

Tue / Thu 2-3:30pm  
in 220 Jacobs Hall

ARCH 259 (3 units)

# FLEXIBLE HYBRID STRUCTURES

Fall 2017

photo: Julian Lienhard

ARCH 259 - SPECIAL TOPICS IN BUILDING STRUCTURES

Instructor: Professor Simon Schleicher (Department of Architecture)

## FLEXIBLE HYBRID STRUCTURES

This course lies at the intersection of design, architecture, engineering, and computer science. The goal of this class is to explore a different approach to design and construction that integrates hitherto overlooked structural behaviors such as bending and buckling as potential form-giving and self-stabilizing strategies for new structural systems and adaptive mechanisms. In small teams, students will investigate inspirational case studies and develop their own designs by combining soft and elastic materials with customized 3D-printed joints. By using hands-on physical experiments and digital simulations, students will learn how to form-find these structures and craft their fabrication. A special focus of the seminar will be on taking advantage of additive manufacturing technology for the development of new construction details that will make otherwise impossible structures feasible to construct. In the final assignment, students will design their own flexible hybrid structures and demonstrate the application potential by building large scale, functional prototypes.

This course is open to graduate students of all academic disciplines. Prior experience with design software programs like Rhinoceros and Grasshopper and/or knowledge in 3D printing would be beneficial.

The first meeting of the class will be on Thursday, August 24 at 2 pm in 220 Jacobs Hall.

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