From Classroom to Construction

Terms:
Community Service

Fluor’s Sugar Land office is the newest site for the Houston ACE Program, exposing students to the world of architecture, construction and engineering.

Imagine a raindrop falling over the United States Continental Divide. The slightest push of wind can send that rain drop to completely different destinations - either the Pacific or Atlantic ocean. High school students are similar; sometimes all they need is a little exposure and encouragement to completely change their life trajectories. This is the goal of the Houston ACE (Architecture, Construction and Engineering) Mentoring Program, a collaborative effort to bring the multifaceted construction industry, educational institutions and local community together and to expose high school students to the world of architecture, construction, engineering and the building trades through design projects.

Fluor’s Sugar Land, Texas office is the newest host location for the Houston ACE program, bringing together 30 students from 10 high schools throughout Fort Bend County. Brandon McNallen, project manager, was the program lead for the Sugar Land location. During the program, student teams work directly with professionals from the architectural, engineering and construction industry (not only Fluor employees), who also serve as mentors, to design hypothetical projects, tour local construction sites and visit local offices.

"Not only do the mentors help students complete real design projects and drawings, but they also discuss what it takes to become an architect or engineer and tips on navigating through college or trade school," said Steven Polansky, project controls specialist and ACE mentor. "Most of the students are gearing up for college, but aren't so sure about what they want to do or even what their options are. Mentors can help them get an understanding of what career options they want for themselves and how to achieve it."

Students meet on a weekly basis and have the opportunity to develop a technical and commercial response to one of three requests for proposals (RFP) for a fictional client. Industry mentors teach basic concepts on everything from foundation design to architecture to scheduling. At the end of the school year, the students can choose to submit their RFP response in a national competition in Washington, D.C., or in a city-wide competition. This year, students could choose from one of three projects: design a solution for a modular, expandable home, redesign an inner city school or revitalize an urban block.

"The best part of the program is that it allows high school students the opportunity to explore the worlds of ACE before deciding on a degree and career path," said Britney English, pipe stress analyst and ACE mentor. "Students must work as a team, with limited direction from mentors, so they can independently design and find solutions to their particular request for proposal. This is an ideal way to prepare a student for college."

Two teams from Fluor's location participated in a city-wide competition - one showcased its design for a modular, expandable home and the other presented its concept on an inner-city school rehabilitation. Out of 40 teams, one of the Fluor location teams made it to the competition finals, which put them in the top five teams in all of Houston. The team's concept of a flexible, modular home was inspired by a shape found in nature, a honeycomb.

The ACE program ran from October 2017 to May 2018. Ten employee volunteers met with their teams weekly to help mentor and develop design projects and gave nearly 600 hours of volunteer time.

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**Multimedia**

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