farm dwelling Bennigsen / Germany)
Leinfelden-Echterdingen/Germany, August 2009
2008 *AIT Magazine 5* 2008, Passive House kindergarten, " *(*postfossil ecowoodbox kindergarten Hannover / Germany)
Leinfelden-Echterdingen/Germany, May 2008
2007 *AIT Magazine 6*, "Preview issue 7/8 2007 Heimbs Flagship store", *(*Heimbs flagship store Hannover Germany),
Leinfelden-Echterdingen/Germany, May 2007

Professional Memberships:
BDA (German AIA equivalent) since 2000

Name: Susannah Dickinson, RA

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 341 Design Communication II
ARC 402 Design Studio 6 – Urban Form
ARC 451 Design Studio 7 – Sustainable Skyscrapers
ARC 481f/581f Biomimetics elective seminar
ARC 510f Design Studio – Graduate Comprehensive Design

Educational Credentials:
B.A (Hons) in Architecture, Liverpool University, UK. 1987
M.Arch., Cal Poly University, Pomona, CA 1998

Teaching Experience:
Assistant Professor, University of Arizona, 2009-present

Professional Experience:
Intermediate Architect, Gehry Partners, Los Angeles, CA 1999-2004
Project Architect, Pelli Clarke Pelli Architects, New Haven, CT 2004-2006
Project Architect, SHoP Architects, New York, NY 2006-2008
Principal, M+D, New York, NY 2009-2010
Principal, Susannah Dickinson Architect. 2010-present

Licenses/Registration:
California 30648
New York 032822
NCARB Registration 65022

Selected Publications and Recent Research:

DICKINSON, S. "Sustainable Design Processes." 28th International PLEA Conference, 'Opportunities, Limits and Needs: Towards an environmentally responsible architecture,' (Conference Proceedings, 2012).

DICKINSON, S. Architecture and Biological Systems." ACSA National Teachers Seminar, 'Performative Practices: Architecture and Engineering in the Twenty-First Century,' (Conference Proceedings, 9-15, 2011).

DICKINSON, S. "The Appropriate Balance between Digital and Analog Techniques." Design Principles and Practices: An International Journal (Vol. 5, Issue 4, 467 – 474, 2011).

Professional Memberships:
Association of Collegiate Schools of Architecture
Women in Architecture, WIA, NYC.
AUGI Member (Autodesk User Group International)
ACADIA (Association for Computer Aided Design in Architecture)

Name: Christopher Domin, Architect

Courses Taught:
ARC 510b Immersion Studio 1
ARC 909 Master's Project Prep
ARC 520b Materials and Methods 1
ARC 909 Master's Project Studio

Educational Credentials:
Master of Architecture, Georgia Institute of Technology (Nix Mann Fellow), 1993
Bachelor of Arts in Architecture, University of New Mexico, 1991

Teaching Experience:
University of Arizona, Chair, Master of Architecture Program, 2010-present
Associate Professor, 2007-present
Assistant Professor, 2001-2007
University of New Mexico, Visiting Assistant Professor, 2000-2001
Adjunct Assistant Professor, 1999-2000
Georgia Institute of Technology, Graduate Teaching Fellowship, 1991-93

Professional Experience:
Principal, Christopher Domin Architect, Tucson / Phoenix, AZ, 2001-present
Albuquerque, NM, 2000-2001
Project Architect, Rohde May Keller McNamara Architecture, Albuquerque, NM, 1997-2000
Intern Architect, SBS Architecture, Atlanta, GA, 1994-1997

Licenses/Registration:
Registered Architect: GA, RA 009780, 1998-present
LEED Accredited Professional, 2009-present

Selected Publications and Recent Research:
Paul Rudolph: The Florida Houses, with Joseph King, Princeton Architectural Press, 2002
First reprint 2003
Second reprint 2004
Paperback edition 2005
New edition, with additional essay by authors, 2009
Judith Chafee: Desert Practice, Current book project, anticipated publication date: Fall 2015

Professional Memberships:
Society of Architectural Historians (member), 2000-present
Association of Collegiate Schools of Architecture (member), 1999-present
Modern Architecture Preservation Project (Executive Comm Member), 2004-12
Frank Lloyd Wright Association (member), 2002-present

Name: Dennis Doxtater

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 451 Research Studio (2010-2011)
ARC 101 Foundation Studio I (2010-2011)

Educational Credentials:
D. Arch.,University of Michigan. 1981
MA (Socio-Cultural Anthropology), University of Washington. 1971
Peace Corps Peru Training Cornell University. 1965
B. Arch., University of Washington. 1965

Teaching Experience:
Associate Professor, University of Arizona, 1984-2011
Assistant Professor, University of Arizona, 1980-1984
VISiting lecturer, University of Washington, 1979
Assistant Professor, University of Idaho, 1977-1978
Lecturer, University of Michigan 1975

Professional Experience:
Rebecca and Dennis Doxtater, residential landscape design: 40+ projects. 1992-present
Jon Decker, AIA Architects, Seattle. 1971-73
Lloyd Thorson, Landscape Architect, Seattle. 1969-70
Joyce, Copeland & Vaughn, Architects and Planners, Seattle. 1968
Marquis & Stoller, Architects and Planners, San FranciSCO.1967-68
Architect with Peace Corps Peru. 1965-67

Licenses/Registration:
Washington

Selected Publications and Recent Research:
2007 The Evolution of Center Religion in the Ancestral Pueblo Landscape: georitual integration in context (completed manuscript under revision for review, 320 pages)
1994 *Architecture, Ritual Practice & Co-Determination in the Swedish Office.* Ethnoscapes Series, David Canter & David Stea, ads .. Aldershot (UK): Avebury.
Refereed journal and book articles
2009 Minoan Palaces in a Georitual Framework of Natural Features on Crete. *Landscape Journal, Vol* 28:1 (Spring, in press)
2008 A report on Geopattems software: describing and analyzing large-scale geometry between Anasazi and natural sites in the SW U.S .. In *Proceedings of the Computer Applications and Quantitative Methods in Archaeology 2006 Conference.* Budapest Archaeolingua.

Name: Steven Ehlbeck, AIA, LEED AP

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 301 Land Ethic Studio (2010-2011)
ARC 231/530 History I (2010-2011)

Educational Credentials:
University of Pennsylvania, Graduate School of Fine Arts, Master of Architecture, 1998, Thesis: “Incommonness – An Interfaith Center at the University of Pennsylvania”

Tufts University, School of Engineering, Bachelor of Science in Civil Engineering, *cum laude*, 1995, Double Major Concentration: Structural Engineering and Geotechnical Engineering, Double Minor Degree: Architectural Studies and Engineering Management

Teaching Experience:
Adjunct Lecturer, University of Arizona, 2009–2011

Professional Experience:
Project Architect, Holabird & Root, 2007–2008
Associate, William Kite Architects, 2002–2007

Licenses/Registration:
Arizona
Minnesota
Rhode Island
NCARB

Selected Publications and Recent Research:

Professional Memberships:
The American Institute of Architects

Name: Pavel Getov
Visiting Professor of Critical Practice

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 401 Design Studio V: Building Technology (Fall 2010)
ARC 452 Design Studio VII: Senior Capstone Project (spring 2011)
ARC 471s/571s: Theory and Principles of Urban Design (Fall 2010)
ARC 497s/597s: Critical Practice (spring 2011)
ARC 498: Senior Capstone Preparation (Fall 2010)

Educational Credentials:
Master of Architecture, Southern California Institute of Architecture (SCI-Arc), 1993
Master of Science in Architecture (With High Honors), Higher Institute of Architecture and Civil Engineering, Sofia, Bulgaria, 1988

Teaching Experience:
Visiting Professor, CALA, The University of Arizona, 2009-2011

