

December 7, 2007

To: ACSA Members

From: ACSA Board of Directors

RE: Delivery of Reports from ACSA Topic Groups Preparing for the October 2008 NAAB Accreditation Review Conference

Following are complete reports from nine groups charged with developing issues and potential positions regarding the NAAB Conditions and Procedures. *ACSA would like to thank all those who participated in the process to date.*

The nine reports represent efforts to identify key issues; eight were published in October 2007, a ninth, on leadership, was added in November. Opportunities for feedback on the first eight reports occurred at:

- the three scheduled ACSA Fall Conferences (in Austin, TX, October 4–6; in Washington, DC, October 11–13; in Cambridge, ON, October 19–21), where 2-page-only versions of these reports will be handed out—this edition includes the complete reports.
- at the ACSA/CELA Administrators Conference, November 1–3
- we continue to ask for member feedback online at the ACSAaccred blog (accessible through [www.acsa-arch.org/naab](http://www.acsa-arch.org/naab)).

The ACSA Board of Directors is developing more formal positions regarding the NAAB Conditions and Procedures. These positions will be developed through the winter and will be discussed at the ACSA Annual Meeting and Annual Business Meeting in Houston, Texas, March 27–30, 2008.

Please contact Michael Monti ([mmonti@acsa-arch.org](mailto:mmonti@acsa-arch.org)), Kim Tanzer ([tanzer@ufl.edu](mailto:tanzer@ufl.edu)), or Keelan Kaiser ([kkaiser@judsonu.edu](mailto:kkaiser@judsonu.edu)) with any questions or concerns.

## **ACSA Topic Groups for the Accreditation Review Conference**

### **Topic Area: Architecture as Discipline**

#### **A. Description of emerging issues within the topic.**

The discipline of architecture may be considered an overarching field of expertise formed through the integration of the many areas of study involved in shaping the built environment. The vast number of specialized fields of inquiry in architecture and the great diversity of pedagogical approaches make the concept of “discipline” a challenge to define. There is increasing tension between the education of the architect to be a generalist within increasingly specializing academic and professional environments. To better understand the implications of this on the discipline of architecture, we discussed trends—especially in accreditation—to value details and quantifiable, measurable tasks above broader (and more qualitative) aspects of architecture. We explored the historic role of apprenticeship and the adequate preparation of interns for licensure. Here we questioned the dependence of academia upon the professional internship for architectural education, specifically the role and ability of some offices to effectively enhance the education of architects. We recognized that architecture is inherently an interdisciplinary endeavor (both in practice and in academia) and asked how architecture can play a stronger role within the strict disciplinary compartmentalization of the research university. Toward this line of thinking we expressed general concern over the erosion of liberal arts in the architecture curriculum. We questioned whether architecture programs educate designers for the dynamically changing world, and consequently whether architects will be able to play leadership roles in shaping the future of built environments. The following list describes topics that are central to the issues of Architecture as Discipline.

- Defining our discipline, and what does being a discipline mean?
- Architectural Knowledge production and dissemination.
- Research in an academic setting.
- Relationships between academia and practice.
- Authority in the field.
- Diversity and the respect for diverse views.
- The relationships between Architecture and other fields such as Engineering.
- What is our position in the public realm, within the practice of architecture and within academia? What is the discipline’s role in society?

#### **B. Statement of how issues intersect with or reflect the “core values” statement**

##### *I. Design technical and creative aspects of building projects in appropriate media*

Not applicable

##### *II. Lead interdisciplinary design projects ethically, collaboratively, and responsibly.*

Architectural curricula should provide better frameworks for educational collaboration between the architectural profession and the academy. Many of the accreditation criteria cannot be fully addressed in an academic setting, thus a post-education internship setting should carry some of the burden of teaching through experience.

The evaluation of research in architecture should not be dependent solely on the measurement of funding and funding sources. The evaluation of research in architecture should acknowledge the different funding culture associated, for example, with interdisciplinary research in the humanities, design methodology and critical practice.

*III. Be active stewards of the environment*

Student performance criteria pertaining to ethics should call for the development of ethical attitudes towards broad social, political and cultural issues, in addition to professional concerns. Accreditation conditions should recognize that architects are primarily and historically embedded in a culture of problem-solving and creative thinking, and have key roles to play as community leaders in a planning process based on responsible engagement of professional and societal issues.

*IV. Think and act critically*

The notion of *generalist* is embodied in the liberal arts accreditation criteria and remains a core strength within our discipline. Any accreditation requirement for liberal arts electives should not be eroded, and should encourage holistic, practical and humanities based education of architects. The most important thing for students to learn about architecture, as their discipline, is *critical thinking*. The question might be to define specifically how architectural education nurtures critical thinking in different and effective ways that are unique to the academic architectural environment.

**C. Changes that can be realized through the 2008 Accreditation Review Process.**

3.1.1 Architectural Education and the Academic Context: Any accreditation requirement for liberal arts electives should not be eroded, and should encourage holistic, practical and humanities based education of architects.

3.13 – 2. Critical thinking skills: Define specifically how architectural education nurtures critical thinking in different and effective ways that are unique to the academic architectural environment.

3.13 – 7. Collaborative Skills: Provide better frameworks for educational collaboration between the architectural profession and the academy, a post-education setting should carry some of the burden of teaching through experience.

3.13 - 32. Leadership: Architects are primarily and historically embedded in a culture of problem-solving and creative thinking, recognize that they have key roles to play as community leaders in a planning process based on responsible engagement of professional and societal issues.

3.13 – 34. Ethics and Professional Judgment: Ethics should call for the development of ethical attitudes towards broad social, political and cultural issues, in addition to professional concerns.

**D. Long term changes to architectural education.**

Accrediting bodies should be less concerned with the operational aspects of criteria and be more concerned with integrating knowledge and the understanding of the role architects should play in a dynamically changing world.

Although inherently interdisciplinary, it is important to recognize that architecture is formed and shaped by specific ways of thinking and methods of research.

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## Final Report, ACSA Topic Groups for the Accreditation Review Conference

### Topic Area: **Community Responsibility and Society**

*"I have always felt that the most rewarding intellectual experience is one that lessens the divide between the way the world ought to be and the way the world is."  
---Afua Annor, Philanthropy Fellow, Haas Center for Public Service*

#### **A. Description of emerging (and ongoing) issues**

Architecture can be an eloquent instrument for social justice.

The obligation of our profession to respond actively and effectively to societal needs --and to inculcate and nurture that sense of responsibility in our students-- has never been more acute. At home and around the world, the devastating aftermath of global catastrophe demands our empathy, attention and professional expertise: wholesale destruction wrought by natural disaster, by war, poverty, disease, famine --all of these compel responses that draw upon the precise repertoire of design, visioning, and leadership skills that the profession of architecture is particularly well-equipped to hone. We cite the unprecedented speed of urbanization across the world, accompanied on the one hand by gentrification --and on the other by an overwhelming paucity of viable, accessible and affordable housing. We cite the universal and specific need for constructing and maintaining effective public, civic and community infrastructure(s). We note an ever-increasing demand that our profession respond to the growing diversity of a population re-defined daily by migration and immigration. We cite the growing interdisciplinarity of our work and the need to work collaboratively, ethically, and inventively across a broad range of differences. We cite the extensive need, everywhere in evidence, for access to the design skills that are the greatest asset of our profession.

We see an encouraging rise in the number of academic and professional programs and fellowships focused on work in the public interest, including community-based planning, a renewed interest in design-build, and broad-based commitments, both within and outside our discipline, to improving the lives of others. A 2007 *BusinessWeek* poll notes that recent college graduates named *Teach For America* and the *Peace Corps* among the '10 best places' to start a career. In our own arena of civic action we note the emergence of new models of professional practice such as *Public Architecture/The 1% Solution*, *Architecture for Humanity*, and *Design Corps*. We believe it is imperative for programs in architecture to kindle and nurture an ethic of social responsibility and civic engagement in our students --and to make it possible for them to contribute effectively to architectural service in the public interest while they are still in school.

