Wood is a valuable, local, natural resource experiencing a renaissance in building construction. Through a digital lens, novel methods of material-driven design and fabrication rapidly expand the potential of this age-old building material. This design research studio will explore innovative self-shaping technology's architectural and structural possibilities for constructing high-curvature long-span timber structures.

Students will work in teams to research and develop proto design studies of tectonics and form generation related to the unique potentials of wood materials. Development is through practical tutorials, prototyping, model-making, and collaboration with the resources of the Tall Wood Design Institute. Throughout the semester, emphasis will be placed on understanding and evaluating the unique performance aspects of wood materials, from cell walls to building components, and the material's future social, cultural, and economic context. In the second half of the term, teams will adapt their concepts for the architectural design of extended-span structures, emphasizing free-standing roofs and canopies for public spaces or floor/ceiling slabs for multi-story timber buildings.

Students should be familiar with digital tools (rhino, grasshopper) and both analog and digital fabrication processes.

Links: Dylan Wood - ICD Profile, hylo tech, Tall Wood Design Institute (TDI)

Related reading: From Machine Control to Material Programming, Watch this furniture assembly itself