Structural design, like architectural design, is an inherently creative process where each problem holds the potential for diverse, appropriate and innovative solutions. This exercise is conceived as a learning experience for students to explore the interdependent relationship of the poetic and pragmatic dimensions of architecture. It is also conceived to cultivate a knowledge and understanding of structural principles and behavior through exploration and experimentation. Conditions, parameters and objectives are carefully defined to provide an opportunity for self-initiated and self-directed structural play. Success in this challenge requires students to embrace and respect structural logic yet exploit the aching potential for creativity and aesthetic expression. The project consists of two to three iterations and is to be executed by teams of 2-3 students. Each iteration involves the design and development of a structural model and diagramming exercises. Each team is required to design a structural system to position a prescribed block relative to a prescribed base with specific dimensional constraints. The block and the base are not to be directly connected. Each team is to develop concept drawings and force diagrams for both iterations.

Objectives:
- acquire the ability to negotiate and synthesize the poetic and pragmatic dimensions of design
- acquire a knowledge and understanding of quantitative structural principles and behavior
- acquire the ability to employ structural principles in a creative manner
- acquire the ability to conceptualize basic structural systems comprised of specific structural elements
- acquire the ability to effectively craft performance based structural models
- acquire the ability to accurately diagram structural behavior

Course Context:
The Block Lofting exercise is administered concurrently with lectures on structural geometry and computational exercises utilizing the method of joints to analyze simple trusses, limited to trusses that are structurally legible and expressive.
Block Lofting: example 3 iteration sequence

Description:....
Block Lofting: example 3 iteration sequence
Block Lofting: example fabrication process
Example final iteration

while the tensile elements illuminate the essence of balance.
Example final iteration