

In Education City

Charles Thorpe, PhD



Courtesy of Carnegie Mellon University-Qatar

At the Doha, Qatar, campus of Pennsylvania's Carnegie Mellon University, 50 students representing many nationalities are in the 2006 incoming class.

In 2004, Carnegie Mellon University, a private research university based in Pittsburgh, Pennsylvania, opened its first international branch campus (<http://www.qatar.cmu.edu>) in Doha, Qatar, offering students in the Persian Gulf undergraduate programs in computer science and business administration. At the invitation of the Qatar Foundation for Education, Science, and Community Development, Carnegie Mellon has joined several other U.S. universities in



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Education City, an effort to make Qatar a world-class center for education and research.

Charles E. Thorpe, PhD, is dean of Carnegie Mellon University-Qatar and a faculty member and former director of the Carnegie Mellon Robotics Institute in Pittsburgh, where he led a research group that developed unmanned research vehicles. Thorpe, also a faculty member at Carnegie Mellon-Qatar, teaches Introduction to Mobile Robotics.

Carnegie Mellon University has international programs in Australia, the Republic of Korea, Japan, and Greece, and we do collaborative work all over the globe. At our Pittsburgh campus, a quarter of our undergraduate student body is international. But Carnegie Mellon-Qatar in Doha is our first full undergraduate program overseas. Qatar is ideal because it has the vision and resources to foster education at a high international standard. At Carnegie Mellon-Qatar, 40 students just finished their sophomore year, 50 just finished their freshman year, and about 50 students are in the 2006 incoming class. Eventually, we will admit up to 100 students per year when we have our own building in 2008.

The Qatar Foundation asked us to do everything in Doha that we do in Pittsburgh, which means we teach classes in English and they are fully coed (men and women attend the same classes). We teach a U.S. curriculum according to U.S. standards, and 73 percent of the new freshman class is female. We're also there to do research and consulting and to engage society. Having friendly Americans in an unusual part of the world builds bridges in both directions. We learn how friendly our Qatari colleagues are, and they learn the kinds of expertise we can bring and that Americans have a wide range of political opinions. It turns out to be a very healthy exchange.

Being in Qatar benefits Carnegie Mellon in many ways. We're learning about the students, the research opportunities, and how to work with people in the Gulf Region. We're also making the Carnegie Mellon name visible in an important part of the world and broadening our student body base—the 90 students we've had so far represent 18 nationalities.

Faculty and undergraduate students from Pittsburgh live,

work, and learn in Doha, and five students from Doha lived and studied in Pittsburgh for the first half of the summer of 2006. That mixing of the Pittsburgh and Doha bases strengthens people on both sides.

One of the most interesting classes we ran in 2005 was called U.S.-Arab Encounters. Students in Pittsburgh and Doha would read about U.S.-Arab relations, then twice a week we would fire up the big-screen videoconference unit and the students would have discussions. It was fascinating to hear the preconceptions and misconceptions about what was happening on either side. There were some very vigorous exchanges of opinion, and the course got outstanding ratings from students, faculty, and visitors.

We have a rapidly growing science presence, but it began slowly. The first year, most of the Doha faculty had a teaching agenda, not a research agenda. As we grow, especially now that we're getting into junior- and senior-level classes, I'm bringing over more research-oriented faculty.

An example of applied research that will have a short-term impact in Qatar involves diabetes and health care. Qatar has the third-highest incidence of diabetes in the world, and the question is, why? Some of it has to do with small gene pools, some with diet and exercise habits in that



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Carnegie Mellon-Qatar experts helped local high school students who participated in the Second International Botball Robotics Challenge in Doha.

part of the world. Before going to Doha, I was director of the Robotics Institute at Carnegie Mellon in Pittsburgh, and one of my PhD students from the institute is now in Qatar to investigate using intelligent computer-based methods to monitor diabetics and help them control their own medication, diet, and exercise regimes.

Another of my PhD students is in Qatar doing core robotics work with a mobile robot that builds high-resolution maps of the city. Everything in Qatar is under construction all the time, so if you can run around and update maps rapidly, that is very useful.

We teach two robotics courses as part of the computer science curriculum, so all the computer science students and most of the business students take at least one of those courses. It's fun because the students are learning robotics, but they're also learning computer programming. We divide them into teams and they work together doing public presentations on the robots they've built, so they're also learning presentation skills.

On the campus of Education City, the Qatar Foundation started putting together a "multiversity" rather than a university. Carnegie Mellon-Qatar is there to teach business and computer science. Georgetown University (Washington, D.C.) is there teaching foreign policy, Cornell University (Ithaca, New York) is establishing a pre-med program and a medical school, Texas A&M University (College Station, Texas) is teaching engineering, and Virginia Commonwealth University (Richmond, Virginia) is teaching design. We're all in walking distance of each other, and we've started cross-registering courses. We also do joint programs with Qatar University, a few kilometers away. It's a very interesting mix of courses that you can't find in any single campus setting anywhere else in the world. ■

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