

Engineering @McLennan

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Spring 2021

What's Happening

The 2019-20 academic year was one that will go down in history due to the COVID-19 global pandemic. While our students and faculty faced many challenges, there were also lots of successes and triumphs. For one, the MCC Engineering program celebrated its 10-year anniversary.

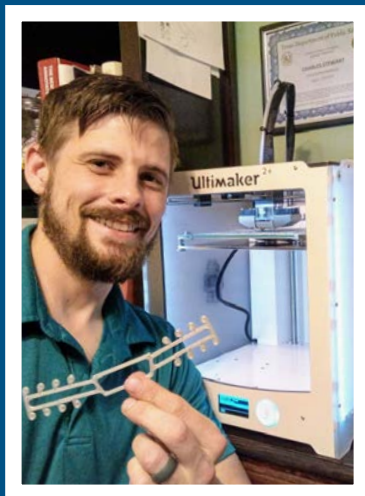
The program has grown tremendously since its start in 2009. The first Introduction to Engineering course back then had 32 students. In the Fall of 2019, there were four sections of Introduction to Engineering, with over 70 new engineering students! In celebrating the 10-year anniversary, three new engineering-specific endowed scholarships were established, which will help engineering students pay for their education, in perpetuity.

Both faculty and students took home some special honors this year. Johnathon Kiebler earned the Distinguished Leader Award through the MCC Foundation for his work as a leader in TRIO and the Engineering & Physics Club. Our Learning Framework professor, Dr. Michelle Powell, earned the Extra Mile Award at MCC for her unflinching commitment to student success.



Our students continued to excel both in and out of the classroom. While our international trip to Italy was sadly cancelled due to the pandemic, we were still able to publish a new edition of our travel guide series, “When Nerds Travel in Packs.” Several students completed semester-long research projects, working alongside the City of Waco’s Public Works department and Texas Department of Transportation (TxDOT). Our program even received Solid Gold Neighbor Recognition from Baylor University for being “an organization that is significantly contributing to forward progress in our city.”

Engineers Helping Healthcare Workers



When the COVID-19 pandemic forced a state-wide lockdown, a local group called the Waco COVID Seamstresses reached out to MCC Engineering for help. They needed 3D-printed face mask straps for healthcare workers. Our very own Charles Stewart was up for the task – in spite of having a full load of now-online courses.

“I was feeling so useless as the COVID pandemic got worse, so given the opportunity I felt like I was obligated to help out.” At first, Charles was using MCC’s only 3D printer. Wanting to speed up production, he started a GoFundMe page to raise money to buy more 3D printers and materials. Charles shared with us: “I did not realize how supportive everyone would be!!! Contributions were made by great and caring individuals, and by the end, I was able to afford four decent 3-D printers and more than enough consumables (filament, clear sheets, and rubber bands).” Charles is currently pursuing his BS in Mechanical Engineering at Baylor University. He continues to print straps, and has also started printing face shields for those who need them. We already miss Charles around here, but we know he is going to accomplish amazing engineering feats!



Faculty Spotlight – Bernie Smith

Bernard Smith, Ph.D. is everyone's favorite University Physics professor at MCC (the fact that he's the only University Physics professor is of little relevance)! With his family moving to Waco when he was in 7th grade, he graduated from Waco High, ultimately doing both his undergraduate and graduate work at Baylor. His undergraduate majors were Physics and Math, with a B.S. in both. Dr. Smith earned his Ph.D. in Physics with astrophysics as a specialty. He

then worked as a postdoctoral student at Baylor University for several years, working with dusty plasmas. In between stints as a postdoctoral worker at Baylor, he taught for two years at Coastal Carolina University, in Conway, South Carolina, as a Visiting Assistant Professor. He began working as a Physics professor at MCC ten years ago. Dr. Smith's hobbies mainly include gaming, but he is also an avid birder.

Jonathan Bonilla at NASA CAS

There are some students for whom a full load of courses just isn't enough to keep them busy. Jonathan Bonilla is one of those students! In the Summer of 2019, he traveled to NASA's Langley Research Center to participate in a three-day workshop where he was tasked to work with and compete in teams to solve space-themed challenges through the NASA Community College Aerospace Scholars (NCAS) program. Jonathan shares with us: "I learned that there are many aspects of a project and in order to get the job done correctly, everyone must be on the same page." His favorite part during the workshop was the process of building a LEGO robot with his team, and competing with their final



design. He also added, "I would recommend other students apply for the program. The experience gave me valuable insight into the field of engineering, and I believe it would help other students who aren't sure if this is the right field for them." Interested students should visit www.nasa.gov/stem/murep/projects/ncas.html for more information.