Professional Experience:
Managing and Design Partner, Studio Antares A + E, Los Angeles, CA, 2007-present
Director of Project Delivery, Morphosis, Santa Monica, CA, 2002- 2009
Associate, NBBJ, Los Angeles, CA 1997 - 2002
Architect, Richard Meier & Partners Architects, Los Angeles, CA, 1991-1997
Founder Design Partner, Antares A + E, Sofia, Bulgaria, 1989 –1991

Licenses/Registration:
Registered Architect: California, Arizona, Bulgaria

Selected Publications and Recent Research:
"Teaching Integrated Project Delivery", Article for Master Builder, a National AIA electronic news letter, 2010, author
"Quartet v4.0", American Theatre, May/June 2010, pp.48-49, Publication and Project Review
"Some Like it Radiant", Green Source, July/August 2010, pp. 84-85, Project Review of at Cooper Union,
"Morphosis: 41 Cooper Square", Architecture and Urbanism A+U (2010). 476: pp. 92-103, Project Architect
"41 Cooper Square", Architectural Record (2009).894: pp. 96-101 Publication and Project Review, Project Architect

Professional Memberships:
AIA National Membership; current
AIA California Chapter Membership; current

Name: Andrew D. Gorski

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 471f/571f Introduction to Conservation of Cultural Resources (Fall 2010)

Educational Credentials:
University of Arizona, Tucson, Arizona Aug 2002 – May 2007
Master of Architecture, 2007
Master of Landscape Architecture, 2007
Certificate in Preservation Studies
Sigma Lambda Alpha Landscape Honorary
Master's Thesis: The Environmental Aesthetic Appreciation of Cultural Landscapes
Bachelor of Architecture, 2005
Research Assistant - Preservation Studies, 2003 - 2005

Miami University, Oxford, Ohio Aug 1991 – May 1995
Bachelor of Environmental Design, 1995
University Honors Program, 1991 - 1995
University Honors Thesis: Housing for People with AIDS, 1995
Tau Sigma Delta Architecture Honorary

Teaching Experience:
Adjunct Lecturer, University of Arizona School of Architecture, 2010-2011

Professional Experience:
Poster Frost Associates, Tucson, Az May 2005 – Present
Bianco Giolitto Weston Architects L.L.C., Middletown, Ct 1999 – 2000

Licenses/Registration:
Arizona

Selected Publications and Recent Research:

Professional Memberships:
National Trust for Historic Preservation

Name: R. Brooks Jeffery

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC/LAR 4/571f - Introduction to Heritage Conservation
ARC/LAR 4/597j - Documentation and Interpretation of Historic Built Environment
ARC 4/593 - Internship
ARC 900/910 - Thesis Research (advisor to average 4 graduate students per year)

Educational Credentials:
B.Architecture. The University of Arizona, 1983
Masters of Information Science. The University of Arizona, 1992

Teaching Experience:
Professor, University of Arizona, 2011-present (joint appointment with LAR)
Taught under other titles since 1993

Professional Experience:
Designer/Project Manager, McKinley Associates, San Diego CA, 1983-85
Preservation Project Manager, UNESCO Campaign for the Preservation of the Old City of San'a, Republic of Yemen, 1985-1988.
Curator, College of Architecture, The University of Arizona, 1990-2000.
Coordinator, Heritage Conservation Graduate Program, CALA, UA, 2000-present.
Associate Dean, CALA, UA, 2004-2009.
Director, Drachman Institute, CALA, UA, 2009-present.

Licenses/Registration:
N/A

Selected Publications and Recent Research:
Cross-Cultural Vernacular Landscapes of Southern Arizona (co-edited with Laura Hollengreen) Vernacular Architecture Forum, 2005, 256pp.
"From Azulejos to Zaguans: The Islamic Legacy in the Built Environment of Hispano-America" *Journal of the Southwest*, vol. 45, nos. 1 & 2 (Spring/Summer 2003), pp. 289-327.
A Guide to Tucson Architecture. Tucson: The University of Arizona Press, 2002, 347pp. (with Annie Nequette)
"Urban Conservation in the Old City of San'a". *Population, Poverty and Politics in Middle East Cities*. Gainesville: University Press of Florida, 1997, 64-81.

Principal Investigator on over 40 grants, totaling $1.8 million that have produced equal number of peer-reviewed technical reports for various federal, state and local agencies.

Professional Memberships:
National Council for Preservation Education
Vernacular Architecture Forum

Name: Clayton R. Joyce

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 401 Systems Studio (2010-2011)
ARC 459 Ethics & Practice (2010-2011)

Educational Credentials:
B. Arch., University of Washington, Seattle, 1960

Teaching Experience:
Adjunct Lecturer, School of Architecture, University of Washington, 1973-1974
Adjunct Lecturer, School of Architecture, University of Arizona, 2005
Adjunct Lecturer, School of Architecture, University of Arizona, 2007
Visiting Assistant Professor, University of Arizona, 2008-2010

Professional Experience:
Principal, Clayton R. Joyce Architects, Tucson Arizona, 2000-present
Director of Architecture, HNTB, Bellevue, Washington, 1994-1998
Principal, Clayton R. Joyce Architects, Seattle, Washington, 1980-1994
Principal, Joyce Nordfors Architects, Seattle Washington1978-1980
Principal, Joyce Copland Vaughan and Nordfors, Seattle, Washington, 1970-1978
Principal, Joyce Copland Vaughan, Seattle Washington, 1966-1970

Licenses/Registration:
Arizona

Selected Publications and Recent Research:
Integrating Ergonomics and Architecture Design in VDU Workplaces. Proceedings of the Fourth International Scientific
Conference. Work with Display Units. University of Milan, 1994
Application of Ergonomic principles to medical research laboratories and Medical clinic work places, 1988-

Name: Anke Damaris Köth

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 231/530 History 1: World Architecture, Ancient Through Medieval
ARC 232/531 History 2: World Architecture, Renaissance Through Modern
ARC 471m/571m Chicago Skyscrapers
ARC 332/533 History 3: World Architecture, Modern and Contemporary

Educational Credentials:
2003-2008 Doctoral studies at Technische Universität Dresden, Germany
1998-2003 Studies in History of Art (major), Architectural History (minor), and Architecture (minor) at Universität Karlsruhe (TH), Germany
Summer semester 2002: Eucor student at Universität Freiburg, Germany
October 2000 to March 2002: Studies in History of Art at Universität Wien in Vienna, Austria
July 11, 2003 Magistra Artium at Universität Karlsruhe (TH)
"Das Thema Geschwindigkeit in E. L. Kirchners Stadtbildern der Dresdner und Berliner Zeit. Bahnen und Auto-mobile als Träger der Bewegung" (The Subject of Velocity in the City Paintings of E. L. Kirchner during his Time in Dresden and Berlin. Trains and Cars as Signifiers of Movements)
1994-2000
Studies in Architecture at Universität Karlsruhe (TH), Germany
June 29, 2000 Diploma in Architecture at Universität Karlsruhe (TH)
"Über der Waterkant – Wallanlagen und internationales Jugendhotel Hamburg" (City Walls and International Youth Hostel in Hamburg/Germany)

Teaching Experience:
Adjunct Lecturer, University of Arizona School of Architecture, 2011-2012

Professional Experience:
Wissenschaftliche Mitarbeiterin (member of academic staff) at the Institute of Architectural History, Architec-tural Theory and Historic Preservation at Technische Universität Dresden and on the project "Das Planbare und das Unverfügbare" (The Feasible and the Intangible) of the Collaborative Research Center in the humanities 804 "Transcendence and Common Sense" at Technische Universität Dresden May 1, 2009 to September 11, 2009

Selected Publications and Recent Research:
Wolkenkratzerkirchen. Ein amerikanischer Bautyp der 1920er Jahre (Skyscraper Churches. An American Building Type of the 1920s), at the same time doctoral dissertation TU Dresden, Thelem: Dresden, 2010.
Köth, Anke; Krauskopf, Kai; Schwarting, Andreas (eds.): Building America. Eine große Erzählung (A Great Narrative), in cooperation with Hans-Georg Lippert. Vol. III, Thelem: Dresden, 2008.
Köth, Anke; Krauskopf, Kai; Schwarting, Andreas (eds.): Building America. Migration der Bilder (Migration of Images), in cooperation with Hans-Georg Lippert. Bd. II, Thelem: Dresden, 2007.

