

APPROACHING CONVERGENCE

CourseNo: ARCHA4792_001_2015_1

Meeting Time: R 08:00P-10:00P **Meeting Location:** [AVERY HALL 115](#)

Instructor Information:

[Maider Llaguno](#)

[Biayna Bogosian](#)

Approaching Convergence will focus on the generation of design-question oriented digital workflows. Each customized workflow will aim at exploring the ‘design space’ of the specific design question. Architects -as mediator between immaterial and material, human and technology- are often confronted with complex projects that require many levels of inquiry and explorations. While architects have employed computer-aided drafting (CAD) systems for decades, only recently have two distinct and potent design sensibilities - parametric and algorithmic design – entered the design process. The working methodology advocated here explores the potential of breaking down a typical architectural project into several design questions in order to create a holistic design through a bottom up approach. This method will allow the designer’s thorough exploration of the project through design questions with detailed digital workflows. It’s therefore an AI+HI (artificial and human intelligence) interaction-based bottom up design process that will seek for building up of a synthetic design project.

What would be the design space for a building mass on a site where the design objectives are achieving high solar radiation levels and at the same time favorable urban comfort levels around the building? What would be the possible design space for optimal desk distribution that favors social interaction in a given office floor-plan? In this course we will address these and many other questions through construction of custom digital workflows. By converging varied inter-operational toolsets, we will customize workflows that minimize the distance between generation and evaluation substantively, allowing dexterity across multiple digital platforms that amplify the designer’s ability to both explore options across an expanding design-space and achieve depth and speed of analysis. The goal is to approach a convergence of varied and disparate computational platforms of design, with a specific focus on integrating techniques of digital and human craft and analysis into a near seamless and active coexistence.

MAIN DESIGN PLATFORMS: Rhino, Grasshopper, GHPython

ASSIGNMENT 1: Concept Workflow Sketching

Students will choose one of the weekly topics and propose a design problem to address with a devised workflow.

ASSIGNMENT 2: Dynamic Inter-operability (Cross-Platform Scripts and Data Streams)

Students will build custom, cross-platform workflows to formalize research and generate data-driven geometry and/or systems within Grasshopper. The ultimate objective is to develop and

document an innovative approach to the realization of construct and workflow as a dynamic/unified/interoperable system.

SCHEDULE

Week 1	Course overview + Site strategies
Week 2	Site strategies
Week 3	Structural strategies
Week 4	Programmatic strategies
Week 5	Circulation Strategies
Week 6	Envelope strategies
Week 7	Research presentation