Nerds, Wine, and TI-89s

Having forged friendships through dropped negative signs, adding 10 and 2 to get 14, and the occasional laptop thrown across the room, we have created a family of scrappy nerds. With Fall 2019 marking the 10th year of the program, we held a celebration with program alumni and friends. A few current students joined the festivities, showcasing their Rube Goldberg machines from Statics, and we had a delightful time telling stories. We even saw Dr. Smith outside his natural habitat. To mark the occasion, we raised money for a Proven Scholar award for current engineering students. If you're interested in donating, contact Kim Patterson, MCC Foundation Executive Director, at kpatterson@mclennan.edu.



Where Are They Now?

Jamie Andriot (ME, UT Dallas, 2020) just landed a job as a Project Engineering Associate with a defense contractor.

Jonathan Beechner (CS, Texas A&M, 2019) works as a defense contractor doing flight controls. He and his new wife Emily are expecting a baby in early 2021.

Joe Bondeson (ME, Baylor, 2020) is an Application Engineer at Smith Pump Company in Waco. He's humbled by how exciting the world of pumping water is, and loves designing and engineering massive pumps and electrical motors that can move thousands of gallons of water per minute!

Alfredo de Leon (ME, Tarleton, 2020) continued at HEB with plans to work at their corporate offices in San Antonio as an HVAC engineer.

Dylan Drapela (ME, Texas Tech, 2018) is working at Brazos Electric Cooperative in Waco as a transmission design engineer. He says, "I've found a job I enjoy and I am back in the town where I grew up near friends and family. I couldn't ask for a better turnout."

Kyle Flaherty (EE, Texas A&M, 2018) is in Denver at a new space company. "When launch time comes, I get to be on the pad, in the hangar, and in the control room. Truly a space nerd's dream!"

Ragan Forrest (ME, St. Mary's, 2020) played baseball all the way through graduation and now works for PLW Waterworks as a Field Engineer!

Chris Garland (ChemE, Texas Tech, 2016) is working as a Rotational Engineer at Rheem Manufacturing in Fort Smith, Arkansas.

James Grisham (Ph.D. in AE, UT Arlington, 2017) is still at Blue Origin and says, "It is cool to see that, in industry, it doesn't really matter where you went to school. I'm able to run circles around some with PhDs from top schools." None of us are at all surprised, because James is kind of ridiculously awesome.

Jaxom Hartman (EE, Texas Tech, 2019) started an MS in Engineering through Arizona State and is recently engaged. He acknowledges the fact that she clearly has terrible taste in men but forgives her.

Victoria LaBarre (EE, UT Arlington, 2019) is working at a defense contractor and is also working on medical robots and image processing algorithms. She credits her Mars experience and discrete math class at MCC as being fundamental. She's particularly proud of a recent project, which was building an 8-foot tall mechanical werewolf.

Dave Moran (ME, Arizona State, 2019) is starting an MS in Systems Engineering at the University of Texas at El Paso. We're so excited for him!

Andres Olivas (ME, Texas Tech, 2019) is working in Houston as an Engineering Assistant for the Space Hardware Design & Analysis team at Jacobs. His dog is enjoying the family's new kitten friend.

Bao Pham (IE, UT Arlington, 2017) thanks the stars every day that he got a STEM degree. Having learned science from Dr. Andreas, he never drank bleach, understands why social distancing and masks are important, and never gets his news from memes on social media. These life lessons have helped Bao survive during the apocalypse.

Elizabeth Ponce (Psychology, UT Arlington, 2020) is starting her MA in counseling through Tarleton. We trust she still draws free body diagrams in her free time, and are glad to know she's out there saving the world!

Zachary Ratliff (CS, Texas A&M, 2018) is at a defense contractor doing research in cybersecurity and

cryptography, with a new project in privacy-preserving contact tracing.

Karen Rucker (EE, Texas Tech, 2019) is a spacecraft radio frequency engineer and master's student in Aerospace Engineering in Colorado. She's looking forward to her third analog astronaut simulation, this time in a lunar SELENE mission at HI-SEAS later this year.

Karen Sanchez (CE, Texas Tech, 2018) is working in Dallas with TxDOT in a four-year training program covering roadway design, construction, and traffic operations. She is looking forward to earning her PE soon.

