The design of an airplane – the rigor for matching form and function – was an important metaphor for early modernists and had many design implications. We will study and select appropriate metaphors for our own investigations of structure – which could be a tent, a woven basket, or a skin-on-frame kayak, for example.

We will design compressive and tensile structures with high expectations of spatial articulation, thermal comfort and energy efficiency. This will require understanding the functional constraints of light-weight materials such as wood, reeds or bamboo; fabrics; and modern materials such as aluminum, fiberglass, and composites.

Our light-weight minimalist approach addresses sustainability from three perspectives:

1. Form will closely follow the structural properties of our chosen materials to make efficient use of resources;
2. Form will be a bioclimatic response to provide durable, weather-proof shelter as well as comfort: light, heat, and ventilation;
3. Our design process will by necessity be more collaborative, experiential, and experimental.

Studio Activities:

Study of vernacular light-weight structures: material and structural properties, environmental performance, aesthetic and cultural significance;

Hands-on building investigations with larger model-scale and even full-scale materials such as poles, fibers, fabrics, wands, battens, and cords;

Small final project teams will select a building method and type to design. The building program will respond to a real need which could include disaster response, emergency housing, gathering & event spaces, and agricultural, light industrial, or operational buildings.

Design is rarely a solo activity. Sustainable design and performance require even greater levels of collaboration and cross disciplinary teamwork. Our studio will expect the same.

Instructor bio:
David Posada served as the sustainability manager for GBD Architects in Portland for 10 years working on many high-performance projects. He was the Passive House consultant for the Kiln Apartments, one of the first multi-family, mixed-use projects to meet the standard and served on the USGBC Sustainable Sites Technical Advisory Group. Before earning his M. Arch at UO, he was a wilderness instructor and software trainer. David is a licensed architect currently working on several in-fill residential projects, a guidebook for small heating systems, and has been an adjunct professor at UO and Portland State University.