

Arch 421 – Geometric Modeling

COURSE INFORMATION

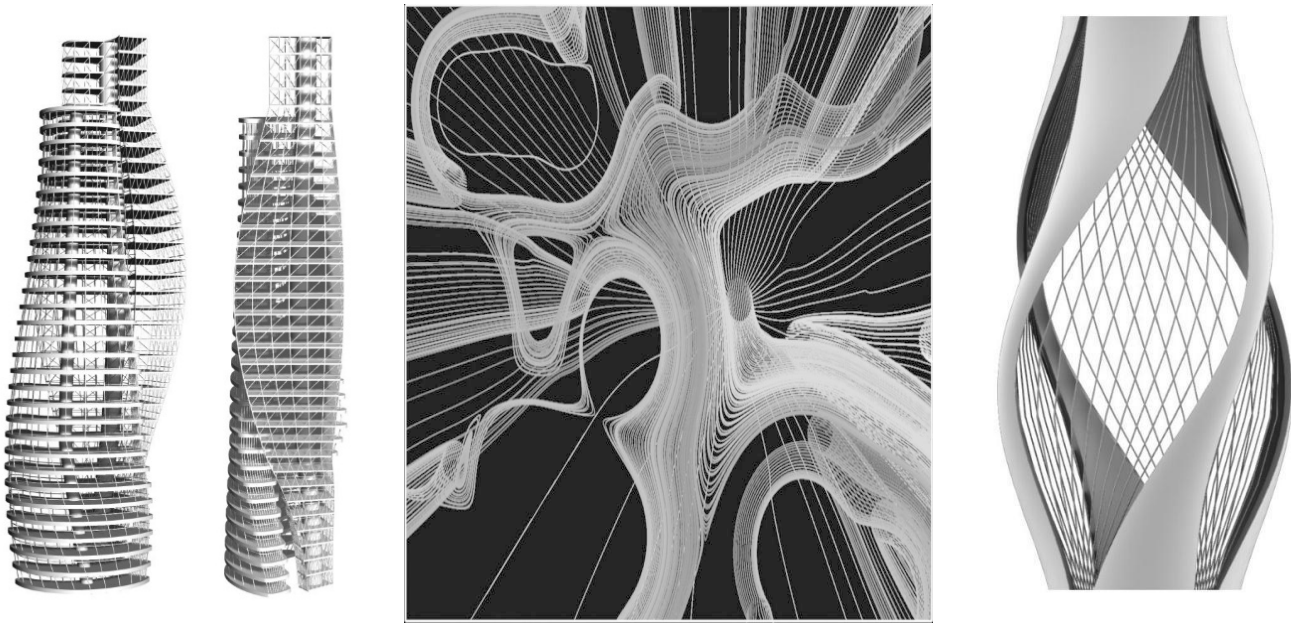
Term: Winter 2026

Registration information: ARCH 421-001 (Course 22972)

Day/Time: Tuesday, 1PM – 4PM

Room: 2222 A&AB

Instructor: Mark Meier



COURSE DESCRIPTION

This course focuses on digital modeling as a tool for architectural and industrial design. Through a series of exercises, students develop skills in 2D drawing and editing, free form surfacing, and solid modeling. Students will learn to program the creation of 2D patterns and 3D geometry using Grasshopper (parametric modeling and computational design). The course will also cover working with mesh models and subdivision surface modeling. Students will learn about the simulation of physical systems using the Grasshopper feature Kangaroo. Finally, students will be introduced to free-form, organic modeling using digital sculpting programs. The software used will be Rhino, Grasshopper and its plug-ins, as well as ZBrush Core Mini. Class sessions include lectures, tutorials, and reviews of course work. The class provides a solid base in geometric modeling from which to further investigate digital fabrication and generative modeling through other courses offered at Taubman College.