Name: Michael Kothke, Architect

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 101 Foundation Studio I
ARC 102 Foundation Studio II
ARC181a Introduction to Digital Integration I
ARC181b Introduction to Digital Integration II
ARC 277-527 Architectural Programming
ARC 321-520d Building Technology III, Material and Methods II
ARC 401 Design Studio 5: Technical Systems
ARC 493-593 Internship and IDP
ARC 497b-597b Introduction to Building Information Modeling

Educational Credentials:
Bachelor of Environmental Studies, University of Manitoba, 1990
Bachelor of Environmental Design Studies, Dalhousie University, 1992
Master of Architecture, Dalhousie University, 1993

Teaching Experience:
Visiting Studio Critic, School of Architecture, Dalhousie University, 1999-2004
Visiting Studio Critic, College of Environmental Design, UC Berkeley, 2002
Adjunct Lecturer, School of Architecture, University of Arizona, 2006-2011
Lecturer, School of Architecture, University of Arizona, 2011- Present

Professional Experience:
Project Architect, Leddy Maytum Stacy Architects, San Francisco, CA 1998-2002
Project Architect, Skidmore Owings and Merrill, San Francisco, CA, 2002-2003
Project Architect, Rick Joy Architects, Tucson, AZ 2003 – 2005
Architectural Operations Manager, Alexandra Hayes Architect, Tucson, AZ 2005-2006
Manager of Planning and Architecture, Growhomes/ WaterSTONE Homes, Tucson, AZ 2006-2007
Design Director, Diem Developments, Tucson, AZ 2007-2008
Project Architect, DESA Architecture, Tucson, AZ 2008-2011
Principal, HK Associates Inc, Tucson, AZ 2006 - Present

Licenses/Registration:
Colorado
NCARB Certification

Selected Publications and Recent Research:
Tucson Lifestyle Home & Garden, September 2012, 'AIA Home of the Year 2012' (Barrio Historico House)

Custom Home Magazine, May/June 2012 'Custom Home of the Year' by Bruce Snider (Barrio Historico House)

Luxe Interiors + Design, Arizona Edition, Winter 2012 'Light Show' by Leilani Marie Labong (Barrio Historico House)

Architect Magazine, December 2011, Annual Design Review 'Live' Citation Award (Barrio Historico House)

Luxe Interiors + Design, Arizona Edition, Summer 2009, 'Cinderella Story' by Brielle M. Ferreira (Finger Rock House)

Tucson Lifestyle Home & Garden, March/April 2009, 'Modern Majestic' (Finger Rock House)

Name: Bill Mackey

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 497 Special Projects in Architecture: Urban Exhibition
ARC 497 Special Projects in Architecture: Urban Exploration
ARC 909 Master's Project: Site Analysis and Programming
ARC 909 Master's Project: Design
ARC 201 Design Studio II – Human Dimension
ARC 202 Design Studio II – Dwelling
HNRS 207 Urban Exhibition
GEOG 375 Metropolitan Tucson

Educational Credentials:
B. Science Architectural Studies, University of Illinois, Urban-Champaign, 1991
B. Arch, University of Arizona, 1994
M. Arch, University of Arizona, 1994

Teaching Experience:
Adjunct Lecturer, University of Arizona, 2005 - present

Professional Experience:
Principal, Worker, Inc. Tucson AZ 2010 – present
Technical Expert, Drachman Institute, Tucson AZ 2010 – present
Architect, Rob Paulus Architects, Tucson AZ 2007 – 2010
Architect, Ibarra Rosano Design Architects, 2006 – 2007
Associate Architect, BWS, Tucson AZ 1999 - 2005

Licenses/Registration:
Arizona

Selected Publications and Recent Research:
Worker Transit Authority (exhibition, Tucson AZ, 2012).
cake, (a special publication of the Graham Foundation for Advanced Studies in Fine Ars, 2011).
Field Guides and Checklists (a special publication of the Museum of Contemporary Art, 2008).

Name: Alvaro Malo

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 500b Grad Studio I (2010-2011)
ARC 302 Tectonics Studio (2010-2011)
ARC 101 Foundation Studio I (2010-2011)
ARC 102 Foundation Studio II (2010-2011)

Educational Credentials:
M.Arch., University of Pennsylvania, 1970
Design Diploma, Bouwcentrum, Rotterdam, Holland, 1969
Architect's Diploma, Universidad de Cuenca, Ecuador, 1967

Teaching Experience:
Professor, School of Architecture, Director Emerging Material Technologies, University of Arizona, 2006-date
Director and Professor, School of Architecture, University of Arizona, 1998-2006
Director and Associate Professor, Miami Architecture Research Center, University of Florida, 1994-1998
Associate Professor, Architecture, GSFAIUniversity of Pennsylvania, 1990-1994

Professional Experience:
Apartment building, 9 units, Cuenca, Ecuador. 1993.
Keppler Farms Inn, addition and renovation, Medina, N, 1989.
Moloney House, Cranerkfge, NY, 1989.
S.B. WhisUer & Sons, industrial conversion, Akron, NY, 1989.
Circulo Infantil Playground, Denver, CO, 1979.
Shayne Beach House, Punta Blanca, Ecuador, 1975.
Escuela de Arquitectura, Universidad de Cuenca, Cuenca, Ecuador, 1975.
High-rise apartments, Quito, Ecuador, 1973.

Licenses/Registration:
Architect: Colorado (inactive), New York, NCARB, Ecuador.

Selected Publications and Recent Research:
"Tucson - Zaragoza," Casa *Tucson,* Madrid: TF Editores, 2007
"Casa Tucson, en Zaragoza, Espana", *ARQUITECTURA COAM 340,* Colegio de Arquitectos Madrid, Madrid: Ex-Profeso, 2005
"EJ arte de vivir," *TasavaHan Presidentti: Angel Fernandez Alba,* Madrid, AFA Arquitectos, 2005
"A desert land ethic: aesthetic research," *ARQ* 57 - *Zonas aOOas* / *Arid zones,* Santiago, Chile: Ediciones ARQ: Pontificia
Universidad Cat6lica, August 2004.
"La Tect6nica de las Formas," *Louis I. Kahn,* Barcelona: Ediciones del Serbal, Estudios Criticos, 1994
"El Sentido de la Obra: Louis Kahn," *Trams,* Quito, Editorial Fraga, 1994

Name: Frank Mascia FAIA, ACHA

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 493/593 Internship (2010-2011)

Educational Credentials:
Bachelor of Architecture, University of Arizona, May 1970

Teaching Experience:
Adjunct Lecturer, University of Arizona School of Architecture, 2010-2011

Professional Experience:
CDG Architects, Ltd., Principal and Founder, 1975 – Present

Licenses/Registration:
Arizona
California
New Mexico
NCARB

Selected Publications and Recent Research:

Professional Memberships:
American Institute of Architects, Fellow
American Institute of Architects, Southern Arizona Chapter – President Elect
City of Tucson Sign Code Advisory and Appeals Board Member – Past Chairman
City of Tucson Board of Adjustment – Past Chairperson
City of Tucson Citizens Advisory Planning Committee – Past Member
American Society of Safety Engineers
University of Arizona
College of Architecture, Planning and Landscape Architecture Board
Alumni Council Board of Directors
Dean Search Committee
College of Architecture Partners – Tucson Chairperson
Pima County Medical Society Foundation, Inc. Board of Directors

Name: R. Larry Medlin

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 451/601 Research Studio (2010-2011)
ARC 500c Grad Studio II (2010-2011)
ARC 520a Grad Technology I (2010-2011)
ARC 520c Grad Technology III (2010-2011)

Educational Credentials:
Post-graduate studies, Univ. of Stuttgart, Germany, 1965-67
M. Architecture, Univ. of California Berkeley, 1966
B. Architecture, Cum Laude, Univ. of Florida, 1962

