

Engineering Smarter Architects

Houses made of sticks and straw didn't work so well for the "Three Little Pigs," but in today's environmentally conscious world architecture students at the University of San Francisco are increasingly being called on to use such "alternative" construction materials in their designs.

Building a straw-bale house that will withstand the huffing-puffing winds, hold a heavy, wooden roof, and withstand rain and retard fire comes with design hurdles, however. How to solve those challenges and others is the subject of two new engineering courses.

Of course, straw and timber aren't the only construction materials students study. Much of the course is spent studying more conventional materials such as steel, concrete, and masonry.

"We consider all the aspects of building materials—the renewability of the natural origin, the energy consumption of the industrial process that mine or mill or otherwise create them, the transportation of the materials, the labor, waste, and energy associated with their construction, and their durability and recyclability over time," said adjunct professor of architecture and physics Hana Mori, who began teaching Introduction to Structural Engineering in 2005 and added Introduction to Construction Materials last fall.

Then there's the most important quality of any building material, from an engineering perspective, its load-bearing ability, said Mori, who believes a material's functionality is inseparable from its environmental aspects.

A basic understanding of how buildings and other structures stay standing and their capacity to resist directional forces of nature, including earthquakes and human impacts is critical for a complete architecture education, said Seth Wachtel, assistant professor of architecture and community design, and the program's director.

"Knowing the properties of construction materials gives me a better understanding of the whole picture," said senior architecture and community design major Jovan Blake, explaining that architects focus on designing and organizing spaces, whereas structural engineers specialize in what keeps structures standing. **USF**



Built to Last: Architecture students prepare concrete cylinders of various strengths to test their structural integrity.

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USF to Award California Prize to Alice Waters



Waters

The University of San Francisco will award renowned chef and food activist Alice Waters the 2009 USF California Prize for Public Service and the Common Good. The prize honors individuals who have exemplified a commitment to service.

Owner of legendary Berkeley restaurant Chez Panisse, Waters is an advocate for sustainable agriculture and a supporter of locally grown food and local farmers markets. She is credited with helping to found the "slow food" movement that has helped revolutionize the way people think about sustainable and organic agriculture.

Additionally, Waters created the Chez Panisse Foundation in 1996 to support educational programs that use food to nurture, educate, and empower youth. Through the Edible Schoolyard and the School Lunch Initiative, the Foundation works to establish a public school curriculum that includes hands-on experiences in school kitchens, gardens, and lunchrooms, and provides healthy, freshly prepared meals as part of each school day. The foundation has already attained that goal in several Bay Area schools and plans to expand nationwide.

Waters will receive the award at a November dinner. **USF**