#### **B. Community Responsibility and Society: ACSA Core Values**

Placing community and social responsibility at the center of an education in architecture responds to every core value in our discipline. In specific response to the five values identified by ACSA:

- It provides occasion to **think and act critically**, assessing and analyzing evidence and drawing upon both broad, liberal arts and specialized, professional knowledge bases to address community and societal problems.
- It embodies the very definition of **active lifelong stewardship**, encompassing a necessary understanding of people, place, and context, and integrating the disparate needs of client groups, community, and society.
- Particularly in an active service learning context, but also in a more traditional studio environment, a focus on community and social responsibility provides unique opportunities for students to **lead interdisciplinary design projects ethically, collaboratively, and responsibly**. Working cooperatively with real people (clients and consultants), who are faced with real needs and constraints in real places, it allows an exceptional perspective on the social and professional responsibilities of an architect. It has the potential to give students a unique understanding of the

processes of design and building –and a singular awareness of the importance of access to these processes.

- Particularly in an active service learning context, but also in a more traditional studio environment, a focus on community and social responsibility provides unique opportunities for students to **design and communicate all aspects of building projects in a range of media**, integrating a wide range of theoretical and technical knowledge.
- Finally, a focus on community responsibility and access epitomizes the best of what our profession has to offer society, and the best of what architecture programs can offer students: An opportunity to **work in a nurturing, engaging, safe environment**

### **C. Changes that can be realized through the 2008 Accreditation Review Conference**

#### **Changes to Conditions/ Perspectives:**

- We propose to separate **Perspective 3.1.5** (Architecture Education and Society) into two distinct Perspectives, one focusing on community and social responsibility, and a separate instrument focusing on environmental stewardship. In this manner, we hope to ensure that architecture programs address each of these important issues with requisite care: *“The program must demonstrate that it equips students with an informed understanding of **social problems** and develops their capacity to address these problems with sound architecture and urban design decisions.....)*

#### **Changes to the Student Performance Criteria**

- **A New Criterion: “An understanding of the architect’s responsibility to work in the public interest and improve the quality of life for his/her local and global neighbors, especially those typically without access to the design community.”**
- **Existing Criteria:** Many of the existing criteria speak to relevant associated skills. Among them: 3.13.1/Speaking and Writing, 2/Graphic Skills, 3/Research, 6/Fundamental Design, 7/Collaborative Skills, 12/Human Diversity, 13/Human Behavior, 14/Accessibility, 16/Program Preparation, 27/Client Role, 30/Architectural Practice, 32/Leadership, 34/Ethics. The addition of a service learning component to architecture curricula (See the committee recommendation under item D, below) would touch upon many, if not most, of the remaining SPC. We propose modifications to the language of each to better reflect a focus on the community and social responsibility of our profession.

### **D. Longer-term changes to architectural education that should be made over the next 5–10 years**

**We advocate strongly for the addition of a public interest/ service learning requirement to the curricula of accredited programs in architecture:** The committee advocates a model for this new requirement that incorporates public service as an intrinsic part of academic scholarship, and becomes a fundamental aspect of the curriculum and the student experience. We cite the Tulane Center for Public Service and the AALS Pro-Bono Project as two of several developing models (links to several of these models can be found at the end of this document).

We note that the Intern Development Program of NCARB requires all intern architects to complete 80 hours of professional and community service as a condition of fulfilling internship training. We believe strongly that the foundation for this professional ethic should be laid in school. The committee notes that in addition to the public interest service required by many of the most prestigious law and medical schools in the United States, numerous State Bar Associations have long mandated annual public interest service (typically pro-bono professional service) for attorneys practicing in their jurisdictions. The historical resistance of architects to fulfilling an analogous obligation leaves our own profession shy of meeting the full measure of that fundamental contract with society that is the basis and model for all modern professions.

The committee is well aware that as with all successful enterprises, service learning programs require a substantive and sustained investment of program resources. Among many internal and

external issues, they entail certain levels of professional liability, and require internal administration as well as the careful management of external relationships with local professional communities. Yet we see much to celebrate in the prospect of actively engaging architecture programs in their communities. For students, this type of experience is both enlightening and empowering: Academic lessons take on genuine immediacy, giving students opportunities to work with real clients, real issues, real materials, in real time and in real places. Outreach projects have the potential to fold into university missions, gaining exposure for architecture programs and invaluable good will for the work of universities in their communities. As one definition of academic research, and in the context of increasingly entrepreneurial models of higher education, such outreach efforts also have the potential for becoming the occasion for grant writing and program development.

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## Appendix

The following links (in alphabetical order) provide expanded information on topics referenced above

The AALS Pro Bono Project (2001): <http://www.aals.org/probono/>

Design Corps: <http://www.designcorps.org/>

National Youth Leadership Council: *what is service-learning?* [www.nylc.org](http://www.nylc.org)

Public Architecture/The 1% Solution: <http://www.theonepercent.org/>

Rhode, Deborah, *Learning to Serve* (1999): [www.aals.org/probono/report.html](http://www.aals.org/probono/report.html)

Teach for America: [www.teachforamerica.com](http://www.teachforamerica.com)

Tulane Center for Public Service: <http://cps.tulane.edu/>

University of Pennsylvania College of Law Public Interest Center: <http://www.law.upenn.edu/pic/>

## A (Partial) Bibliography

Anthony, Kathryn H., *Designing for Diversity: Gender Race and Ethnicity in the Architecture Profession*, (University of Illinois Press, 2001)

Architecture for Humanity, Kate Stohr, Cameron Sinclair, eds., *Design Like You Give a Damn: Architectural Responses to Humanitarian Crises*, (Metropolis Books, 2006)

Bell, Bryan, ed., *Good Deeds, Good Design: Community Service through Architecture*, (Princeton Architectural Press, 2004)

Birkeland, Janis, *Design for Sustainability: A Sourcebook of Integrated Eco-logical Solutions*

Darder, Antonia, *Culture and Power in the Classroom: A Critical Foundation for Bicultural Education*, Critical Studies in Education and Culture series (Bergin and Garvey, 1991)

Dean, Andrea O., L. Chua and C. Robinson, *Rural Studio: Samuel Mockbee and an Architecture of Decency*, (Princeton Architectural Press, 2002)

Dean, Andrea Oppenheimer, *Proceed and Be Bold: Rural Studio after Samuel Mockbee* (Princeton Architectural Press, 1999)

Dutton, Thomas A., ed., *Voices in Architectural Education: Cultural Politics and Pedagogy*, Critical Studies in Education and Culture series, (Bergin and Garvey, 1991)

Hardin, Mary, ed. *From the Studio to the Streets: Service-Learning in Architecture and Planning Education* (Stylus Publishing, 2006).

Hayes, Richard W., *The Yale Building Project: The First 40 Years*, (Yale University Press, The Yale School of Architecture, 2007)

Palleroni, Sergio, *Studio at Large: Architecture in the Service of Global Communities*, (University of Washington Press, 2004)

Sutton, Sharon, *Weaving a Tapestry of Resistance: The Places, Power, and Poetry of a Sustainable Society*, Critical Studies in Education and Culture series (Bergin and Garvey, 1996)

Trechsel, Gail, Samuel Mockbee, David Moos, ed., *Samuel Mockbee and the Rural Studio: Community Architecture* (Birmingham Museum of Art, 2003)

## **Final Report Template, ACSA Topic Groups for the Accreditation Review Conference**

### **Topic Area: Global Change**

#### **A. Description of emerging issues within the topic area**

Both contemporary architectural education and practice are experiencing significant change; change which is technological, cultural, political – and most decidedly – global. This change drives the way individuals communicate, solve problems and bring products to market, design included. Innovative delivery methods no longer tie practice to a single city or nation, and cultural differences continually shape the experience of a broader population. Emerging practitioners already work within a global arena where the tolerance and understanding of rich diversity is an asset to be leveraged.