Teaching Experience:
Professor, School of Architecture, University of Arizona, 1981-2011, Director, School of Architecture, University of Arizona,
Fall2006-Spring 2oo8,Acting Director, School of Architecture, Fall 2004
Associate Professor, School of Architecture, University of Arizona, 1976-1981
Assistant Professor, School of Architecture, University of Arizona, 1973-1976
Assistant Professor & Director, Lightweight Construction Center, Washington Univ., St.louis 1968-1973
Visiting Professor, Washington Univ.,and Southern Illinois Univ. 1967-1968
InstructorlResearch Associate, Univ. of Stuttgart, Germany, 1965-1967
Instructor, Univ. of Miami, 1963-1964

Professional Experience:

Licenses/Registration:

Selected Publications and Recent Research:
"Fabric Structures-Environmentally Appropriate Uses of Energy and Materials', presented Oct. 26, 2005 at the Industrial Fabrics Association Intemational-Fabric structures 2005 in San Antonio. Paper published in the Conference Proceedings.
"Sustainable Design Utilization of Fabric Structures in Arid Environments". Artide published in Fabric Architecture" JanuarylFebruary 2004, p. 24-29, based on “Utilization of Fabric Structures in Arid Environments," presented September 30,2003 at the Industrial Fabrics Association Intemational- Fabric Structures 2003 in Las Vegas, Paper published in the Conference Proceedings.
"Appropriate technology for measuring night blindness: the Night Vision Threshold Test and a portable dark room,' Douglas Taren, Larry Medlin,and Brent Campbell,University of Arizona, Tucson, Arizona, USA; Dr. Kamal and Dr. Narayani Shrestha from Kathmandu, Nepal; Sight and Life Newsletter, Basel, Switzerland,2oo1.
"Fabric Structures and the Environmenf, Fabric Architecture, May-June, 2000.

Name: Colby Moeller, RA, LEED AP, NCARB

Courses Taught (academic years 2007–2009 and 2011–2013):
ARC 321 Module 1, Fundamentals of Environmental Control Systems II
ARC 401 Design Studio V: Technical Systems
ARC 461p/561p Environmental Science Laboratory
ARC 461q/561q Special Topics in Architectural Research
ARC 597a Research Methods
ARC 597b Section 2, Emerging Syllabus
ARC 601 Design and Energy Conservation Graduate Studio

Educational Credentials:
M. Arch., University of Arizona, College of Architecture and Landscape Architecture, 2006
B. Arch., University of Arizona, College of Architecture and Landscape Architecture, 2007
B.A. Arch., University of New Mexico, College of Architecture, 1997
Minor in Fine Arts, University of New Mexico, College of Fine Arts, 1997

Teaching Experience:
Adjunct Lecturer, University of Arizona, 2007-Present

Professional Experience:
Architect, 355 Civil Engineer SQ, CEPM, Davis-Monthan AFB, AZ, 2009-Present
Consultant, Clayton R. Joyce Architects, Tucson, Arizona, 2007
Project Manager, Rob Paulus Architect, Ltd., Tucson, Arizona, 2005-2006
Designer, Duket Porter MacPherson, Toledo, Ohio, 2000-2004
Intern, Kells + Craig Architects, Albuquerque, New Mexico, 1998-2000
Intern, Antoine Predock Architect, Albuquerque, New Mexico, 1995

Licenses/Registration:
Registered Architect, State of Arizona, Registration Number 49388
LEED Accredited Professional

Selected Publications and Recent Research:
Sustainable Design for Health Care Facilities: A Case Study of the LEED® Certified Rincon Community Hospital at Civano ,VDM Publishing, 2008

Professional Memberships:
Autodesk User Group International (AUGI)

Name: David Newton

Courses Taught (Two academic years prior to current visit):
ARC 597B ADVANCED VISUAL COMMUNICATION Summer session II 2012

Educational Credentials:
B.S.D., Arizona State University, 2001
M. ARCH., Rice University, 2006

Teaching Experience:
Adjunct Professor, University of Minnesota, 2007-2009
Lecturer, Arizona State University, 2009 – 2012
Clinical Assistant Professor, ASU 2012-Present

Professional Experience:
Junior Architect, Diller, Scofidio, and Renfro 2006-2007

Licenses/Registration:
none

Selected Publications and Recent Research:
Performative Landscapes. Published in Future Arquitecturas Magazine Vol 19/20. (2009)
Tactile Spectrum. Published in Everything Must Move. (Rice University 2009)
Performative Landscapes. Published in Everything Must Move. (Rice University 2009)
Performative Landscapes. Published in [bracket] no. 1 – On Farming. (Actar 2009).
Metapatch. Published in Manufacturing Material Effects: Rethinking Design and Making in Architecture. (Routledge 2008)
Performative Landscapes. Published in Working. (Rice University 2008)
Metapatch. Published in AD Magazine, Versatility and Vicissitude: Performance in Morpho-Ecological Design. (John-Wiley 2008)
Metapatch. Published in Morpho-Ecologies. (Architectural Association 2007)
Metapatch. Published in AD Magazine Techniques and Technologies in Morphogenetic Design. (John-Wiley 2006)

Professional Memberships:
none

Wilson H. Peterson, AIA

Courses Taught
Arc 401 Design Studio V: Technical Systems
Arc 422/520G Building Technology VII: Structures III
Arc 500A/540A Introductory Design Studio / Design Communication
Arc 510E Design Studio: Urban Issues
Arc 520A Building Technology I: Structures I

Educational Credentials
M. Arch., Harvard University, Cambridge, 1994
Swiss Technical University, ETH Zurich, Semester exchange 1993
B. A., University of Arizona, Tucson, 1990
Australian National University, Canberra, semester exchange 1988

Teaching Experience
Adjunct Instructor, School of Architecture, University of Arizona, 2000-2008
Lecturer, School of Architecture, University of Arizona, 2009-2013

Professional Experience
Project Designer, Ralston Architects, Beaverton, Oregon, 1995-97
Project Designer, Biasini Bryar Architects, Cottonwood, Arizona, 1997-98, 1992-95
Project Architect, Biasini Bryar Architects, Cottonwood, Arizona, 1998-2003
Principal, Wilson Peterson Architect, Tucson, Arizona, 2000-present

Licenses / Registration
Arizona
New York
NCARB Certificate

Selected Publications and Recent Research
Furniture design published in *Acadia Integrative Realities* Conference project catalog, 2011
Built work published in:
Wheeler, Bradley. Una Residenza nel Desertico Southwest, in *Casa D Magazine*, 2007
Regan, Margaret. Site Unseen, in *Tucson Home Magazine*, 2006
Chamberlain, Jess et al. Best Houses of the West, in *Sunset Magazine*, 2006

Professional Memberships
The American Institute of Architects

Name: Ian M. Regan

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 520 e BT5: Structures 2

Educational Credentials:
University of Arizona 1998-2003
Bachelor of Architecture, College of Architecture; Emphasis: Systems, Process, Green Building Technology
San Jose State University 1996-1998
General Engineering Major, College of Engineering; Emphasis: Civil Engineering

Teaching Experience:
Adjunct Lecturer, University of Arizona School of Architecture, 2011-2012

Professional Experience:
2001-Present DesignBuild Collaborative,
Project Manager, Project Architect, Construction Manager

Licenses/Registration:
Arizona

Selected Publications and Recent Research:
4th Ave Underpass: Vehicular Grade Separated Interchange, Tucson, AZ, Completed 2009-Project Manager, Project Team Member

Animal Wellness Center: Veterinary Care Hospital, Tucson, AZ, Completed 2008-Construction Administrator, Project Team Member

44 Broadway: Mixed use urban renovation, Tucson, AZ, Under Construction-Project Team Member

Rialto Theater Master Plan: Master Plan for the 300 Block of East Congress, Tucson, AZ-Project Manager

