INTRODUCTION
This course is focused on computational design methodologies. The premise of this studio is to engage in advanced computational techniques and methods, including Building Information Modeling/Management (BIM), scripting, and performance analysis in preparation for professional practice and/or advanced graduate research. The goal is to research, design and implement novel computational methods towards the advancement of the architectural design workflow. This will be achieved by using the computational tools available as standalone resources and imbed them in a parametric loop to provide immediate feedback in design. Students can expect to work through self driven experimentation to develop their own working method using a variety of computational tools.

OBJECTIVES
• To acquire skills in advanced digital and computational tools and methods (Revit, Dynamo, Flow Design, Vasari, Ecotect, Robot, Simulation CFD)
• To experiment, and develop problem-solving skills with computational methods
• To investigate new applications for combining and developing iterative design methodologies between tools currently employed in practice, and ones in beta development.
• To cultivate a critical mindset regarding the strengths and limitations of logical and procedural systems within the design process
• To create more informed designs through the integration of ecological data and performance criteria

METHOD
During the course of this semester students will propose and attempt various combinations and sequences of project development. Using their existing Fall research topics, students will create various sequences of iterative design development, focusing on program analysis, solar analysis, daylighting analysis, wind simulation, structural analysis and simulation, or others to create various iterations of their project based on multivariate design optimization. It is expected that these new iterations will be compared against but vary significantly from previous iterations of the project. The ultimate goal of the project is to develop new combinations and entirely new tools for the schematic development of the design research.