Apart from windows, doors, and vertical conveyances, most buildings have few moving parts and are conceived and built as static artifacts. Driven by issues of sustainability and the desire for adaptive control of building environments, kinetic architecture has emerged as an exciting sub-discipline in architectural design. In this studio, we will begin to explore the world of architecture-in-motion in the context of a classic design problem: the signature cabin or retreat – coveted projects that have afforded architects occasion to explore the expressive potential and practical realities of materials and details in stunning landscape settings. In so doing, architects have built some of their most exquisite and compelling work.

Purpose
This studio will emphasize design integration in the context of an explicit intention to craft evocative, aesthetically meaningful buildings. Students will be asked to make buildings of strong character with an identity that derives primarily from the materials and systems of construction they employ. The goal will be to make beautiful space, light, and architectural form using expressive systems of structure, construction, and high-performance enclosures and kinetic devices. This studio will be an opportunity to make comprehensive designs in preparation for the terminal studio level. Completion of ARCH 4/561 and concurrent enrollment in ARCH 4/562, or other evidence of substantive preparation in systems of structure, is a prerequisite for the course.

Project
The project will draw on the rich typology of cabins, retreat houses, and second homes; and we will study recent innovations in kinetic architecture, particularly the kinetic systems engineered and built by Turner Exhibits. Individual sites will be selected by students in keeping with their vision of place and purpose. Buildings must engage the landform and demonstrate an ethos of appropriate technology and environmental responsibility. In the preliminary design of their kinetic systems, students must pay careful attention to the complete range of technical concerns: construction, engineering, enclosure, environment and climate. While so doing, the principle focus will remain on aesthetic issues – the sculptural qualities of the kinetic mechanism, light, materials, and the poetic qualities of motion.

Process
Working through the elements of an essential and distilled cabin program, from small to large, a construction vocabulary will be developed for the cabin as a whole. The full range of media for design development will be required: sketches and topographic models to explore the site; digital and physical models to test the relationship between space and structure and to develop kinetic building elements; freehand and measured drawings for generative details in the systems of construction, enclosure, and kinetic mechanisms.