Luce Elder Care Facility: Residential Elder Care Facility, Tucson, AZ, In Progress-Project Manager, Project Architect

Corner Market: Commercial Tenant Improvement, Tucson, AZ, Completed 2008-Project Architect, Project Manager

Name: Paul Reimer RA

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 301 Land Ethic Studio
ARC 540b Design Communication II
ARC 302 Tectonics Studio
ARC 509a Summer Immersion Studio (M.Arch II)
ARC 509b Summer Immersion Design Communications II
ARC 510a Summer Immersion Studio (MArch III)
ARC 540a Design Communication I
ARC 301 Tectonics Studio
ARC 540b Design Communication II
ARC 497b/597b Leadership Institute Seminar
ARC 302 Land Ethic Studio

Educational Credentials:
B.Arch., University of Minnesota, 1989
M.Arch., Southern California Institute of Architecture (SCI-Arc), 1997

Teaching Experience:
Adjunct Lecturer, Catholic University of America, Washington DC, 1998-1999
Adjunct Lecturer, Summer Institute for Architecture, Catholic University of America, Washington DC, 1999
Adjunct Lecturer, University of Arizona, Tucson, 2001-present

Professional Experience:
Intern, Robinson Mills and Williams Architects, San Francisco, CA 1989-1990
Project Architect, Berger Detmer Architects, San Francisco, CA, 1990-1995
Project Architect, Blackburn Architects, Washington DC, 1997-1999
Project Architect, Shinberg Levinas Architects, Bethesda, MD, 1999-2001
DesignBuild Collaborative, Tucson AZ, 2001-present

Licenses/Registration:
Arizona

Selected Publications and Recent Research:

Green Design: Creative Sustainable Designs for the Twenty-First Century, (Marcus Fairs, North Atlantic Books, Berkeley, 2009)

Name: Clare Robinson, Ph.D.

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 332 & 533 History III: World Architecture, Modern and Contemporary
ARC 479b &597b Middle Landscapes: History & Theory of Suburban Architecture, Landscape Architecture, and Planning

Educational Credentials:
B.A. Smith College, 1995
M.Arch. Harvard Graduate School of Design, 2001
Ph.D. University of California, Berkeley, 2012

Relevant Teaching Experience:
Lecturer (part time), Wentworth Institute of Technology, 2001-2002
Assistant Professor, Iowa State University, 2002-2005
Lecturer (part time), California College of the Arts, 2007-2011
Instructor (part time), Academy of Art University, 2009-2011
Assistant Professor, Arizona State University, 2012-present

Relevant Professional Experience:
Intern, Michael van Valkenburgh Associates, 2000
Intern JKSG Architects, 2001-2002
Designer, Substance, 2004
Founding Design Partner, Urbano, 2010-present

Selected Publications and Recent Research:
Student Union: The Architecture and Social Design of Postwar Campus Community Centers. Dissertation. (University of California, Berkeley, 2012)

Intersections: beginning design and other fields of inquiry 22nd National Conference on the Beginning Design Student Proceedings, editor with Igor Marjanovic (Iowa State University, 2006)

"Browsing, Bouncing, Murdering, and Mooring: negotiating the relationship between inhabitation and representation" *Journal of Architectural Education*, Vol. 59 (1), September 2005, p27-33.

Professional Memberships:
Society of Architectural Historians
Society for American City and Regional Planning History
Vernacular Architectural Forum

Name: Teresa Rosano, AIA LEED AP

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC326 Site Analysis and Planning
ARC510e Urban Issues Graduate Design Studio

Educational Credentials:
B.Arch., University of Arizona, 1994

Teaching Experience:
Distinguished Visitors Studio, University or Arizona, 2007
Adjunct Lecturer, University of Arizona, 2011-present

Professional Experience:
Architect-in-Training, Design Build Collaborative, 1995-1996
Project Architect, Bob Vint & Associates, Architects, 1996-1999
Principal Architect, Ibarra Rosano Design Architects, 1999-present

Licenses/Registration:
Arizona

Selected Publications and Recent Research:

Print (non-web based) publications from 2012 to February 2013 listed only – see website: ibarrarosano.com for complete list of publications (approx.150 books/magazines from 1998 to date)

XII Foro Internacional de Architectura Nuevo Regionalismo en Norte America (CADI-USFQ Publicaciones, 2013)
Revista Habitar de Columbia (octubre 2012)
Luxe Interiors + Design: Arizona (fall 2012)
World Interior Design (Phoenix Publishing 2012)
Modern Lux Housing (Sandu Publishing 2012)
Residential Architect Magazine (january/february 2012)

Professional Memberships:
The American Institute of Architects

Name: Mark Ryan

Courses Taught (academic years 2011–2012 and 2012–2013):

Advanced Studio 1	510d
Capstone Prep	498-2
Capstone Studio	452-2

Educational Credentials:

- Architectural Association, London, England. Graduate School of Architecture, History/Theory Program, International Foundation Scholar 1991/92.
- University of Cincinnati, Cincinnati, Ohio. College of Design, Architecture, Art and Planning, Lettered in Intercollegiate Athletics, 1981-87.
- University of Illinois, Kavala, Greece. Special Program in Urban Design, 1985.

Teaching Experience:

Adjunct Lecturer, UA School of Architecture 2011-present
Adjunct Professor, Arizona State University School of Architecture, 2004-2011.

Professional Experience:

- mark ryan studio, Phoenix, Arizona. Principal 2002-present.
- The Design Partnership, San Francisco, California. Director of Design 1999-2002.
- Kaplan McLaughlin Diaz, San Francisco, California. Associate, Senior Designer 1994-1999.

Licenses/Registration:

Arizona

Selected Publications and Recent Research:

- Design Bureau Magazine, feature article upcoming, fall 2013.
- American Institute of Architects, “Citation: Johnson County Youth and Family Services Center” JFR12: Justice Facilities Review, 2012, p6-10.
- American Institute of Architects, “RE-JUV” JFR12: Justice Facilities Review, 2012, p68,69.
- In Progress, Sundt Gallery Exhibition, University of Arizona – October 2011.
- Small Scale: Creative Solutions for Better City Living - from Princeton Press, fall 2010, pages 206-209.
- Keith Moskow, Urban Interventions: Creative Solutions for Better City Living - publication Fall 2010.

Lisa D. Schrenk, Ph.D., Associate Professor of Architecture and Art History

Courses Taught:
ARC231/530 History/Theory of Architecture I (also as FA201 Norwich University)
ARC232/531 History/Theory of Architecture II (also as FA202 Norwich University)
FA 250/AP403 Seminar: Frank Lloyd Wright and Modernism (Norwich University)
FA 504 Seminar: Thesis Research (Norwich University)

Educational Credentials:
B.A., Macalester College, St. Paul, Minnesota,1983
M.Arch.His., University of Virginia, 1988
Ph.D., University of Texas, Austin, 1998

Teaching Experience:
Visiting Assistant Professor, University of New Mexico, 1997-1998
Visiting Professor, University of Minnesota, Spring 1999
Visiting Assistant Professor, Montana State University, 1999-2000
Visiting Lecturer, University of California, Davis, 2001-2002
Assistant Professor, Norwich University, Northfield, Vermont, 2002-2007
Associate Professor, Norwich University, Northfield, Vermont, 2007-2012
Associate Professor, University of Arizona, Tucson, Arizona, 2012-present

Professional Experience:
Education Director, Frank Lloyd Wright Home and Studio Foundation, 1988-1992
President, Chicago Society of Architectural Historians, 1991-1992
Board Member, Society of Architectural Historians, 1995-1998
Historic Preservation Committee, College Art Association, 2004-07

Selected Publications and Recent Research:
Book, *Building a Century of Progress: The Architecture of Chicago's 1933-34 World's Fair* (University of Minnesota Press, 2007). A 2008 Choice Review Outstanding Title.

Essay, "'Industry Applies': Corporate Marketing at the Expositions of Tomorrow," in *Designing the World of Tomorrow: America's World Fairs in the 1930* (Yale U. Press, 2010).