Global change apparently modifies evolutionary trends as it stimulates increasingly complex problems. Massive urbanization in developing nations elevates issues of adequate housing and clean water for the world's urban poor and taxes the ecological balance of world cities. Rarely does the contemporary architect make a decision which does not impact, in some way, another individual elsewhere on the planet. In fact, awareness, management and stewardship of these physical and social resource networks are part of a newly global business practice. Among many trends, outsourcing, virtual communication strategies and regulation differences are all challenges to which emerging professionals must respond to remain relevant in the twenty-first century architectural marketplace. As a result, exposure to methods of inquiry and application must surmount the specifics of technologies. Issues of efficiency, ethics and sustainability (social, physical, and economic) will be increasingly important in this rapidly evolving context.

#### **B. Statement of how issues intersect with or reflect the “core values” statement (attached)**

In a global context which is evolving rapidly and unpredictably, we begin with more general core values and end with those specific to professional practice as it is currently understood.

*V. Work in a nurturing, engaging, safe environment.* The educational environment should, in every way, model exemplary behavior. Schools should “walk the talk” by serving as microcosms of the culture of global practice we hope our students will create. We should place issues in nested contexts—the school, the university, the community, the world.

*IV. Think and act critically.* Specific knowledge, technologies, and social and political alliances shift as we write. The skills that serve our students best are those that help them evaluate and act quickly, ethically and intelligently. Rigorous, interactive, liberal arts classes which allow students to internalize and challenge the world's best thinking will be of greater value than more insular courses specific to our discipline as it exists today.

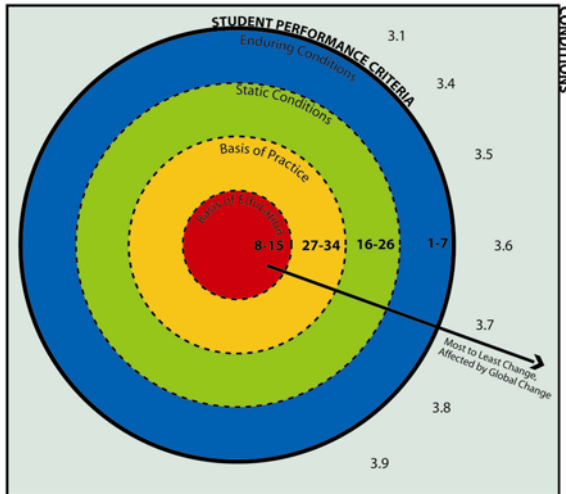
*III. Be active stewards of the environment.* Sustainability teaches us that everything is connected. Architects have a mandate to tend to the health, safety and welfare of our buildings' occupants, but we must enlarge this mandate to include the globally constructed physical and social resource networks connected to our interventions.

*II. Lead interdisciplinary design projects ethically, collaboratively, and responsibly.* Our discipline increasingly recognizes that we touch things beyond the boundaries we originally imagined. We must teach both leadership and humility, and help our students develop skills which will allow them to design and communicate synthetically with emerging knowledge from the social sciences, business, and technologies, among other fields.



*I. Design technical and creative aspects of building projects in appropriate media.* Change is the new status quo. Students should be equipped for life-long learning, as technologies, materials, practices, knowledge and modes of communication change constantly. Rather than teaching technologies as fact, they should be taught as method. Students should be able to place current practices in an interconnected field of global flows.

**C. Changes that can be realized through the 2008 Accreditation Review Conference, including recommended changes to Conditions 1–12 and the Student Performance Criteria**



Most to Least Change, as affected by Global Change

Global change will ripple through every aspect of the accrediting standards. The most profound revisions will affect SPC 8-15, which help students understand the world in which they live. Criteria 27-34, which help students understand and structure practice, will be modified to reflect diverse and emerging cultures of practice. Criteria 16-26, pertaining to the construction of buildings, will change less. Criteria 1-7, while the most important to establishing the expectation of lifelong learning, will change least of all. Finally, the Conditions and Procedures operate as a field in which thoughtful, ethical and assertively global education can occur. Here, schools must demonstrate that they “walk the talk,” and the C&P should reinforce the importance of creating an agile, ethical context for a global future.

**D. Long-term changes to architectural education—changes that should be made over the next 5–10 years, whether through accreditation or other means**

The greatest challenge for contemporary education is to instill in students a philosophy of lifelong learning. It is within this mindset that awareness and appreciation of cultural, economic and geographic diversity find immediate resonance and future promise. Additionally, educational environments must cultivate empathy, bravery and sensitivity within students, creating leaders and stewards of tomorrow’s world who are broadly experienced and entrepreneurially trained.

A successful architectural education positions students to be key players in new business models which become increasingly global and cross-disciplinary by the day. Graduates must be prepared to take on leadership roles in more than the built environment. They will apply their creative, analytical, and synthetic skills to a greater set of societal issues than current practice models may address—policy, business and scientific research as examples. Architectural education must continue to broaden its perspective and expand the definition of problems that architects touch to reflect the scope and diversity of resource networks we impact on a daily basis. We must redefine our calling as architects to improve, through innovation, the health, safety, and welfare of a global community.

**Final Report, ACSA Topic Groups for the Accreditation Review Conference**  
**Topic Area: Integrated Practice and Comprehensive Design**

Submitted by: Terri Meyer Boake, Nancy Cheng, Renée Cheng (chair), Chuck Eastman, David Hinson, Mitra Kanaani, Kevin Klinger, Mahesh Senagala, Ryan Smith

**A. Description of emerging issues within the topic area**

*“Change or Perish”*

Proclaimed before an audience of thousands of architects in 2006, Thom Mayne’s dictum has galvanized our slow-to-move profession into action. Mayne defined survival as adaptation to the environment of Integrated Practice (IP) and managing projects through Building Information Modeling (BIM). Architectural educators would do well to heed Mayne’s call. BIM and IP, combined with the urgent need for evaluative performance data in sustainable design, are creating both a state of crisis and of opportunity for the profession and academy.

BIM refers to an information technology for the design, construction and management of projects in the architecture, engineering, and construction industry (AEC). In BIM, usable information is associated with a geometric model of the project. More importantly, all building data is machine readable, potentially accessible by other applications including analysis and fabrication. BIM is a comprehensive software approach that integrates thousands of powerful tools so that form, construction and performance factors can be considered together. It establishes many relationships between the tools and users by weaving them into the design/production process. The impact of BIM is far reaching because it is a system and an overarching environment for collaboration. Its impact is due to its ability to reconfigure designers’ relationship to each other, to their partners, and to the project development process from conception to construction, facilities management and even disassembly.

IP is a paradigm that recognizes the inherent inefficiencies of current practices, such as design-bid-build and information hiding and instead focuses on the benefits of collaboration throughout design and construction. It aims to redefine and reconfigure design practices to operate within the emerging global context. IP has shown the benefits of integrating the disparate, detached, and disconnected parts of design, engineering and construction practice. It leads to new procedures challenging the profession, related engineering expertise, academia, allied trades, and the construction and fabrication fields, to learn and apply new processes into a unified team system where information, training, and functioning flows with great control and nimbleness. One key to this flow of information is interoperability, which allows the sharing of data in seconds instead of days. In this environment workflow is seamless and more importantly, different kinds of expertise is brought to bear on a project.

**B. Statement of how issues intersect with or reflect the “core values” statement**

Issues raised by IP, primarily intersect with Core Value #2 and #1

#2 Leading interdisciplinary teams, usually centered around the building information model, is an essential part of integrated practice. This has been a fundamental weakness in architectural education to date. We place high priority on teaching methods and process-based metrics in this area .

#1 Integrating technical and construction issues are greatly facilitated by BIM

We would request that the core values add more emphasis on apply realities of architecture practice and comprehensive experience in basic practice areas

**C. Changes that can be realized through the 2008 Accreditation Review Conference**

*Accredited professional program curricula are “simultaneously depleted and overfull.”<sup>1</sup>*

As the inadequacy of current architectural curricula to address urgent needs of today’s profession and society can fairly be characterized as a state of crisis, no adjustment or addition to the NAAB conditions or criteria can solve the essential problem. We don’t recommend adding the courses that would be needed for the simultaneous imperatives of sustainable design and IP, because the “depleted yet overfull” curriculum could very easily get worse. Both these topic areas

are in themselves inherently complex and multivalent. We can see the folly of extending this additive approach to the NAAB, which would easily swell the current NAAB conditions and criteria to double its size and scope.

