A position paper prepared by the Architecture + Construction Alliance (A+CA)

Mission Statement: *The Mission of the Architecture + Construction Alliance is to facilitate collaboration among schools that are committed to fostering interdisciplinary educational and research efforts between the fields of architecture and construction, and to engage leading professionals and educators in support of these efforts.*

Concept

There is a need for integration of practice between architects, constructors, and allied disciplines, and is why interdisciplinary pedagogy should be a required element for the National Architectural Accrediting Board (NAAB) and the American Council for Construction Education (ACCE) accreditation of professional programs.

In the NAAB 2014 Conditions for Accreditation and the ACCE Document 103-2016 Standards and Criteria for Accreditation of Post Secondary Construction, educational achievement calls for the ability to work in collaboration with others and in interdisciplinary teams to successfully complete design projects. The body of A+CA affiliated schools suggests that the integration and collaboration of allied disciplines is fundamental to the design and construction process – a modality that is emerging as the new status quo in practice – and therefore, interdisciplinary collaboration should be a core tenant of the realms of critical thinking and integrated building practice.

The A+CA agrees with the statement from the Association of Collegiate Schools of Architecture (ACSA) Report on the 2013 Accreditation Review Conference, "We believe better ways of satisfying the need for collaboration must be found, taking examples from other disciplines, including business or affiliated design disciplines." Those programs that have proximity to affiliated disciplines of design or construction should take advantage of that proximity, but other programs without such proximity will have to find other ways to bring collaborative skills and experiences to their students.

Rationale & Context

The transition to team based project delivery provides the highest value for the client and society, thus requiring true collaborative skills.

The United States is poised to experience a decade of urban growth (reformation), building renovation, and new construction. The US Department of Labor predicts 13% growth in the overall construction industry between 2014 and 2024. The demand for graduates from architectural and construction programs will increase proportionally.

Virtual design and construction is rapidly evolving to deliver on the promise to revolutionize design and construction methods as Building Information Modeling (BIM) and numerous 'plug-ins' for detailed energy, structural, thermal, luminous, aural, occupation, and conflict analysis are presently in use in architectural practice. From the construction standpoint, estimating, production planning, and facilities operations and management are being required by municipal and government clients, yet these tools are still emerging in educational environments.

Culturally, our clients' expectation for quality in high performance environments that are on-time, long-lasting, energy efficient, require low maintenance, and low operating costs, suggests a demand for

innovation in form, smart materials, program flexibility, much higher expectation in design integration, and a team effort in terms of informing clients of reasonable expectations. A culture of professional collaboration is necessary, among the many consultants/experts needed to provide high quality services to clients. To adequately prepare students for the profession, we are obligated to both educate students to the realities of true collaboration and to engage them in its practice.

Correspondingly, the capacity to propose, analyze, evaluate, and revise sophisticated proposals and to transmit that information amongst consultants, design professionals, clients, contractors, suppliers, and fabricators is nominally present with commonly available computing technology. The question is not "what can we do, but rather what should we do?" And, how does what we produce inspire and add value to the lives of the inhabitants?

Design and construction in the 21st Century requires investment and collaboration from a variety of disciplinary experts. The underpinnings of any collaborative or integrative methodology are nested in the education of future professional leaders. For architects and constructors, it is in the core pedagogy that interdisciplinary modes of collaborations are necessary.

The expectations for collaboration skills in our professions are high and not only should they be met, but we should be leading the way in terms of what can be achieved rather than lagging behind the expectation. This perspective must be nurtured and leveraged in the schools and requires a collaborative effort from educational leaders, the profession, and those charged with assessing the preparation of future professionals.

Strategies for Implementation

In order to prepare graduates for the challenges of the industry, accreditation bodies must see that programs incorporate the following strategies.

1. Immerse students in an environment for learning the skills necessary for successful collaboration.
2. Provide students with an ability to apply methods that address the changes in the design and delivery of increasingly complex projects and their role as collaborators in an integrated project.
3. Immerse students in integrated project delivery, emerging and alternative project delivery methods and documents, as well as traditional methods and documents.
4. Assure that all accredited programs demonstrate a commitment to collaboration and interdisciplinary coordination between allied disciplines in their vision and mission statements, and in their strategic plans.

In conclusion, the A+CA is interested in working with the NAAB and ACCE to develop: methods for guiding schools in terms of student performance targets; strategies for faculty and student engagement; and measurement protocols to evaluate and to provide evidence success.