

2017

Sinatra Living: Project Abstract and Primary Team Members

University of Nevada, Las Vegas. Solar Decathlon Team.

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Project team: Team Las Vegas

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Team Members:

UNLV Howard R. Hughes College of Engineering

UNLV School of Architecture

UNLV Division of Allied Health Sciences

UNLV School of Social Work

Key Participants:

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Student Team Leads:

Engineering: Evan Thomas

Architecture: Nasko Balaktchiev

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Abstract:

UNLV Team Las Vegas will deploy a multidisciplinary student and faculty team to design, raise funds, construct, transport, and operate an innovative solar-powered house for the DOE Solar Decathlon 2017*. The house will address competition criteria as stated in the Notice Description. The team's

efforts will be integrated into curricula in architecture, business, computer science, engineering, health sciences and hospitality. Lessons learned from the UNLV Solar Decathlon 2013 entry will be applied to the new design.

The proposed sustainable renewably-powered diagnostic home will be designed to support safety, security and peace of mind for elder and disabled persons. The team will use obtain data on patient needs and consult with health care professionals to determine interior design features. Whole house building modeling to evaluate passive and active solar strategies to achieve desired energy-use targets. Modular design, maintaining adequate indoor air quality, lighting controls, and complete life cycle design will be some of the basic considerations. Construction materials and techniques including, but not limited to, advanced framing and reclaimed materials will be incorporated. Intelligent home controls and connected devices will be implemented, with concentration such as advanced computer and data systems integration for diagnosis and monitoring of the occupants. The house will not only be a sustainable demonstration home, but also a next generation smart home that can serve the needs of a growing target market in the region, the nation and internationally.