Instead, we wish to seed experimentation. Faculty teach best when they are passionate about what they teach. Curricula are optimized when faculty trust each other to cover complementary material. Curriculum becomes overfull for two main reasons: 1. Passionate faculty do not trust their colleagues to cover what they believe is important in related areas, so they expand their courses to include it. 2. Passionate faculty believe their course material is extremely important and students need to know it thoroughly and are unwilling to cede time in the curriculum.<sup>ii</sup> As a result, curricular silos emerge and tend to thwart optimal integration of curricula.

Meeting NAAB criteria can exacerbate both of these conditions, creating the impression that demonstrated knowledge achieved in as many classes as possible is necessary to receive accreditation. Obviously, under normal conditions, NAAB criteria serves a vital purpose in ensuring consistent quality of content while providing flexibility of how that content is met. However, during times of flux, or during a state of crisis, a safe zone must be created to encourage curricular innovation. We are in a state of crisis. We need agile, experimental approaches demonstrated by as many experienced educators as possible within an environment that tolerates failures.

We recommend:

- NAAB create a widely advertised public program encouraging programs to receive “model curriculum status”.<sup>iii</sup> Application should include brief narrative of how programs meet the ACSA list of 5 core values.<sup>iv</sup> Approved programs would receive an automatic “bye” on their next scheduled accreditation and would receive regular visits to assess progress and share information.<sup>v</sup> Selected programs should, in their own way, meet the needs of the core competencies while also addressing the vital issues within integrated practice and sustainable design. Risk-taking experimental curricula, including specialized tracks and innovative partnerships with professional and industry affiliates and across disciplines would be required for model programs.
- Freeze current conditions and criteria. Using the NAAB criteria to shape curriculum will have the unfortunate effect of creating a defensive atmosphere as schools struggle to fit it all in. What is needed is a fluid and safe zone for experimentation, while maintaining the standards for which we are collectively responsible.
- Use the ARC as a chance for all the collaterals to rethink the role of education and profession, finding partnerships that break the firewall between IDP and schools and other opportunities.
- The resulting “curriculum experiments” would be reported at the first accreditation visit, as a progress report and a final report, with recommended changes, at the second accreditation review. From the resulting set of experiments and review, the schools of architecture and the NAAB could distill and apply a new structure for addressing their joint responsibility for educating the future generation of architects. The results from the experiments could be shared through symposia and publications by NAAB.
- The one area where we believe the criteria should be altered now are those that relate to the competencies central to architects’ abilities to work effectively within the interdisciplinary teams central to successful integrated practice. Specifically, we believe SPC #7 “Collaborative Skills” and SPC # 32 “Leadership” should be revised to more directly address the development of the skills and competencies involved in working within and leading interdisciplinary project teams.
- The freeze on current conditions should not mean a stop to innovation. During this time, non-model programs should be encouraged to consider revision of portions of their existing curricula as a first step toward innovation (workshop development, temporal shifts in the content delivery over a course of the semester, team-based inquiry, etc).

#### **D. Long-term changes to architectural education**

Future (even current) grammar school students are proficient in Sim City, in manipulating game technology and Second Life. The various BIM tools are also quickly evolving, with both new products and older ones with new capabilities. There is the need for a wide range of exploration to provide

student curriculum to develop the range of representational skills, the cognitive and visual exploration and judgment, and also the constructional and analytic capabilities expected of next generation designers. Thus any dictums regarding appropriate use of different types of software seem premature.

To fully understand the software's capacity and potential, educators cannot take a conservative approach but must encourage adventurous and liberal experimentation with an express purpose of understanding its potentials and problems.

Changes needed for schools to address IP may sometimes differ from those needed for BIM. Response to IP will require developing a shared set of values and a dialogue among the collateral organizations, professional partners and individual schools, with significant change to accreditation and internship. Educators must challenge the very heart of our shared values – the design studio. While design remains central, critically important for studio and other courses are "collaboration core competencies": ability to work successfully in interdisciplinary creative teams; write and speak effectively on professional topics, to be skilled in the arts of negotiation and facilitation; addressing technical issues and the inevitable varied and potentially conflicting values realizing a building. (see Appendix A). IP can lead students through "virtual construction", placing focus on the opportunities created for designers who can rehearse and revise design based on tests of constructability.

## APPENDICES & ENDNOTES

### Appendix A

Following is adapted from a document produced from AIA conversation hosted at Oak Park, October, 2006

Group 5: Renée Cheng, Doug Engebretson, David Hinson, Ted Landsmark, Carol Sakata, Ryan Smith

Note on Appendix A: Though written by the group listed above, the current white paper group (which has some overlap of personnel) largely supports this appendix with the some wording changes.

There is an opportunity for significant change in architectural education. The catalysts for this change are Integrated Practice (IP) and Building Information Modeling (BIM). The goal we seek is the integration of professional practice and professional degree programs. The model we suggest dismantles the traditional firewall between schools and the profession; particularly in the Intern Development Program (IDP) and the Architect Registration Examination (ARE). We discussed specific sections/competencies incorporated into explicit courses but agreed schools would need latitude.

We made a distinction between BIM and IP:

BIM focuses on tools and technology - on techniques of communication and practice

IP is the holistic context in which these tools and technologies are used, many stakeholders interact with the data, the context is collaborative and interdisciplinary

Each has the potential to bring either *evolutionary* change or *revolutionary* change. Each is the inverse of the other depending on if you are looking at change in practice or change in education.

Changes needed for schools to address IP are different than those needed for BIM – this is the difference between revolution and evolution. Response to IP will require developing a shared set of values among the collateral organizations and individual schools, and significant change to accreditation and internship. Educators must challenge the very heart of our shared values – the design studio. While design remains central, critically important for studio and other courses are "collaboration core competencies": ability to work successfully in interdisciplinary creative teams,

write and speak effectively on professional topics, and to be skilled in the arts of negotiation and facilitation.

An important message is “keep our eyes on the prize”: design thinking has enormous value – it is our expertise.

To succeed, schools must:

In context of IP, create holistic, systemic, revolutionary change

- Incorporate parts of IDP and ARE into educational system (number and identity of sections will vary by school)
- Create academic standards valuing "collaboration core competencies"
- Shrink or expand design studio model
- Have support from practice, community partners and construction industry

In context of BIM, evolve day to day curricular experiences

- Develop beyond teaching BIM as a tool, it is a way of thinking about representation, data, performance, construction, etc.
- Have time to experiment, not just respond to market pressure
- Learn from experiments in practice and allied disciplines/industries
- Provide opportunities to integrate evaluative information in design studios such as integration of energy performance, internal simulations of how people use spaces, cost estimation, to provide students opportunities to explore performance-driven design.
- Make room in the curriculum for Pro-practice, Construction Systems, Representation, Design Studio to change or expand
- Have support from software developers, computer science academics

	Architectural Practice	Architectural Education
IP	IP for the profession: is a holistic systemic <b>evolutionary</b> change towards collaborative ways of working inherent to the profession <sup>vi</sup>	IP for the academy: Calls out the inherent weakness in an educational system that values individual designers in a one-on-one studio setting. Will require <b>revolutionary</b> change to accommodate <sup>vii</sup>
BIM	BIM for the profession: Has already caused <b>revolutionary</b> restructuring of day to day professional	BIM for the academy: <b>Evolutionary</b> change adding one more tool to use (that we

	practices <sup>viii</sup>	may not necessarily teach) Poses theoretical issues related to data, form, geometry. Will soon affect Pro-practice, Construction Systems, Representation, Design Studio <sup>ix</sup>
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## Appendix B

If our recommendation for freezing the conditions and criteria and creating experimental program status is not followed, these are possible targeted changes to NAAB student criteria in response to IP and Comprehensive Design. IP requires interdisciplinary teams, collaboration process, measurable outcomes of decisions, etc. BIM confuses students into thinking that technically precise drawings can be created without an understanding of how a building works. Recent experience at Utah with BIM used in a communications class has shown that students are creating information shallow outputs through a very sophisticated piece of information software.

