

Education and industry collaboration to expand students' STEM and business related skills

Enrichment programs for exceptional students hosted by Texas A&M at Qatar and sponsored by Oxy Qatar in an effort to guide students to study engineering and science.

Some of the best high school students across Qatar are spending their summer vacation by taking part in the Future Engineers and Summer Engineering Academy programs from 24 June to 5 July 2018 at Texas A&M University at Qatar.

The two programs are part of a broader initiative that aims to attract young school students to choose educational pathways in science, technology, engineering and mathematics (STEM). Occidental Petroleum of Qatar Ltd. (Oxy Qatar) is the exclusive industry sponsor of Texas A&M at Qatar's STEM programs, including Future Engineers (FE) and the Summer Engineering Academy (SEA).

"Through these engineering programs, students are able to develop and discover their interests in science and technology as well as begin to set a chosen pathway into college," said Andrew H. Kershaw, President & General Manager of Occidental of Qatar. "Occidental strives to be a Partner of Choice everywhere we operate by investing time and resources in programs that strengthen local communities. We support STEM at TAMUQ because the programs make science fun and teach school children about the importance of technology and innovation and in turn help to nurture their hidden talents as our future engineering leaders."

SEA is an elite 10-day STEM outreach program for 24 exceptional high school students rising from grade 11 to 12 who have been named 'Qatar National Vision Scholars'. The students are working with Texas A&M faculty members on real-life, relevant, hands-on research projects related to Qatar's grand research challenges. Projects being investigated this year include diagnosing vibrations in structures, designing and constructing a car powered by a chemical energy source, analyzing fluid flow for enhanced oil recovery, and designing and developing digital maps systems for road navigation.

SEA introduces students to advanced topics in engineering and science while teaching important problem-solving skills. Students work with faculty mentors and staff members to develop research projects and communicate their results through a presentation in front of judges including research posters and a video.

Mahmoud Esameldin Osman, a National Vision Scholar, said that the SEA program is important to students pursuing engineering because it introduces students to different types of workshops and engineering majors.

"As a grade 11 student, it is normal to have a dilemma because you don't really know what you are interested in," Osman said. "Participating in this program helps

me a lot to find out where I am and what I'm interested in. I am currently working on a project to extract oil from a reservoir in the best possible way, so we can obtain the most quantity through using different techniques."

Rowan AlShebani, another National Vision Scholar, said "There is teamwork and self-confidence that you don't experience in high school but you get to experience them in this program. I keep joining Texas A&M programs because I enjoy them and it feels like I'm using my time wisely during the holidays."

The program also supports strategic efforts to recruit targeted students to Texas A&M at Qatar. Since 2015, many SEA participants have enrolled in Texas A&M at Qatar's engineering degree programs.

Future Engineers: High Flyers, which runs parallel to SEA, consist of 30 students rising into grades 9, 10 and 11. Students are learning about aeronautical engineering by discussing principles of flight, building their own radio-controlled, lighter-than-air craft, and using computer-aided-design software to design and 3D print their own indoor gliders.

Dana Almaadeed, a student in Future Engineers, said "This program is very important because it gives a glimpse of what it feels like to be an engineer and a student of engineering but also how it feels to work like an adult. I expect to gain self-development and knowledge in engineering, but also improve my vision of the future - to know exactly if I am going to stay here or what job I'm pursuing."