Paper, Promoting Motoring: Ford, GM, and the Corporate Automotive Displays at World's Fairs in the 1930s, SW/TX PCA/ACA, Albuquerque, NM, 13 February 2013.

Paper, The Definition of "Modern Architecture" in the United States, 8th Savannah Symposium: Modernities Across Time and Space, Savannah, GA, 8 February 2013.

Paper, *Presenting Fordism to the World: Henry Ford, Albert Kahn and the American Expos of the 1930s*, Society of Architectural Historians, Detroit, MI,16 April 2012.

Paper, *Modern Fare: Promoting Manufactured Foods at Chicago's 1933-34 Century of Progress Exposition*, SW/TX PCA/ACA, Albuquerque, NM, 11 February 2012.

Paper, *"Synthetic Utopias": National Identities in a Time of Peace and War at the 1939-40 Golden Gate Exposition*, "Utopia of Tradition," 12th Conference of the International Assoc. for the Study of Traditional Environments, Beirut, Lebanon, 18 Dec. 2010.

Paper, *The Architects' Small House Service Bureau of Minnesota*, Society of Architectural Historians, Chicago, IL, 23 April 2010.

"We the People" award, *NEH Summer Stipend* for research on Frank Lloyd Wright's Oak Park studio, Summer 2008.

Fulbright-Hays Seminars Abroad Award, Learning and the Land: How Sustainable Development Can Build A Strong Educational Foundation, Brazil, 2007.

Professional Memberships:
Society of Architectural Historians

Name: Christopher Trumble, Assistant Professor, RA, LEED AP

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 221 Building Technology I, Structures I
ARC 322 Building Technology V, Structures II
ARC 402 Design Studio VI, Application I
ARC 451 Design Studio VII, Application II
ARC 461/561f Nature of Structure Elective
ARC 499 Group Independent Study,

Educational Credentials:
Master of Architecture, University of Pennsylvania, 1993
Bachelor of Science and Architectural Studies, University of Illinois, 1991

Teaching Experience:
Assistant Professor, University of Arizona, 2010–present
Lecturer, University of Arizona, 2004–2010
Assistant Professor, University of Arizona, 1999–2004
Visiting Assistant Professor, Drury University, 1998–1999

Professional Experience:
Folan Trumble Architects, Tucson, AZ 2005–present | Principal
Chris Trumble Architect, NYC + Tucson, AZ 1995–present | Principal
Gerner Kronick + Valcarcel Architects, NYC, 1997–1998 | Project Architect
Point B Design, NYC 1996 –1997 | Project Architect
Chateau de Vernoux, Le Louroux Beconnais, France 1995–1996 |
Staff Architect and Construction Crew Leader
Siris-Coombs Architects, NYC, 1993–1995 | Job Captain
Turner Architectural Associates, Kankakee, IL 1991–1992 | Intern
Johnston Hultsch Architects, Kankakee, IL 1989–1990 | Intern

Licenses/Registration:
Arizona: Registered Architect, 1999–present
Illinois: Registered Architect, 1995–2007
LEED Accredited Professional, 2009–present

Selected Publications and Recent Research:
Deformation Reformation (National Conference on the Beginning Design Student, 2012)

Block Lofting (National Conference on the Beginning Design Student, 2012)

An Empirical Exercise in Structural Design: Force, Form, Material and Connection (International Structural Engineering and Construction, 2011)

Professional Memberships:
Association of Collegiate Schools of Architecture, 1998–present
American Institute of Architects, 1998–1999

Name: Robert W. Vint, R.A./NCARB

Courses Taught (academic years 2011–2012 and 2012–2013):

ARC 471s/571s History and Theory of Urban Design
(required 4th year undergraduate lecture course and
2nd year graduate lecture course w/weekly seminar)

Educational Credentials:

B.Arch. w/High Distinction, AIA Silver Medal, University of Arizona College of Architecture (1982)
Dean's List, University of Chicago, Common Core Year (academic year 1976-1977, non-degree)

Teaching Experience:

Adjunct Lecturer, University of Arizona CAPLA, 2011-2013
Student Mentor, "Box Project" Taliesin West/F.L. Wright School of Architecture (1996)
Teaching Assistant, W. Kirby Lockard, University of Arizona College of Architecture (1980)

Professional Experience:

1993 - present	Principal, Vint & Associates Architects Inc., Tucson, AZ
1992 - 1993	Partner, Gibbs & Vint Architects, Tucson, AZ
1986 - 1992	Project Architect, office of James A. Gresham, FAIA, Tucson, AZ
1984 - 1985	Designer/draftsman, Payette Associates Inc., Boston, MA
1980 - 1984	Designer/draftsman, Tucson Community Development/Design Center

Licenses/Registration:

Registered Architect, License #19529
Arizona State Board of Technical Registration (1986 - present)

NCARB Certificate #45793
National Council of Architectural Registration Boards (1995 - present)

Selected Publications and Recent Research:

Fall 2010	*Arizona Alumnus* (University of Arizona) "A Day in the Life of a Tucson Architect"
September 2005	*SOUTHWEST HOUSING TRADITIONS: DESIGN, MATERIALS, PERFORMANCE* Washington, DC; US Department of HUD (Special Study on Regional Affordable Housing)
February 2005	*The Desert Speaks* (University of Arizona, Tucson) PBS documentary: "Heart of a Pueblo"
October 2004	*Architectural Digest* (New York) "At Home with Linda Ronstadt", Ronstadt Residence
Nov/Dec 2003	*Sources + Design* (Phoenix) "Preservers of History"
August 1998	*Architecture* (New York) "Dirty Work" Adobe preservation, Casa Córdova
Mar/Apr 1997	*La Revue de la Céramique et du Verre* (Paris) Santa Cruz bridge Gila monster sculptures
Mar/Apr 1997	*This Old House* (New York) Hardy Residence, Barrio Historico, Tucson
September 1996	*Arredamento Dekorasyon* (Istanbul) Tohono O'odham Elders' Center
Winter 1994	*Tucson Guide Quarterly* (Tucson) "Contemporary Kiva" Southside Presbyterian Church
May/June 1993	*Historic Preservation* (Washington, National Trust) *The Architect:* "Alternative Approach"
May 1992	*Progressive Architecture* (New York) "Earthen Vessel" San Xavier del Bac Conservation
Mar/April 1992	*Preservation News* (Washington, DC) Catalina High School Preservation

Professional Memberships:

National Council of Architectural Registration Boards

Name: David Wald-Hopkins AIA

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 497b/597b Business for Architects
ARC 497c/597c Business for Architects

Educational Credentials:
B.A., University of Cambridge, 1967
B. Arch., University of Arizona, 1977

Teaching Experience:
Adjunct Lecturer, 2012-2013

Professional Experience:
Architect-in-Training, Robert Swaim Architect, 1977-1980
Project Manager, Architecture One, Ltd., 1981-1991
Principal, BWS Architects, 1992-2011

Licenses/Registration:
Arizona

Professional Memberships:
The American Institute of Architects

Name: Beth Weinstein, R.A.