Michael Shepard (EE, UT Dallas, 2019) is at IBM as a Technical Solutions Specialist, which is cutesy corporate speak for technical sales. He recently graduated with Distinction from the Summit Global Sales School (the IBM "Mini-MBA" program).

Rodney Siders (EE, Texas A&M, 2017) is newly married and looking forward to the new house getting finished. He's got his EIT and is planning for the PE next year.

Pete Silva (ME, Texas Tech, 2019) is applying to law school!

Adam Steiner (EE, UT Dallas, 2015) is still working at a defense contractor in Arizona and continues to love the RF field. He and Jody returned recently from Zion National Park. We are all very jealous.

Brandon Trout (ME, Texas Tech, 2020) maintained his 4.0 at Texas Tech, graduating with highest honors. He is at Oncor Electric as a Transmission Standards Engineer in Fort Worth.

Saul Torres (ME, Texas Tech, 2018) continues to work at Capstone Mechanical here in Waco and is definitely enjoying it.

Juan Tovar (CE, Texas Tech, 2019) is at TxDOT in the Mesquite District, working in the design section as part of an awesome rotational program.

Yuri Unterreiner (CompE, UT San Antonio, 2019) is recently engaged and added a dog to her family. She promises that she is still up to the same old shenanigans, ie working nonstop!

Jorge Vasquez (CE, Texas Tech, 2019) is working at TxDOT Bryan District. He recently completed the FE exam and is planning to take the PE sometime next year.

Michael Vorderkunz (ME, Texas A&M-Kingsville, 2016) just earned his PE license and is working at an engineering consulting firm in Corpus Christi.

Marcus Wauson (ME, Texas Tech, 2019) is researching artificial cilia actuation as part of his Master's in ME at Texas Tech.

DP Yadav (CompE, Texas Tech, 2020) landed a job in the AI department at Cognizant as a data engineer, and was recently accepted into the Master of Data Science program at UT Austin. A mini DP is on the way next spring.

Chris Irons is working in Ohio on a 487 MW combined cycle plant that is under construction, with plans in the works to build a 300 MW data center on site.

Hope Wright is continuing to work at Trane here in Waco, creating and updating method sheets for the assembly lines throughout the plant. It's been an exciting new adventure!

Jose Yamas is working on a data science immersive program through Galvanize. He enjoys using his programming skills that he learned at MCC and has become new best friends with Python.

Andrew Acosta (ME, UT Arlington) is channeling that Matlab class in his Robotics class and joined the UTA Rover Team, serving as the Co-Team leader for the arm

and effector of the rover. His kitty Toulouse approves of his life choices.

Jesus Carreon (ME, UT Dallas) is loving his classes and dreams of one day getting away from his computer!

Bernie de Alva Garza (ME & EnergyE, North Texas) is making a vibrational analysis device for a pump with Forum Energy Technologies using a raspberry pi to notice vibrational anomalies through machine learning.

Julio Herrera (ME, Houston) misses his small classes and the international adventures he had at MCC but is enjoying the challenges brought by Fluid Mechanics and Finite Element Methods.

Reagan Hughes (ME, Baylor) was flexing his mad Statics skills in a recent I&M Tribology Lab report and credits his MCC-arranged internship at CAT as the best experience on his resume.

Johnathon Kiebler (ChemE, Texas Tech) is taking a year off to enjoy with his new baby! Yay!

Aldo Perez (ME, Texas Tech) is hoping to start an MS program after graduation.

Kristen Petree (CE, UT Arlington) recently finished an online internship with Kimley-Horn on their structural team. She is serving as the Vice President for the Engineers Without Borders student chapter, is still a Steel Bridge Co-Captain, and was designated as an Outstanding Bachelor of Science Civil Engineering Student last spring. We are so proud of her!

Gareth Ruggles (ME, Texas Tech) is getting married in March and already has a job lined up at a defense contractor after graduation.

Garrett Rust (IE, Texas Tech) is considering a MS in Operations Research and loving statistics. Dr. A thinks this makes him crazy, but Prof. Sidwell says all the cool people love statistics so back off.

Robert Scanlon (EE, Mary Hardin-Baylor) is a PE for Primoris Renewable Energy in Denver, designing and constructing solar plants.

Kevin Soto Cortez (ME, Baylor) is still working with the USMC Officer Program and loving classes like astronautics and structural statics. He hopes to be a John Glenn or Alan Shepard one day.

DD Thompson (ME, North Texas) received an awesome paid internship for the City of Dallas as a water/wastewater design engineer using GIS and Microstation.