Criteria:

### 7. Collaborative Skills

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

Break this down into specific process type criteria. For example:

*Ability to integrate various interdisciplinary design project team members through collaboration. (Process)*

*Ability to produce measurable outcomes of collaboration through simulation, calculation, or other means of demonstration. (Performance)*

*Ability to collaborate with other students as members of a design team.*

Possibly this criteria should be linked with 23 – Building Systems Integration and 28- Comprehensive Design.

15. Sustainable Design should have measurable outcomes

26 – Technical Documentation should be revised completely to focus on building understanding and demonstration of understanding as opposed to a CD course. The ability to select materials, systems, and components appropriate to a building design seems better than to simply rewrite an outline spec.

Criteria 32 – “Leadership” should perhaps be changed to “Integration”.

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

**Understanding of the need for architects to work to integrate collaboratively in the building design and construction process and on environmental, social, and aesthetic issues in their communities.**

### Appendix C

A good list of references on the issues of IP, used for the ACSA/AIA Cranbrook meeting 2007  
[https://www.acsa-arch.org/conferences/Cranbrook\\_Facilitators.aspx](https://www.acsa-arch.org/conferences/Cranbrook_Facilitators.aspx)

### Reference Materials

The following reference materials provide background on the development of the concept of “integrated practice” as we know it. Documents on a closely related subject, sustainability, are provided to encourage conference participants to draw parallels between changes in architecture education that are required for sustainability as well as to prepare professionals for integrated practice. Lastly, the National Architectural Accrediting Board (NAAB) Conditions for Accreditation serve as a benchmark for alternative models that emerge from this conference. These conditions define the standards for architecture education today

- >>[NAAB Conditions for Accreditation, 2004 Edition](#)
- >>[CURT White Paper on AE Productivity, 2004](#)
- >>[Project Delivery Task Group Report, 2004](#)
- >>[AIA Sustainable Architectural Practice Position Statement, 2005](#)
- >>[Report on Integrated Practice, 2006](#) (full document)
  - >[Introduction and Abstracts](#)
  - >[Change or Perish](#)
  - >[University & Industry Research in Support of BIM](#)
  - >[Changing Business Models, BIM Driven, Integrated Practice](#)
  - >[Roadmap for Integration](#)
  - >[Suggestions for an Integrated Education](#)
  - >[The Twenty-first Century Practitioner](#)
  - >[Applications in Engineering](#)
  - >[Technology, Process, Improvement and Culture Change](#)
  - >[International Developments](#)
  - >[Information for the Facility Life Cycle](#)
- >>[Optimizing the Construction Process: An Implementation Strategy, 2006](#)
  
- >>[A Report on the AIA/AGC Construction Industry Summit, 2006](#)
- >>[Integrated Project Delivery, 2007](#)

### Endnotes

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<sup>i</sup> Edward Allen, respondent comments at the AIA/ACSA Cranbrook Teachers conference on Integrated Practice and the 21st century curriculum. Cranbrook, June 2007

<sup>ii</sup> Turning again to Ed Allen’s excellent insight, he advises us that it is simply impossible to cover any material completely, so faculty must uncover the vital aspects of their subject and inspire the students to learn the rest on their own. Another way of saying this, using the parlance of Josef

Albers, “actual facts” embedded within each topic area must be highlighted amidst the huge volume of “factual facts”.

<sup>iii</sup> Criteria for this program would be based on past history of strong accreditation recommendations and potential for proposed curricular change to address urgent issues in the profession.

<sup>iv</sup> Development of ACSA Core Values, draft issued 6/26/07

Graduates of professional architecture programs should be able to :

- I. Design technical and creative aspects of building projects in appropriate media
- II Lead interdisciplinary design projects ethically, collaboratively, and responsibly
- III Be active stewards of the environment
- IV Think and act critically
- V Work in a nurturing, engaging, safe environment

<sup>v</sup> These visits would be similar to accreditation visits but with the purpose of measuring the experimental curriculum to identify best principles and practices that might be transferable to other schools rather than to judge accreditation. Faculty and administrator leaders of model programs would have the opportunity to meet and share information.

<sup>vi</sup> This is not to downplay the significant liability issues that will need to be resolved as a result of IP, however, the essential tenets of collaborative work have long been established. Many in the profession would disagree with calling this merely evolutionary, however, from the educators point of view, it is yet another version of contractual format that will be worked out by stakeholders.

<sup>vii</sup> IP will cause revolutionary change for the academy. Collaborative practices are in place in many excellent curricula but they tend to be collaborations between architecture students with similar levels of expertise. The only NAAB criteria related to this specifically names collaboration between architecture students rather than interdisciplinary collaboration. There are many educators who see this as an opportunity to challenge the dominant studio model cultivating individual designers. We need to expand greatly the current NAAB criteria **12.6 “Collaborative Skills; Ability to identify and assume divergent roles that maximize individual talents, and to cooperate with other students when working as members of a design team and in other settings”**

<sup>viii</sup> BIM is causing a revolution in firms. A large firm that we know introduced BIM to their practice 4 years ago and found that a 20 million dollar project that would traditionally require 18 people runs optimally with 2.5 people on BIM. It’s important to note that those 2.5 people all need to be skilled in BIM and also skilled as architects - this poses an urgent question for educators on how to prepare graduates for a profession for which the newly graduated have little or no role.

<sup>ix</sup> From what we’ve seen in schools, BIM is just another tool - and a clunky one at that. There are interesting theoretical issues that are just now beginning to get some traction, and we expect soon BIM will be included in a wide range of courses.



**Final Report, ACSA Topic Groups for the Accreditation Review Conference**  
Topic Area: **Interiors**

**A. Description of emerging issues regarding topic:**

**A.1 Recommendation: Interior Architecture Accreditation**

The primary concern of this ACSA workgroup is the growing number of Interior Architecture programs whose curricula are very already supportive of NAAB conditions and student performance criteria, but which are not currently accreditable because of degree titles and other minor issues. These programs focus on that part of the built environment, which is the bulk of most architectural practices. Compared to architecture programs, they focus more on the indoor environment and less on structure and site, but otherwise look very much like NAAB programs.

The workgroup proposes that ACSA and NAAB expand their memberships to include these Interior Architecture programs. Specifically we propose that NAAB recognize degree titles which include "Interior Architecture" and that it develop new student performance criteria that recognizes the particular strengths of these programs in order that the accreditation process may begin as soon as possible. NAAB accredited Interior Architecture programs may be linked with existing architecture programs, or be independent programs that are not affiliated with pre-existing architecture programs. Under this model a school could have a professional Interior Architecture program without having an Architecture program.

This NAAB accreditation model for Interior Architecture allows for flexibility in the home school or college for the Interior Architecture degree. For example, a NAAB accredited Interior Architecture program could be independent, or it could be affiliated with art, architecture, human ecology, or engineering departments. The recommendation proposes retention of a NAAB core curriculum shared with the professional degrees in architecture, and also propose separate and distinct criteria specific to Interior Architecture.

In the near future NAAB should be the accrediting body that recognizes both Interior Architecture and Architecture as related but distinct domains of education and practice. For example ABET (Accrediting Board for Engineering and Technology) serves as an umbrella accrediting board for disciplines with a shared body of knowledge, but with distinct knowledge in specialized tracks. ABET's mission "adapts to emerging technologies, changing disciplines and blurring boundaries" and supports "evolving educational paradigms (method of delivery and types of institutions)" ([www.abet.org](http://www.abet.org)).

**A.2 Urgency**

"The greenest building is the one that is already built." This quote on the AIA website points to the urgency of educating a new generation of architecture professionals to work within existing buildings. At least sixty percent of the scope of activity in today's architecture practice concerns working within existing buildings. No building is ever truly complete because the interior environment evolves over the life of a building. For those firms that have embraced Interior Architecture, the interior domain has become a significant and steady source of work. Most Architecture graduates are not explicitly educated for this kind of practice. Indeed, Interior Architecture is a key component of two other ACSA topic groups – Sustainability and Preservation.

