1.0 PREMISE

This course is the capstone course for digital and computational studies in the School of Architecture. The goal of the course is to provide students with the opportunity to research specific topics that are part of the current discourse surrounding computation and the design of our environment. It does not require that you have had any experience in our digital curriculum, but that

2.0 OBJECTIVES (TOPICS)

1. Interactive environments: drawing on research at the DARTS and with collaborators at the HCI lab, the Vis Center and digital media in the Art department, students will engage projects could include physical computing, climatically responsive components, and interactive living settings. The goal is to pioneer transformative ideas about the way in which architects conceptualize and design responsive environments.

2. Design Process: drawing on research from the DARTS and collaborators at the gaming lab, students will study the process of design, through systems logic and as alternative methods for engagement of users with technology. The goal is to pioneer transformative ideas about the manner in which architects design buildings and meta-design systems.

3. Fabrication: drawing on the ongoing research at the DARTS and the Digital Fabrication Laboratory, student will engage projects that pioneer new ways to use digitally controlled equipment to transform how buildings are constructed. Topics will include mass-customization and material ecology.

4. Visualization: drawing on research from the DARTS and the Vis-Center, students will study how vast amounts of data can knowledgeably be understood and used to transform design processes. Visualization implies the ability to deal with massive data sets interactively.

3.0 METHOD

1. This course is research-based. Studies done by the students will focus on transformative methods for professional practice that draw on computational expertise at the University.

2. All research will be done in teams of students working in close collaboration with faculty both within the School and in allied fields from the CoA+A and CCI.

3. Each team will work to produce publishable research for relevant conferences and publications.