Tyler Ashley (ME, Tarleton)

Colton Black (EE, Texas A&M)

Wesley Cates (ME, Texas Tech)

Austin Davidson (ME, Tarleton)

Troy Hubbard (ME, West Texas A&M)

Logan Nordhausen (EE, Baylor)

Phearum Or (ME, Texas Tech)

Milan Patel (ME, U North Texas)

Trevor Roche (EE, Texas A&M)

Andrei Roman (EE, Texas A&M)

Hem Sah (CS, Univ North Texas)

Haley Smith (Robotics, TSTC)

Charles Stewart (ME, Baylor)

CE – Civil Engineering

ChemE – Chemical Engineering

CompE – Computer Engineering

CS – Computer Science

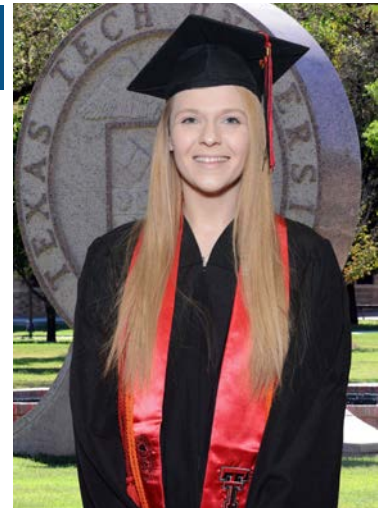
EE – Electrical Engineering

EnergyE – Energy Engineering

ME – Mechanical Engineering

Alumni Spotlight – Kaylee Wiley

Kaylee Wiley (CE Texas Tech, 2019) attended MCC right after high school as an engineering student. While at MCC, she worked as a TSTC tutor, did STEM-related activities with the students at surrounding elementary and middle schools, and spent a semester as a surveying lab assistant. She also traveled internationally to Australia and New Zealand with MCC engineering. Upon graduating from MCC, she transferred to Texas Tech University to study Civil Engineering. While attending Texas Tech, she completed an internship with the Texas Department of Transportation (TxDOT) working in the Design Division at the Lubbock district. She graduated with a Civil Engineering degree, and continued to work for TxDOT in their engineering rotation program. She recently earned her EIT certification, and is planning to take the PE exam next spring. Kaylee attributes her success at Texas Tech and so far in her career path to the engineering program at MCC. “The classes and workload at MCC prepared me, so I was able to graduate Magna Cum Laude from Texas Tech. The opportunities that MCC makes available to its students gives them every tool needed to succeed.”



Student Spotlight: Austin Davidson

When Austin Davidson graduated high school in 2013, he started college, but after a year he enlisted in the Navy. In the Navy he was a Machinists Mate (essentially a maintenance mechanic) and had the chance to work with a variety of systems such as hydraulic, pneumatic, diesel, refrigeration, steam, and turbines. After leaving the military, he returned to pursue a degree in Mechanical Engineering and expand on the mechanical aspects he had learned in the Navy. At MCC, Austin was a tutor for Statics and was in the Engineering and Physics Club. He's now studying at Tarleton State and has joined the American Society for Mechanical Engineers (ASME). “I recommend everyone going to a junior college, specifically MCC, before transferring to a university



because it is a more personal experience,” says Austin. “You are in a class with at most 20 students versus being in a class with 50+ students. This experience allows you to retain the information better. The classes at MCC seem to definitely be harder, but when you get to a university, it pays off.”



New Engineering Scholarships

One of the most exciting developments in the MCC Engineering Program this year was the establishment of three new engineering-specific endowed scholarships, each worth about \$1000 per year. Scholarship applications will be accepted May 1- 15 for consideration for the 2021-22 academic year. Scholarships include:

Capstone Mechanical Engineering Scholarship Fund –
Open to Mechanical or Electrical Engineering students

Eden Engineering Scholarship Fund –

Open to any engineering student and based on high merit and need

Proven Scholar in Engineering Scholarship –

- Designated for returning students who are within two semesters of completing an AS in Engineering
- Must have earned a B or better in MATH 2414 Calculus II and PHYS 2425 University Physics
- * Available for the 2022-23 academic year

To find out more about contributing to these and other scholarship funds, contact

Kim Patterson, MCC Foundation Executive Director, at kpatterson@mclennan.edu.

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The following person has been designated to handle inquiries regarding the nondiscrimination policies:

Drew Canham, Vice President of Student Success, 1400 College Drive, 254-299-8645, titleix@mclennan.edu.

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