**B. Statement of how issues intersect with or reflect the "core values" statement**

**Core Value I:** Interior Architecture curricula will provide students with ample opportunities to design technical and creative aspects of buildings. This new Interior Architecture accreditation will effectively equip future design professionals for projects that they will encounter in practice. The AIA has long recognized the practice of Interior Architecture as a discrete type of practice, as evidenced by national and regional award programs for many decades. The public sector is increasingly aware of the value of Interior Architecture, in particular recognizing the discipline's

wide variety of functional and structural concerns, code compliance, finishes, and construction specialties that must be considered in addition to FF&E.

**Core Value II:** Interior Architects can lead interdisciplinary projects responsibly and ethically. NAAB accredited Interior Architecture programs share a body of knowledge with Architecture, and generate a specific body of knowledge related to synthesizing the creation of space and place through advanced study of human behavior, indoor environmental systems and quality, phenomenology, theory, materiality, mediating and shaping space through material, light and structure.

**Core Value III:** Interior Architecture, by virtue of its preservation of building envelopes and their embedded energy, naturally encourages the stewardship of the environment.

**Core Value IV:** Students of Interior Architecture naturally think and act critically when assessing needs and providing programmed solutions for the human activities that must take place in an interior. The skills necessary to fulfill core values 1-3 are enabled by the ability to think and act critically.

**Cover Value V:** The affiliation of Interior Architecture with NAAB and ACSA is an important collaboration aimed at promoting a holistic approach to design of interior and exterior space.

### **C. Changes for 2008 Accreditation Review Conference**

#### **C.1 Recommendation for changes to Conditions 1-12 of NAAB accreditation**

*Action item 1:* The committee recommends that NAAB should begin accrediting professional Interior Architecture programs, specifically the Bachelor of Interior Architecture and the Master of Interior Architecture.

*Action item 2:* The committee recommends that ACSA accept NAAB accredited Interior Architecture programs as full members.

#### **C.2. Recommendation for changes to student performance criteria**

*Action item 3:* This topic group recommends that NAAB appoint a committee to determine specific criteria for Interior Architecture in addition to existing NAAB requirements. These would require competency in structural systems and expertise in the qualities of the interior environment.

### **D. Long term challenges to architectural education – changes that should be made over the next 5-10 years**

NAAB should pro-actively re-establish the profession's management of the term "architect" by accrediting the education of an Interior Architect. This NAAB stewardship is important to promoting design excellence in Interior Architecture pedagogy in particular because there are other organizations already claiming ownership of this term. The study of structures must be integral to a professional Interior Architecture curriculum. The study of Interior Architecture encourages the nurturing of inherently different yet equally strong sensibilities within architectural education.

### **Conclusion**

There are already several approaches to the question of educating students to make manifest the special sensibilities and skills of an interior architect. We see Architecture and Interior Architecture as mutually supportive and distinct, in the same way that programs such as Electrical Engineering and Civil Engineering co-exist. Each discipline embodies related but distinct fields of knowledge, skill, and sensibility.

#### **Interior Architecture topic group members:**

**Bill Barrett**, Association of Independent Colleges  
of Art and Design

**Brian Kernaghan**, Rhode Island School of Design

**Vini Nathan**, Philadelphia University

**Anders Nereim**, School of Art Institute of Chicago

**Rebecca O'Neal Dagg**, Auburn University

**Stephen Schreiber**, University of Massachusetts  
Amherst

**Rusty Smith**, Auburn University

**Final Report Template, ACSA Topic Groups for the Accreditation Review Conference**

Topic Area: **Internship**

**A. Description of emerging issues within the topic area**

IDP is required as part of the licensure as it a NAAB accredited degree in virtually every jurisdiction. As a result, it is crucial for graduates to be enrolled in the program at the earliest opportunity, otherwise they run the serious risk of missing out on the opportunity to utilize IDP for their early professional development and they may lose time on their way toward licensure.

**B. Statement of how issues intersect with or reflect the “core values” statement**

Internship engages all of the core values articulated by ACSA through the lens of the students’ or graduates’ practice based experience both during and after a degree has been received.

**C. Changes that can be realized through the 2008 Accreditation Review Conference, including recommended changes to Conditions 1–12 and the Student Performance Criteria**

**3.1.3 Architectural Education and Registration**

(Under the Perspectives part – work this in)

Programs shall assure that eligible students enrolled in NAAB accredited professional degree programs are also enrolled in IDP at the earliest opportunity - by the beginning of fourth year for BArch students and by the beginning of second year for students in MArch and DArch programs.

***Current language in Criterion #31: Professional Development***

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

**Proposed language: IDP and Professional Development**

Understand the role of the Intern Development Program (IDP) in obtaining licensure and registration and the mutual rights and responsibilities of interns and employers.

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At the November, 2006 Board of Directors meeting of ACSA, the following motion was passed unanimously:

The Board of Directors of the Association of Collegiate Schools of Architecture (ACSA) expresses its support for the Intern Development Program (IDP) as an important vehicle for structuring the professional experience and development of students as emerging professionals. It is in the best interest of students in NAAB-accredited degree programs to enroll in IDP at the earliest opportunity. Toward that end, the ACSA Board of Directors endorses an initiative to defer fees for entering IDP.

**D. Long-term changes to architectural education—changes that should be made over the next 5–10 years, whether through accreditation or other means**

N/A with regard to internship.

## **ACSA Topic Groups for the Accreditation Review Conference**

### **Topic Area: Leadership**

#### **A. Description of emerging issues within the topic area.**

The topic of 'leadership' in architectural education and practice has become a central one in recent years. On one hand leadership is connected to the business aspects of practice (leading a team, implementing a vision, communications, etc.), and on the other it suggests that the profession has an obligation to play a role in the realms of politics, society, and ethics. Leadership implies building a shared vision, or, as Heifetz states, leadership also involves "mobilizing people to tackle tough problems." Leadership means being relevant and effective, or having the skills that can effect a vision.

There are many kinds of leadership (encouraging, inspiring, enabling, collaborating, leading, etc.). We all possess leadership attributes to one degree or another, and leadership skills can be taught and developed. Architectural educators expect that students leaving schools of architecture are prepared to engage the many 'tough problems' facing the architectural profession (such as social issues, sustainability, global urbanization, technical innovation, construction management, etc.). However, the profession continues to struggle with the need for individual and collective leadership in many key and emerging areas; this is evident in the fact that many tasks previously performed by architects are now performed by other disciplines.

The profession, and the buildings it produces have come under increasing public scrutiny, as general interest in the quality of environments, particularly urban, intensifies. Beyond, questions of design and practice, there are other key leadership areas that affect architectural education, these include: the kinds of leadership provided by both students and faculty in a school (community outreach, student initiatives, etc.), the role of a school in its community and institution, and the leadership qualities necessary for administrators.

#### **B. Statement of how issues intersect with or reflect the "core values" statement.**

The notion of leadership impacts on all of the five "core values" of architectural education identified by the ACSA, in particular the second core value (listed below).

- I. Design technical and creative aspects of building projects in appropriate media.
- II. Lead interdisciplinary design projects ethically, collaboratively, and responsibly.
- III. Be active stewards of the environment.
- IV. Think and act critically.
- V. Work in a nurturing, engaging, safe environment.

#### **C. Changes that can be realized through the 2008 Accreditation Review Process.**

It is evident from reading the current "NAAB Conditions for Accreditation," that leadership is addressed in numerous criteria, particularly in Section 3.1 (Program Response to the NAAB Perspectives) and Section 3.13 (Student Performance Criteria). It may be suggested that leadership is over represented in the NAAB Conditions, and is too diffuse (the wording of some of the criteria tends to be reactionary or passive).

The sections of the Conditions that address leadership most directly are Section 3.1.1 (Architectural Education and the Student) which states that a school "must demonstrate that it provides support and encouragement for students to assume leadership roles in school and later in the profession..." and, Student Performance Criteria 32, Leadership which reads as:

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

Currently, in many schools of architecture, leadership will be addressed as part of a professional practice course. Rather, than adding more criteria it would seem that there needs to be clarification of expectations (and deliverables). Therefore, we propose the elimination of Student Performance Criteria 7, Collaborative Skills, and folding the contents of it into a reworked version of SPC 32, Leadership. We also propose that the SPC 32, Leadership be altered from an “understanding” to an “ability” criteria. The proposed rewording of the criteria would be as follows:

**Student Performance Criteria 32, Leadership**

*Ability* to provide individual, interdisciplinary, and organizational leadership in addressing contemporary architectural challenges, and to work in collaboration with other students as members of design teams.

