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Premise
As part of the core architectural curriculum The Integrated Design Studio is the course in which students are tasked with demonstrating an ability to generate a holistic design that includes the integration of building systems - to understand the impact that the systems have on a building project and to design the project with these systems to produce a robust architectural solution.

Abstract
According to the UN by 2050 the population of the world will be 11 Billion - 70% of which will reside in urban centers and increase of 3.1 Billion urban inhabitants. To house these 3.1 Billion people in buildings that house 500 people per building we need to building 486 buildings per day until 2050. Typically, 30% of the building stock in a city is non-residential. Extrapolating these figures, an additional 50% of this building stock will need to built to provide space for work. Clearly, the largest demand for building over the next 35 years will be high density urban.

On one hand, the tall building represents urban economy as an optimization of the urban infrastructure; however, on the other, the serial repetition and hermetically sealed envelopes have rendered them symbols of banal wasteful industrial monotony. This studio will be conducted as a design research studio focused on the complexities of building performance for a tall building. The questions asked are as provocation towards a better understanding of building performance in the broadest sense. It is becoming the standard that building performance is understood to be those aspects that are quantitative: energy, material, water, etc.; however, the assertion here is that the qualitative is just as important: architectural effects, spatial sequencing, etc. To that end, techniques for trade-off optimization will be developed to evaluate this complex task using advanced computation as direct feedbacks.

Method
The project will be a mixed-use tower located in Uptown Charlotte. There will be a portion of open public space as well as a collection of areas that will serve the public interest. The intention is that the public space will enhance the urban condition by providing meaningful public experience and engagement while supporting client demands for the primary building function (to be determined). Special attention should be paid take advantage of existing urban infrastructure and organizations to foster broad urban connectives throughout all program types.