

Engineering @McLennan

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What's Happening



This was another amazing year at McLennan Engineering! We piloted two new classes (Digital Systems and Engineering Economics), started teaching our first dual credit classes at Reicher High School, and saw our first students graduate with the new specialized degrees in Mechanical, Civil, Industrial and Electrical Engineering. In the fall, we had over four times as many students in the classroom as we did five years ago. What an incredible time to be part of this program!

Undergraduate research continues to grow at McLennan, and a record number of students developed independent study projects this past spring. Projects this year ranged from developing an '80s-style "Simon" game — complete with flashing lights and sound effects — to flying a quadcopter high above the Painted Desert.

This was also the year for our first interdisciplinary collaboration. We offered a linked set of courses in which students could earn credit for both Engineering Graphics (ENGR 1304) and credit for Public Speaking (SPCH 1315). We also partnered with marketing classes, which developed advertising campaigns for the new products that the engineering students created! Our Intro to Engineering students have been tackling design problems posed by the McLennan Theatre department as well as doing design work for Fuzzy Friends Rescue.

We are particularly proud to announce that our first cohort of engineering students is now graduating from their four-year universities. With fresh new degrees in Mechanical and Civil Engineering from schools including Texas Tech, Texas A&M, and the University of Texas at Arlington, we wish them all the best of luck!



Mars 101 Featured on National Television

McLennan Engineering Professor Paulina Sidwell and her Mars 101 crew were featured on Xploration Outer Space.

The Mars 101 program provides an opportunity for students to conduct independent research while living in a simulated Martian environment in the desert of Southern Utah. For the past two years, McLennan has sent crews composed of faculty and students out to the Mars Desert Research Station (MDRS) to live as future Martians might one day live: rationing water, eating shelf-stable food, and conducting research in space suits.

This year, a camera crew from Xploration Outer Space came to interview our faculty and students. The resulting episode features Professor Sidwell and engineering students Josh MacFie and Kyle Flaherty. Watch it for free by searching for "Xploration Outer Space" on Hulu.

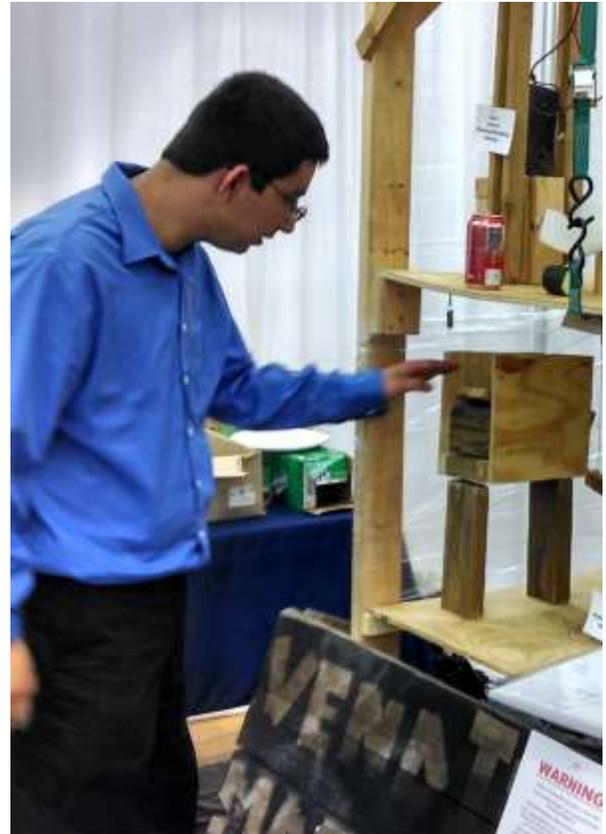
You can support the Mars 101 program by purchasing "Mars Home Cooking," a book compiled by McLennan faculty and students available on Amazon, or by donating directly to the Mars 101 account at the McLennan Community College Foundation.

Scholarships Now Available

McLennan Engineering is proud to now be able to offer merit-based scholarships for students planning on completing the engineering degree at McLennan Community College. If you have a 3.0 GPA or higher in high school math and science courses and can complete the program within two years, you may be eligible for up to \$2,500 per year to pursue your studies at McLennan! For more information, email enr@mclennan.edu.

What the Faculty is Doing

In between dreaming up massive homework assignments and seemingly impossible projects for our students, the faculty is keeping busy as well. Professor Sidwell served as a faculty sponsor on the Geology Field Course and presented at the First Year Engineering Experience conference. Dr. Andreas went to New Zealand to investigate possibilities for the Engineering Economics course and was named the McLennan NISOD winner for teaching excellence. Dr. Andreas is also the nominee for the Minnie Stevens Piper award.