Courses Taught (academic years 2011–2012 and 2012–2013):
ARC 402 Design Studio: Advanced Topics
ARC 510d Advanced Design Studio I: Poetics of Place
ARC 510e Advanced Design Studio II: Urban Focus
ARC 520c ECS: Fundamentals of the Environment
ARC 520d Building Enclosure and Systems Integration

Educational Credentials:
BFA Syracuse University,1985, Magna Cum Laude
M. Arch Columbia University, GSAPP, 1990

Teaching Experience:
Adjunct Assistant Professor, Rensselaer Polytechnic Institute, 1997 - 1999
Visiting Instructor, Pratt Institute, 1999 - 2002
Adjunct Assistant Professor, Pratt Institute 2002 - 2005
Visiting Instructor, Parsons / New School, 2003 - 2006
Adjunct Assistant Professor, Columbia University, 2000 - 2006
Adjunct Associate Professor, Columbia University, Summers 2007, 2008, 2010
Assistant Professor, tenure track, University of Arizona, 2006-2012
Visiting Professor, École Spéciale d'Architecture, Paris, fall sabbatical semester 2012
Associate Professor with Tenure, University of Arizona, 2012 - present

Professional Experience:
Founding Principal, Architecture Agency, 2002 - present
Founding Partner, Riebe Weinstein Architecture, 1998-2002
Asst Designer, 92; Asst Proj. Arch., 93-4; Proj. Arch., 95-7; Architectures Jean Nouvel, 1992-1997
Founding Partner, A(d+V)u2z, 1988–1990
Asst Project Designer, Asymptote Architecture, 1988 su-fall ; 1989+90 summer

Licenses/Registration:
National Council of Architectural Registration Boards (NCARB) Certificate (2000-present)
New York (2000-present)
Arizona (2007-10, not renewed)

Selected Publications and Recent Research:
Ground|Water: The Art, Design + Science of A Dry River (Confluencenter /UA Press, 2012)
"Performance Space: Distributed and Consolidated," in *Disappearing Stage: Reflections on the 2011 Prague Quadrennial* (The Theater Institute, 2012)
"Building Complexity: Local Natural Systems and Global Principles," *Design Principles + Practices* (2011) 50% co-author.
"SHiFT: A Performed Re-interpretation of Visionary Theater" in *Journal of Arch. Education*, 64:1 (2011)

Professional Memberships:
FIRT/IFTR International Federation for Theater Research
Building Technology Educators Society
USITT / OISTAT
Performance Studies International
Association of Collegiate Schools of Architecture

Studio Culture Policy
School of Architecture; The University of Arizona

adopted by AIAS: March 26, 2012
adopted by Faculty:

The faculty of the School of Architecture is committed to the goals of fostering individual intellectual growth and a creative, collaborative and engaged studio/lab community. To that end, our studio/lab culture policy affirms several principles of design education described below. It is intended to augment the University of Arizona Student Code of Academic Integrity (available at http://dos.web.arizona.edu/uapolicies/cai1.html).

Working in the Studio/Laboratory

An enormous amount of learning takes place in studio between faculty and students, and among students. In order to facilitate collegial exchange and interaction, every studio participant should engage actively in the studio community. The studio must be adequately equipped to encourage a creative and productive working environment. Every member of the studio is encouraged to use it daily.

All studio participants are expected to respect the physical and intellectual property of their peers. Work products, equipment, tools and supplies should be cared for with communal responsibility and individual accountability. The housekeeping of studio space is the obligation of all studio participants.

Lab and shop equipment, tools, time and materials are valuable resources that must be shared fairly amongst all studio participants. Please refer to current shop policies for safety and use rules and regulations.

Intellectual Diversity

We value the intellectual diversity of our faculty and students and support diverse approaches to studio instruction. The personal and intellectual rights of every person in our community will be respected. All members of our community will conduct themselves by ethical principles and with regard for others. Faculty members are expected to act with the best interests of each student as his/her primary focus and to treat students in a fair, respectful, and consistent manner. Students are expected to come to studio with the desire to learn from others and to assist others with their learning needs, creating a robust shared experience where one's intellectual life is advanced by the community as a whole.

Theory and Practice

Each student is asked to frame his/her studio design project as a critical investigation, exploring the intersection of canonical architectural practice and individual hypotheses, interests and creative impulses. Faculty members are expected to teach students the foundational knowledge and professional conventions of the discipline while introducing students to, and encouraging them to explore new theories, working methods, and design processes. The University of Arizona is a top tier Research University and its students and faculty are encouraged to engage in experimental and speculative thinking; to think anew.

Collaborative Design (excerpts from "protocol on collaboration" October 2011)

The goal of collaboration is to synthesize the highest contributions from several people with the result transcending the sum of the parts.

Collaboration starts when participants put the interests of the group and the goals of a project ahead of individual interests. This requires individuals to recognize their strengths and weaknesses and how they can best contribute to the whole.

A successful team distributes roles and responsibility based on individual strengths and agrees to work together towards a shared goal. No one role is more important than another and each individual shall support their fellow team member.

To effectively complete work in a timely manner everyone must adhere to their respective roles and responsibilities. In working as part of a team it is vital to be punctual. It is also critical to put biases aside and engage discussion in the interest of following the team's course once a direction has been agreed upon.

Constructive Criticism

Critique is an inherent and integral part of the evaluation process in design education. Faculty and invited reviewers are encouraged to deliver criticism constructively when engaging students and others in the review of studio work. Design studios are inherently places of exchange, and studio projects are common ground for open discussion and creative design exploration. All studio participants are encouraged to exchange ideas, opinions, and experiences in a collegial manner.

Design Reviews

Design reviews are a fundamental component of the assessment of student work. Design reviews provide an opportunity for students to demonstrate and improve upon their oral and visual presentation skills. They also provide students with an opportunity to understand how their work can be interpreted from different, often unanticipated, perspectives. Faculty members are required to stage formal reviews in public settings and to involve members of the academic faculty as well as other members of the College, profession and outside community.

Time Management

Time management is central to the success of a rewarding design education and career. Students are entitled to an appropriate balance between design studio and other aspects of university life. Studio faculty will understand and be sensitive to the reality that most students have other academic obligations and, in many instances, demanding responsibilities apart from the university. The amount of time that is reasonably necessary for the successful completion of assignments and achieving the learning objectives is to be consistent with the credit hours for the studio course.

Students should expect that the creative acts of design and visual representation entail a commitment to time in the studio outside of regular classroom hours. This is an inherent part of studio culture and its central role in architectural education. Each student will be fully engaged in the task at hand or topic discussed during studio class hours and will be adequately prepared for desk critiques, pin-ups and reviews. Students are required to attend, present, and participate in all design reviews organized by their instructors. Students should be active participants in reviews of their peers.

Faculty members will demonstrate clarity of purpose for each studio by issuing a proper syllabus with studio assignments, as well as clearly articulated evaluation procedures, a definitive schedule and specific learning objectives for the course and for each assignment. Evaluations of student work will be provided at established benchmarks during the semester. During studio hours, faculty members will devote his/her focus to the needs of the students and studio. To ensure a responsive climate at final reviews, submission deadlines will be given well in advance of the time for the critique session. Review sessions will be structured to respond to the assignment criteria. A student whose work is submitted late or is incomplete will not assume the right to publicly present his/her work to external reviewers.

Maintenance of the Studio Culture Policy and Evaluation of its Implementation

To ensure the effectiveness and implementation of the Studio Culture Policy – as well as to create the opportunity to amend or change policies outlined therein – the School of Architecture's Studio Culture Policy will undergo review every two years based on participation by all of the faculty and student, and incorporated into the written policy by the Faculty Status Committee with student representatives from each year and discipline.

P O L I C Y O N
S T U D I O C U L T U R E

DATE: 01.09.2011
FROM: Robert Miller, Professor, Director
School of Architecture
PAGE: 1 of 1

INCREMENTAL GRADING

All studios will have a minimum of four graded products per semester, due near the 2nd, 4th, 8th (mid-term), and 16th (final) week of the term.

By moving production into the first half of the semester, students will be encouraged to
a) pace production evenly over the entire term,
b) tackle tough issues early, and
c) work in an iterative manner.
This will also increase fairness by providing students with early and regular evaluations.

ADVANCE SUBMITTAL

All studio professors will collect projects at least 12 hours prior to the start of a review; in year-levels where multiple studios work on a common project, studio coordinators will set the collection deadline so that all students are subject to the same deadline.

By setting an advance submittal, students will learn that presentation is an important aspect of conducting their work. Additional work done after the advance submittal may not be presented until subsequent reviews so that students learn to get adequate rest and prepare for presentations.

PRESENTATION REHEARSALS

Every studio will have a minimum of two rehearsed presentations, one of which must be the final. 2nd and 3rd year studios will video at least one of these presentations and conduct a post-presentation review with the whole studio.

