**ARCH 8822: Design + Research Studio I • syllabus**

*instructors: Frederick Pearsall with Jason Brown*

**Fall Term 2017 • Mondays + Wednesdays 1:35-6:35; Fridays 3-5**

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**Course Description**

Increasingly architecture’s profession and discipline both pursue design research and its twin objectives: “the formulation and validation of models and theories about design phenomena (people, product, knowledge/methods/tools, organization, micro-economy, and macro-economy), and the development and validation of support founded on these models and theories, in order to improve design practice…” (Blessing, p. 5). This studio is designed to engage both of them as it introduces you to methods of design research in theory (readings + dialogue) and its applications (design) that are rigorous, marketable, and enjoyable, building on the instructors’ research expertise and your related interests and skills to develop a new line of research relating to the quotes above and following research problem and questions:

**Research Problem:** Climate change continues to put into question development patterns of built environments that excessively exploit energy and resources and negatively impact the social and ecological systems that bound them. Technology is invoked as the source of this environmental degradation and also its hope for remedies, but current architectural practice is limited to sustainability and energy-engineering performance “scorecards” while form and aesthetics are treated as separate concerns. This ignores the generative potential of flows of energy and matter across social and ecological systems’ boundaries and their causal powers in the genesis of form and aesthetics, and misses the opportunity for more-comprehensive, -integrated, and ecologically-based definitions of “high performance” in design.

**Research Question(s):** Are architects’ current energy and resource practices that try to mitigate the negative effects of certain unsustainable practices the best approach to environmental performance or can our relationship to these environments be re-imagined and transformed positively through design? Rather than buildings as self-referential, “closed systems,” can we re-think form and aesthetics in relation to energy and matter to better engage each other and their surrounding environmental flows? Can we re-conceive and -visualize them to be more open and reactive to and co-productive of these surrounding environments and processes of fluid/ change—natural + human-constructed—and expand their “high performance” to also include the aesthetics and ‘lived experience’ of inhabitants and the adaptability of these systems across space-time scales?

**Research Program:** After analyzing sites on Tech’s central campus and visualizing their diverse environmental variables inventively, teams of 2-3 will choose one and develop new principles to support the design of new types of democratic space of ‘heightened performance’ at strategic intersections of social and natural flows between buildings. These will ‘mesh’ together place-supports for gathering, performing, vending, and disseminating information, and other site-specific boundary operations constructed with renewable wood technologies like CLT that foster both design flexibility and low environmental impact.

**Allied Courses:** The following courses are highly recommended for studio members to facilitate and enrich their studio process:

**ARCH 8803:** Visual Practice (Pearsall); **ARCH 6226:** Green Construction (Brown, Gambie) and **ARCH 6502:** Design Scripting (Swarts).