Student Spotlight



This year, McLennan Engineering sent its first student to the SURF (Summer Undergraduate Research Fellowship) program at the National Institute of Standards and Technology in Gaithersburg, Maryland. Victor Trujillo joined students from all over the country as part of an elite research team. One of only four community college students in attendance (and one of only a few sophomores in a program dominated by juniors, seniors and recent graduates), Victor held his own with some of the nation's top researchers in the field of Manufacturing Simulation and Visualization. In Victor's own words:

"My job for the summer was to design and create an immersive virtual environment by leveraging existing gaming technology. To do so, I had to become familiar with the Oculus Rift, Microsoft's Kinect, Unity and Blender. Unity is a gaming engine where I created the manufacturing environment and created scripts and coded them."

Victor credits his programming experience from classes at McLennan as essential to helping him learn the new languages he needed on his project, particularly his second-year C++ course!

Where are they now?

J.W. Balch is at Texas A&M working toward a B.S. in Civil Engineering with a focus on water resources.

Regi Bolman graduated with his degree in Mechanical Engineering at Texas Tech in December. Fantastic!

Jesus Contreras graduated from Texas A&M with a Bachelor of Science in Civil Engineering this past December. Way to go, Jesus!

Brian Dempsey is at Texas A&M. He is a member of the Electrical Engineering Honor Society and is specializing in the bio-electrical engineering field, particularly quantum dot medical applications. He says, "It has just enough physics and engineering to keep me interested." He is also planning on getting a minor in physics as well.

Chris Garland, with two years remaining on a Chemical Engineering degree at Texas Tech, was recently hired by Caprock Manufacturing, a plastics parts manufacturer in Lubbock.

Keith Geisler, Mechanical Engineering student at Texas Tech, is going to be spending this fall semester in Seville, Spain, taking a course in aerodynamics and Survival Spanish for Engineers. A two-time veteran of McLennan's Geology Field course, we're sure he'll have no problem taking his education on the road again!

John Gibson plans on graduating in December 2014 with a degree in Civil Engineering at Texas A&M. He recently went to Qatar for seven days as part of his studies.

James Grisham is about halfway through the Ph.D. program in Aerospace Engineering at UT Arlington. Congratulations are in order, as he passed his Ph.D. qualifying exams in January!

Cody James graduated from the University of Texas at Arlington with his Bachelor of Science in Mechanical Engineering and a minor in Nuclear Engineering. We are very proud of him!

Saphal KC has plans to complete his Chemical Engineering degree at Texas Tech by spring 2015. He has been doing a lot of projects in MATLAB – he says that the Engineering Programming class he took at McLennan has proven quite helpful!

Ryan Mezynski, a Mechanical Engineering student at Texas A&M, is a co-author of the newly published *Fabrication of Fine-grain Tantalum Diffusion Barrier Tube for Nb3Sn Conductors*.

Colin Mocek is continuing his studies in Aerospace Engineering, with a minor in business, at Texas A&M. He continues to intern with Blackhawk Modifications in Waco.

Adam Steiner is just a few credits away from finishing his Electrical Engineering degree at the University of Texas at Dallas and recently got a spot doing R&D on Circuit Design!

Austin Price reports he is still making progress toward his degree in Petroleum Engineering at Texas Tech.

Where are they going?

Here is a sampling of where our 2014 engineering students are this fall!

Texas A&M

Orlando Beauchamp (Mechanical)
Rodney Siders (Electrical)
Victor Trujillo (Electrical)

Texas Tech

Barton Courtney (Mechanical)
Zak Fyke (Computer Science)
Jeremy Holt (Mechanical)
Josh MacFie (Electrical)





Bachelor's Degree in Engineering on McLennan's Campus

Tarleton State University offers an ABET-accredited Bachelor of Science in Engineering Physics, a degree that prepares students for work in the electrical, computer, and semiconductor industries here in Waco through the University Center. With the dual focus, students will be prepared for graduate study in either engineering or physics. This program began offering upper-level engineering classes on campus this fall.

New Opportunity: Engineering Economics in New Zealand

McLennan Engineering is going Down Under! Want to spend two weeks traveling some of the most beautiful places on earth while learning about Engineering Economics? Join McLennan's Australia/New Zealand study abroad trip this Spring! It will be an exciting opportunity to apply engineering economy concepts in real-world case studies in an exciting location halfway around the globe. Get a chance to see how some of the world's most famous engineering achievements were planned, developed, financed, and built!

Engineering Economics is an important class for all engineering fields. Course work will begin



February of the spring semester and will cover all material taught in the normal semester, plus additional work assigned to take advantage of two weeks of international travel. The 2015 trip is scheduled during the break between spring and summer semesters. Travel will take place in May, departing after spring final exams, and includes stops in Sydney, Australia, as well as destinations like Rotorua, Waitomo, and Auckland, New Zealand. If interested, please contact Paulina Sidwell at psidwell@mclennan.edu.