**D. Long-term changes in architectural education.**

The architectural profession, and its educational system, face many significant challenges. Skilled and effective leadership will be required to address these, and to regain credibility with clients, the public, and other participants in the construction process. Increasingly, the teaching and developing of effective leadership skills will need to be integrated into architectural curricula.

Select Bibliography

- R.A. Heifetz, *Leadership Without Easy Answers* (Cambridge, Mass.: The Belknap Press of Harvard University Press, 1994).
- D. Orr, “What is Education For? Six Myths About the Foundations of Modern Education, and Six New Principles to Replace Them,” *In Context* #27, (Winter 1991).

Task Force:

- John Brown (University of Calgary)
- Michael Everts (Montana State University)
- Rick Haldenby (University of Waterloo)
- Ted Landsmark (Boston Architectural College)
- Graham Livesey (University of Calgary)
- John Maudlin-Jeronimo (University of Maryland)
- Rachel McCann (Mississippi State University)
- Patricia O’Leary (University of Colorado at Denver)

**Final Report, ACSA Topic Groups for the Accreditation Review Conference**  
Topic Area: **Sustainability**

**A. Description of emerging issues within the topic area**

Sustainability is undeniably a hot and reflection-inspiring topic in the design professions and design education. The word sustainability is ubiquitous in conferences, project descriptions, and architectural curricula. It is unclear, however, the extent to which individual and institutional understanding of this amazingly vague and slippery term allows it to function as a viable umbrella under which to seek solutions to developing and pressing issues such as net-zero-energy buildings, carbon-neutral buildings, ever-reducing stocks of fossil fuels, and the need for truly sustainable (no negative environmental impact) buildings and communities. The 2030 Challenge (with climate change as the focus) has caught the near unanimous attention and acclamation of the design professions—while at the same time relatively few architecture programs have formally committed to the directly related 2010 Imperative. This is not an encouraging juxtaposition of voiced concern and concrete action.

The current NAAB accreditation criteria include a “sustainability” criterion. The general consensus of the topic group, based upon experiences in diverse programs and with the accreditation process, is that this explicit (yet singular) concern for the environment has not been successful in elevating serious and meaningful concern for the environmental impacts of building design within academia. It could easily be argued that external influences, such as Architecture 2030, have been a more influential and powerful motivator than the existing NAAB criterion. The topic group strongly believes that environmental issues must be given a more central and unavoidable position within architectural education if architecture is to be part of the solution to global warming and environmental degradation—and not one of the key causes of such problems.

**B. Statement of how issues intersect with or reflect the “core values” statement**

The issues addressed and being brought forward by the sustainability topic group deal squarely with Core Values I-IV, with a primary emphasis on Value III (active stewards of the environment). Sustainability, as seen by the topic group, is the vehicle by which concern for the environment (both natural and built) can truly be made a core value of architectural education. The topic group strongly supports Core Value III, believes that it is not being addressed adequately in many current architecture programs (considering the critical and rapidly escalating demands made by global warming and non-renewable resource consumption), and further believes that a substantial strengthening of the accreditation criteria related to sustainability can be a viable route to ensuring that more architecture graduates are prepared to be active and effective stewards of the environment. Core Values I, II, and IV will be positively impacted by better understanding and incorporation of sustainability in architectural curricula—leading to graduates who are better able to deal with the ethics of environmental responsiveness, better able to incorporate sustainability concerns into comprehensive design solutions, and better able to critically address the sometimes complex and seemingly competing demands of function, aesthetics, and performance.

**C. Changes that can be realized through the 2008 Accreditation Review Conference, including recommended changes to Conditions 1–12 and the Student Performance Criteria**

The sustainability topic group involved a large and diverse group of educators and practitioners located throughout North America (see below for a list of members). The group was virtually

unanimous in agreeing that the role of sustainability in architecture program accreditation must be substantially strengthened. If it were not likely to be summarily rejected as a sign of irrational

exuberance, the group would have considered recommending that sustainability (including a substantive knowledge of environmental consequences) be incorporated into most of the student and program criteria and conditions. Suspecting that this would not be acceptable to those with other areas of concern to promote and protect, the topic group puts forth the more limited (but still extensive) recommendations for revisions to the NAAB criteria presented in Annex A.

The recommendations add text to NAAB Condition 3 and address 14 existing Student Performance Criteria. They also recommend addition of a new SPC, "Sustainable Design Principles," and a new subsection of Condition 3, titled "Architectural Education and Climate Change."

#### **D. Long-term changes to architectural education—changes that should be made over the next 5–10 years, whether through accreditation or other means**

The topic group views the NAAB criteria as a viable means of elevating the status of sustainability among architecture programs resistant to placing environmental concerns in the forefront of their curricula. The accreditation criteria may thus be seen as the equivalent of code minimums necessary for the collective good of the profession and society. There are many other activities that ACSA should engage in to support programs and individuals who are now doing more than the minimum and to infuse current and future students with a sense of environmental urgency and ability. These opportunities include:

- Doing whatever it necessary to keep sustainability in the foreground of architectural education (including actively promoting conference tracks, regional workshops, journal articles and theme issues, an expert speakers program, monographs, and the like)
- Work with like-minded groups (such as Architecture 2030, the AIA, SBSE, ASES, ASHRAE) to support external sustainability and climate change initiatives.
- Promote the development of design tools to permit the rationalization of performance analysis for sustainability and climate change mitigation.

#### **Members of the Sustainability Topic Group**

Leonard Bachman, University of Houston  
Terri Meyer Boake, University of Waterloo  
Bill Burke, Pacific Energy Center  
Vincent Canizaro, University of Texas-San Antonio  
Jean Gardner, Parsons School of Design  
Walter Grondzik, Ball State University (*Topic Group Chair*)  
Mary Guzowski, University of Minnesota  
Bruce Haglund, University of Idaho  
Keelan Kaiser, Judson College (*ACSA Liaison to Topic Group*)  
Mitra Kanaani, NewSchool of Architecture and Design  
Robert Koester, Ball State University  
Alison Kwok, University of Oregon  
Vivian Loftness, Carnegie Mellon University  
Margot McDonald, Cal Poly San Luis Obispo  
Edward Orlowski, Lawrence Technological University  
John Quale, University of Virginia  
James Wasley, University of Wisconsin-Milwaukee

## **Annex A: Proposed Changes to NAAB Accreditation Criteria and Conditions**

### **3.1.4 Architectural Education and the Profession**

*Add: Here the contexts of cultural diversity, client expectations, ecology and environment, regulatory demands, and an expanding knowledge base are asserted as fundamental elements for which the program prepares students.*

### **3.1.5 Architectural Education and Society**

*Add: Here the ability to deal with social and environmental problems (including sustainability) is demonstrated as a core program value in the context of preparing students to make sound architectural and urban design decisions.*

*Add a new condition:*

### **3.1.6 Architectural Education and Climate Change**

*The program must demonstrate that it equips students with an informed understanding of ecological and environmental problems in the built environment and develops their capacity to address these problems with environmentally-responsive architecture and urban design decisions. In the APR, the accredited degree program may cover such issues as how students gain an understanding of ecologically-sound architecture, including the complex interactions of built and natural environments; the emphasis given to generating knowledge that can mitigate social and environmental problems; how students gain an understanding of the ethical implications of decisions involving the built environment; and how a climate of global awareness is nurtured, including a commitment to meeting the goals of the Architecture 2030 Challenge.*

### **3.8 Physical Resources**

*Add: The operation of the facility(s) used by the program must demonstrate a clear commitment to conservation of resources (including energy, water, and materials) and concern for the quality of the interior environment.*

