breaks, and build the drivetrain. The students are excited for the chance to improve their design and show off their work at the Shell Eco-Marathon this upcoming spring!

Program News

New Cybersecurity Course

In summer 2020, we offered a new Cybersecurity pilot course designed in collaboration with Juniper Networks Inc., a multinational corporation headquartered in California (that recently partnered with CISCO). Our goal was to offer students an in-depth understanding of the state-of-art of networking using the Juniper cloud on-demand infrastructure. Cybersecurity is an important topic in computer science; we wanted to provide an opportunity for students to learn about advanced networking and technologies to implement and enhance the security of online devices. The course was meant to prepare students to pass the certification exam. In spring 2021, this course will be offered again as part of our regular curriculum.

Faculty Sabbatical

Mathematics Professor Owen Byer took a Sabbatical in 2019-20. His main project was completing a Masters in Applied Statistics through Penn State University. In addition, he revised the textbook "Methods for Euclidean Geometry", co-authored with Deirdre Smeltzer and Felix Lazebnik. The first edition was published by MAA in 2010. and the second edition will be published by Dover Press in 2021.

Student Accomplishments

Yoder and Webb Scholars

We are honored that numerous Yoder and Webb Scholars have chosen majors in our programs in recent years. Yoder and Webb Scholarships provide complete tuition for 3-5 students per entering EMU class. Current scholars in our department include: **Silas Clymer** (4th year, Math/CS major, from Meridian, MS), **Hannah Leaman** (3rd, Math Education, Bakersfield, CA), **Jansen Miller** (2nd, Math, Lancaster, PA), **Caleb Hostetler** (2nd, Engineering, Marshallville, OH), **Abby Olmstead** (2nd, Math Education, Broadway, VA), **Seth Andreas** (2nd, Math/CS, Bluffton, OH), **Noah Swartzendruber** (1st, CS, Lancaster, PA), **Hebron Mekuria** (1st, Engineering, Addis Ababa Ethiopia), and **Nathan Longenecker** (1st, Math/CS, Lancaster, PA).

Another Win for Kryptos Codebreakers

A team of EMU students took first place in the Kryptos codebreaking competition in April, deciphering three secret messages in an event hosted by Central Washington University. **Hannah Leaman** (math education), **Cameron Byer** (math and CS), and **Ben Stutzman** (engineering) solved the challenges in just under six hours to finish ahead of 48 other college and high school teams from around the world.

Collaboration was trickier this year, since the teammates had been sent home to three different states because of COVID-19. But Google Docs and a trusty Zoom call allowed the trio to combine their wits and complete the mission. With two other EMU teams also competing and solving some of the codes, EMU's future looks promising in this fun, obscure contest. You can find the challenges at www.cwu.edu/math/kryptos to try your own hand at cracking them... JRRG OXFN!

Seniors Excel Despite COVID-19

The onset of the COVID-19 pandemic disrupted the spring 2020 semester, but did not dampen the accomplishments of our seniors! The engineering program was proud to congratulate its first cohort of graduates! **Austin Engle, Collin Longenecker, James Paetkau, Ben Stutzman**, and **Juan Vazquez** completed degrees in engineering, each with an emphasis in either mechanical engineering or computer engineering. Their capstone projects included a "garbage grader," a supercomputer, a climate action website, and a rainwater harvesting system. To read more about these students' accomplishments go to https://emu.edu/now/news/ and search for "engineering graduates."

Student accomplishments were also highlighted by the establishment of three new departmental awards, which will be presented annually to recognize academic excellence to seniors in our programs. The 2020 award recipients were:

Outstanding Seniors in Engineering:
   Austin Engle and **James Paetkau**
Outstanding Senior in Mathematics:
   Andrew Reimer-Berg
Outstanding Senior in Computer Science:
   Darren Good

Stay Tuned!

In our next issue, watch for news about

- a senior design project in partnership with Dynamic Aviation

- a new Actuarial Science Minor in Fall 2021

Problem Corner

Congratulations go to the following folks who solved our last problem:

Don Hooley ('77), **Jim Glick** ('69), **Vaughn Troyer** ('93), **Sam Beachy** (2032), **Henry Perkins/Stephen Tan** (2025), **Milton Loyer** ('67), **Gerry Hunsberger** ('76), **Denton Yoder** ('85), **Gregory Sachs** ('03), **April Sachs** ('04), **Isaac Sachs** (2029), **Eric Brodersen** ('12), **Larry Lehman** ('79)

New Problem:

Find the sum of the digits of N, where N = 9 + 99 + 999 + … + 99…999, with the last term in the sum containing 321 occurrences of the digit `9'.

Send your solution to Owen Byer at byer@emu.edu

Do you know a prospective student who is interested in studying math at EMU?

Contact Owen Byer at byer@emu.edu for information about applying for the Brenneman-Longacher Endowed Math Scholarship.

Recipients receive $1,250 per year for four academic years, as long as they continue in the math major.

Eastern Mennonite University

∫Integram
Mathematical Sciences Department
Eastern Mennonite University
Harrisonburg, VA 22802-2462

Return Service Requested

The Fuel-Efficient Vehicle

EMU's Shell Eco-Marathon team is back at work this fall after COVID-19 cut short their work and cancelled the event last spring. Sophomore engineering major **Ben Bontrager-Singer** leads a team of approximately 10 students designing a fuel-efficient vehicle that attempts to maximize distance traveled on a single tank of gas. The project brings together many educational aspects, from aerodynamics and structural stability to hands-on skills like welding and fabrication.

Much of the basic design work was completed last year; now the team is working to build and integrate the subsystems together into a drivable vehicle. Currently, groups are working to prepare an additional layer of fiberglass to reinforce the body, finish the fuel pressure system, mount and tune the