Faculty-Led Maymester Abroad
Q&A with Dr. Thomas Connolly, Lecturer, Dynamics Maymester in France & Spain

What is your area of expertise? What research or special projects are you currently working on?
Areas of expertise: Engineering education; Modeling, simulation, and control of multiple energy domain systems; Structural dynamics.

Special projects/initiatives: As member of the Academic Affairs team in the Office of the Dean, I engage with faculty, graduate teaching assistants, undergraduate learning assistants, and tutors to continually improve engineering education in the Cockrell School. The professional development programs that I am involved with cover a broad array of topics that impact the student experience: promoting engineering thinking and academic rigor, increasing student engagement and participation in various engineering learning environments, engaging students in "productive struggle", and fostering student success and self-efficacy by overcoming challenges and setbacks.

What are career achievements or recognition are you most proud of?
I fulfilled my lifelong dream of working at NASA – I worked on both the Space Shuttle and Space Station programs as a systems engineer at the Johnson Space Center in Houston.

The Engineering TA Certification program that I designed and implemented over the past several years in the Cockrell School has had a significant impact on student success, retention, and completion rates for undergraduate engineering students. Also, it provides crucial professional development opportunities for our graduate students that not only helps them to become better educators, but provides them crucial transferrable skills that they can leverage in their future work as researchers and in industry.

What motivates you to lead this study abroad program? (feel free to also acknowledge the sacrifice made in professional and personal life)
As an undergraduate, I did not have the opportunity to study abroad and, in retrospect, I felt like I missed out on something important. When I was in graduate school, I made a lot of friends from other
countries and this allowed me to more easily travel to visit them in their home countries, which sparked in me a passion for international travel. Living in new places and being exposed to new cultures and ways of doing things was truly a life changing experience for me – it helped me to grow as a person and as an engineer. As a faculty member, I’m excited that I can bring this experience to students through a program that combines engineering learning, experiencing “real life” in other countries, and experiencing the accompanying changes that result from learning more about themselves in new, exciting, and sometimes challenging environments.

What makes your study abroad program unique?
My study abroad program is unique in that we spend time in two different countries, so students not only have the opportunity to explore two different cultures, but also get to learn about the impact of the engineering profession from multiple perspectives and through a broad array of applications and case studies. In addition, this program attracts students from several engineering majors (Aerospace, Civil, Computational, and Mechanical Engineering), which provides students with the unique opportunity to study with students from multiple engineering majors and thus gain valuable insight into how Dynamics is relevant to various engineering disciplines.

What is the importance of this course as a building block for engineering students careers? What will students gain from participating in your study abroad program? (think of gains that can affect them on levels of personal, academic, professional/career, grad school, etc.)
Dynamics is a critical course that involves deeper exploration of engineering concepts such as Newton’s Second Law, the principle of work and energy, and the principle of impulse and momentum. These concepts allow us to analyze and determine the dynamic behavior of engineering systems that are relevant to a diverse array engineering disciplines and courses of study. In addition, these concepts form the basis of myriad advanced undergraduate and graduate-level engineering courses, such as fluid mechanics, structural dynamics (vibrations), orbital mechanics, dynamic systems analysis, and control theory.

What does a typical day or week on campus look like for you?
For me, a typical week on campus involves moving around a lot, which I love – if I had to stay cooped up in an office or lab all day, it would drive me crazy! In a typical week, I do lesson planning, teach classes, meet with students for office hours and advising/mentoring, observe graduate teaching assistants in various learning environments to evaluate their teaching, meet with graduate students to provide teaching coaching, and meet with faculty and staff across the Cockrell School to work on various engineering education initiatives.

If you had a day off, how would you spend it?
Anything, as long as I am with my family.