*Add a Preamble to the NAAB Student Criteria:*

*Architects in the 21st century will be expected take a leadership role in stewardship of our global environment. To accomplish this goal students of architecture should find, infused through their education, a philosophy that acknowledges the connected principles of ecology, social justice, and economics. This philosophy should be substantiated by providing future architects with the technical knowledge necessary for precise, expert, and wise architectural action.*

### **Modify: 4. Research Skills**

*Ability to gather, assess, record, and apply relevant information in architectural coursework in order to address the environmental, economic, and social impacts of buildings and sites.*

### **Modify: 6. Fundamental Design Skills**

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

### **Modify: 7. Collaborative Skills**

*Ability to work on interdisciplinary design teams in collaboration with professionals from other disciplines to successfully complete integrated design projects*

### **Modify: 8. Western Traditions**

*Understanding of the Western architectural canons and traditions in architecture, landscape, and urban design (including indigenous and vernacular examples), as well as the climatic, ecological, technological, socioeconomic, health, and other cultural factors that have shaped and sustained them in the context of their natural resource base.*



**Modify: 9. Non-Western Traditions**

*Understanding of parallel and divergent canons and traditions of architecture, landscape, and urban design in the non-Western world (including indigenous and vernacular examples) in terms of their climatic, ecological, technological, socioeconomic, health, and other cultural factors that have shaped and sustained them in the context of their natural resource base.*

**Modify: 12. Human Behavior**

*Understanding of the theories and methods of inquiry that seek to clarify the relationship(s) between human behaviors, their physical settings, and the natural environment.*

**Add a new criterion: xx. Sustainable Design Principles**

*Understanding of the principles of sustainable design, including: embodied energy, energy efficiency, indoor air quality, bioclimatic design, solar geometry, passive heating and cooling, daylighting, carbon-neutral design, as well as the application of appropriate performance assessment tools.*

**Modify: 15. Sustainable Design**

*Ability to apply the principles of sustainable design to produce a range of projects that conserve natural and built resources, provide healthy environments for occupants/users, respect the rights of affected parties not directly involved in the project, and reduce the impacts of building construction and operations on future generations.*

**Modify: 19. Environmental Systems**

*Ability to select, configure, and deploy appropriate environmental control systems in response to specific climate, site, and occupancy criteria, as well as the ability to evaluate these systems in the context of sustainable design criteria.*

**Modify: 21. Building Envelope Systems**

*Understanding of the basic principles that permit appropriate application of building envelope materials and assemblies relative to fundamental performance, aesthetics, durability, and energy and material resources.*

**Modify: 22. Building Service Systems**

*Understanding of the basic principles that permit appropriate application of plumbing, electrical, vertical transportation, communication, security, and fire protection systems relative to fundamental performance, aesthetics, durability, and energy and material resources.*

**Modify: 23. Building Systems Integration**

*Ability to select, evaluate, and conceptually integrate structural systems, building envelope systems, passive environmental control systems, and active environmental control systems into a cohesive building design project where design intent, criteria, and projected performance are clearly enunciated.*

**Modify: 25. Construction Cost Control and Project Value**

*Understanding of the fundamentals of building acquisition costs, operational costs, externalized costs, and construction estimating with an emphasis on life-cycle cost accounting.*

**Modify: 27. Client Role in Architecture**

*Understanding of the responsibility of the architect to elicit, understand, and resolve the needs of the client, owner, and user—as well as to educate the client on the importance of implementing sustainable design principles.*

**Modify: 28. Comprehensive Design**

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

**Modify: 30. Architectural Practice**

Understanding of the basic principles and legal aspects of practice organization, financial management, business planning, time and project management, risk mitigation, and mediation and arbitration; understanding of trends that affect practice, *including energy efficiency, green design, sustainability, regenerative design, design to reduce global warming, integrated design, globalization, outsourcing, alternative project delivery models, expanding practice settings, and diversity.*

**Modify: 32. Leadership**

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

**Final Report Template, ACSA Topic Groups for the Accreditation Review Conference**  
Topic Area: **Urban Design**

**A. Description of emerging issues within the topic area**

An informal group of faculty from ACSA schools has been voluntarily discussing adding issues of urban design to the NAAB core values and accreditation criteria. The group generally feels that urban design is an under-taught subject and an under-developed sensibility in architectural education and practice. The singular building is typically seen as the design digit of the built environment and the unit of urban development. This focus on the individual building shortchanges our students, whose designs often fail to adequately engage their settings and cultural context. And in design culture, the architect is often romanticized as a solo artist. This notion has become less and less accurate in an era when projects and their design teams, sites and cities are all becoming larger and more complex.

A second concern is prompted by either the slow decay or the explosive growth that challenges cities here and abroad. In either case, the physical, social, and institutional infrastructures are often beset with obsolescence, inequality, poverty, disease, and social dislocation. Many American cities are plagued with depopulation, disinvestment and dysfunction, while their suburbs have mushroomed and prospered. If the population and density of U.S. cities has tended to decline, worldwide there's been a tripling of people living in cities since 1950, with over half the world's population now living in urbanized areas. By 2030 two-thirds are expected to live in megacities – of fifteen and twenty million inhabitants – in which our future graduates will do more and more work, much of it at the urban scale. The U.N. predicts the need for 350 million new housing units in the next 10 years and the state of the planet depends on the urban models on which this growth is built.

A third reason for advocating change in accreditation criteria is the energy and ecological crisis in our carbon-based economy, with the growing threat of environmental degradation and global climate change. Whatever climate predictions or whatever causes one chooses to believe, it is clear that the world is facing a difficult set of high-stake issues and trade-offs. Because cities are inherently more energy-efficient on a per capita basis than low-density suburban and exurban sprawl, urbanism and urban design will play a major role in sustainability strategies.

Today's students (and faculty) need to be aware of and understand these issues and their role in them. They need to become more sensitized to the nature of cities and the culture of community, with the collateral issues of diversity, social and environmental equity, and citizen participation, as well as the impacts of technology on urbanism. Architects, whether designing buildings in cities or acting as urban designers, possess skills and talents that arguably have never been more critical or in more demand than now. Their professional education needs to better prepare them for the environmental, economic, political, and social problems and opportunities that come with the development and redevelopment of cities.

**B. Statement of how issues intersect with or reflect the “core values” statement**

We propose adding some text to items II and III, shown in all CAPS below:

*II Lead interdisciplinary design projects ethically, collaboratively, and responsibly*

- Know social, professional responsibilities Understand business of building
- Collaborate and negotiate with clients, PROJECT TEAM MEMBERS FROM OTHER DISCIPLINES, and consultants in design process
- Create building designs with well integrated systems
- HANDLE URBAN DESIGN ISSUES AND PROJECTS
- Able to assess work quality

*III Be active stewards of the environment*

- Understand people, place, context
- Integrate disparate needs of client, USERS, community AND society

**C. Changes that can be realized through the 2008 Accreditation Review Conference, including recommended changes to Conditions 1–12 and the Student Performance Criteria**

The members of the group propose changes to the student performance criteria as follows. The proposed additional language is shown all upper case:

*Criterion # 6 - Fundamental Design Skills*

"Ability to use basic architectural principles in the design of buildings, GROUPS OF BUILDINGS, AND PUBLIC SPACES IN A RANGE OF SCALES, SETTINGS AND DENSITIES FROM URBAN TO RURAL.

*Criterion #13 – Human Diversity*

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

*Criterion #27 – Client Role in Architecture*

"Understanding of the responsibility of the architect to elicit, understand, and resolve the needs of the client, owner and user, WITH RESPECT FOR THE PUBLIC AND COMMUNITY DOMAINS."

*Criterion #32 - Leadership*

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

**D. Long-term changes to architectural education—changes that should be made over the next 5–10 years, whether through accreditation or other means**

Long term we recommend a **required** urban design studio, or at least one that includes a large-scale urban project. Short of this would be the requirement that at least one studio option in urban design be made available to all students at some point in their curriculum. Also, architecture history courses, which are already indirectly required by NAAB criteria to include urban design, should deepen and broaden their efforts to teach the history of cities and urban design. And issues of urban ecology and sustainable urbanism need to be more pervasive in the curriculum.

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