



Envision the future and design a way to get there.

Students will identify paths to address big urban challenges by researching natural, socio/political and architectural examples. They will analyze promising examples to understand the underlying relationships behind resilient, thriving communities. From this understanding, they will propose environments for working, living and playing that create a thriving community within a mega-structure.

Winning Evolo competition entries (<http://www.evolo.us>) have combined key social and ecological agendas with innovative forms in evocative presentations. The Evolo 2016 jury comprises well-known computation designers who create thoughtful solutions with visual flair. Therefore students will focus on aesthetic creation independent of function as a phase part of the design process. The studio will guide students in **physical sculpting** to generate form and teach **parametric design** to generate and refine variations.

Students will experiment with creating 3D form from 2D sheet materials, to understand how to compose planar and curved surfaces with proportion and hierarchy. Artifacts will be examined with changing light to see how material properties such as color, translucency, reflectivity and stiffness can alter appearance.

The forms created by these studies will be examined for habitability and sustainability at the scale of the room, building and neighborhood. The skyscraper will be approached as both a top-down urban response and a bottom-up modular system, building on contemporary precedents and construction innovations. The class will choose a site from several instructor-provided options.

The aesthetic exercises will be ramped up with Rhino Grasshopper (GH), a platform with many inexpensive applications and a supportive community. Students may combine a variety of tools for their design process and they are expected to develop basic familiarity with parametric design. Gaining fluency requires substantial time and effort. Analytic building performance software for sun (Ladybug/Honeybee) and wind (FlowDesign) will be incorporated according to the students' interests and abilities.

Pre-requisite: familiarity with Rhino or other 3D software would be helpful, GH not required.