A "rehearsed" presentation shall involve a pre-review critique with the professor, will set a time limit for the presentation, and will entail two components:

GRAPHIC: A submittal and subsequent critique of how the graphic presentation will, in a logical and comprehensive manner, guide the reviewers through the key issues as well as the project's particular response.

ORAL: A rehearsal of the oral presentation before the professor.

By requiring students to prepare for and practice their presentations, they will learn to think about and explain their work in a thoughtful and articulate manner. By setting a time limit for the presentation, they will learn to communicate responsibly and efficiently.

PRESENTATION COLLABORATION

Studio members will attend their peer's presentations. Each student will be assigned a partner charged with a) giving time cues and b) taking notes.

By establishing partnerships, students will become invested in their peers' work and encourage them to collaborate. By having a non-presenter keep notes, the presenting student can focus on an active interchange with the critics and have notes on the critique for later reflection.

PRESENTATION GRADING

All studio syllabi will include "Presentation" as a graded component for the semester, covering both graphic and oral aspects, as well as taking into account student attendance and participation in the review of peers.

E N D O F P O L I C Y

THE UNIVERSITY OF ARIZONA.

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April 17, 2013

To whom it may concern:

I certify that all data submitted to the NAAB through the Annual Report Submission system since the last site visit is accurate and consistent with reports sent to other national and regional agencies including the National Center for Education Statistics.

Sincerely,

Rick Sears
Associate Director
Office of Institutional Research and Planning Support
University of Arizona

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POLICY ON STUDENT ASSISTANTSHIPS

DATE: 07.22.11-20:34
PAGE: 1 of 4

1.0 PURPOSE This policy governs the Student Assistant program in the School of Architecture.

2.0 TERMS

SA STUDENT ASSISTANT: Student hired to assist in the operation of the School or College.

GA GRADUATE ASSISTANT: A graduate student entitled to tuition reduction, benefits, and salary. GAs may be one of three types: RA, TA, or HA.

RA RESEARCH ASSISTANT: A GA funded from a grant.

TA TEACHING ASSISTANT: A GA funded by the School or College.

HA HOURLY ASSISTANT: A graduate or undergraduate student hired on an hourly basis without tuition reduction or benefits. (Also called a "Grader.")

3.0 PROTOCOL SAs will be awarded to courses and students by the Director according to the guidelines of this policy. Awards will be made to achieve a balance between the functional needs of the School and the recruiting value of the awards to attract qualified students.

3.1. COURSE NEED Courses may be assigned SAs as a result of:

3.1.1. SIZE
Courses with 40+ students are eligible for SAs at a rate of 1 SA/30 students.

3.1.2. INTENSITY
Teaching-intensive courses (e.g., having heavy writing or computing requirements) with 16 or more students are eligible for an SA for all or part of the semester depending on curricular need.

3.1.3. EXPERT NEED
Courses that require specialized SA-expertise of the kind that can only be developed by students who have previously taken, or been SAs, in that course, are eligible to have SAs on repeating assignment to that course, if they also qualify under one of the other categories in 3.1.

3.1.4. SPECIAL FACULTY
Courses taught by visiting faculty who, according to their contracts, are given exemption from regular course attendance may be eligible for an SA.

3.1. STUDENT QUALIFICATIONS Students will be selected for SA awards according to the following criteria:

3.1.1. MERIT
GPA, portfolio, language, work experience, publications, teaching experience, attitude, leadership and participation in the School.

3.1.2. NEED
Need for the student's particular assets by the courses with SA allocations.

3.2. AWARDS SA awards will be made as follows:

3.2.1. COURSE AWARDS

.A Course Application
Faculty members desirous of an SA will make application at least two months prior to the start of the semester, or by the deadline on the School Calendar, which ever comes first.

.B Course Awards
The Director will award SAs one month prior to the start of the semester, if possible, and will notify faculty.

3.2.2. STUDENT AWARDS
All graduate students will be considered for SA-ships at time of application for admission. Undergraduate students become eligible for an SA-ship when nominated by a faculty member.

Consequently, students cannot apply for an SA-ship directly, but may be asked to submit credentials to aid in evaluation.

Notice of SA awards to students will be made by their Advisors.

4.0 REMUNERATION SAs will be compensated as follows:

4.1. GA Graduate Assistants will be paid according to the University's standard guidelines, unless a higher rate has been negotiated for recruiting purposes.

4.2. HA Hourly Assistants will be paid on the following schedule:[1]

4.2.1. LEVEL 1 (BASIC): $8.00.00/HOUR
A Basic HA is a student who has demonstrated high competency, good motivation, ability to follow-through, and a sense of responsibility.

4.2.2. LEVEL 2 (SKILLED): $10.00/HOUR
A Skilled HA is a student has the qualities of a Basic HA and has demonstrated the particular skills needed for the course to which the HA-ship is devoted.

4.2.3. LEVEL 3 (QUALIFIED): $12.00/HOUR
A Qualified HA has the qualities of a Skilled HA and has received specialized training by having previously taken a course, previously had an SA-ship for a course, or by other specialized training.

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[1] Graduate students hired as HAs must be paid a minimum rate of $7.50 per hour with an ERE rate of 3.4% (wages ERE). If a graduate student is also working as a TA, the extra HA position would be considered an addendum position incurring an ERE rate of 42.6%. Additional complications may be invoked if grants are involved. David Shirk, 2010.

4.2.4. LEVEL 4 (EXPERIENCED): $15.00/HOUR
An Experienced HA has had significant professional work experience that provides advanced skills and knowledge needed for the job.

5.0 ADMINISTRATION The Student Assistantship program will be administered by the following guidelines.

Compliance with all steps involving an SA is the student's responsibility. Failure to comply will be grounds for dismissal.

5.1. APPLICATION+AWARD Application, awards, and notice of awards will be made per 3.0.

5.2. CONTRACT SAs will complete two contracts.

5.2.1. HR CONTRACT
The legal hiring paperwork required by Human Resources at the UofA.

5.2.2. COURSE CONTRACT
The agreement between HA and Professor specifying the duties to be performed.

5.3. TRAINING SAs will complete the relevant training:

5.3.1. UNIVERSITY TRAINING
First time TAs are required to take the University's online and in-person orientation programs (TATO/GATO). For information and to register:

http://grad.arizona.edu/ta/gato

This must be completed before TAs will be allowed to work in the classroom.

5.3.2. COURSE TRAINING
The SA will attend a training session with the sponsoring faculty member, and/or do specified homework, prior to the start of classes. Time allocated for this work may be charged against the SA-ship.

5.4. TIME Timesheets must be complied by the SA, signed by the responsible faculty member, and filed by the SA with the appropriate advisor for payment.

SAs are required to put in a concerted effort for the duration of the period covered in the Contract. Technically, SAs are only required to work the stated weekly allotment of hours. If SAs are willing, and faculty members approve, SAs may exceed the maximum hours/week and count the overload against later weeks' requirement. In no case will SAs be allowed to transfer time to another semester.

TAs have a required commitment of 10 hours/week for 18 weeks for a total of 180 hours/semester.

Other SAs have flexible time allocations, which may be governed by a maximum limit.

5.5. RESPONSIVENESS SAs serve at the pleasure of their sponsoring faculty member. They are required to respond to emails or voice messages from the sponsoring faculty, or her designated supervisor, within 24 hours. Failure to respond will constitute grounds for dismissal.

5.6. PROBLEM RESOLUTION In the event SAs or faculty encounter problems with the Student Assistantship, they should:

1. Attempt to resolve the problem by a meeting between the SA, faculty member, and the appropriate advisor.

2. Failing this, the dissatisfied party should request a meeting between the Director, the SA, faculty member, and the appropriate advisor.

6.0 ADDENDA Related templates:

SA REQUEST (for Faculty)
SA APPLICATION (for students)
SA CONTRACT
SA TIMESHEET

E N D O F P O L I C Y