

Problem Corner

Congratulations go to Jesse Blosser ('03), Elias Kehr ('13), and Andrew Troyer ('19) who correctly determined that 16 days was sufficient to ensure that you found Ed the Turtle.

New Problem:

How many 20-digit positive integers use each of the 10 digits at least once? (Note: The number may not start with a 0.)

Send your solution to daniel.showalter@emu.edu with the words "Problem Corner" in the subject line.

Do you know a prospective student who is interested in studying math, computer science, or engineering at EMU?

The Brenneman-Longacher Endowed Math Scholarship provides \$1,250 per year for four academic years, as long as the student continues in the math major. Contact daniel.showalter@emu.edu for information about applying.

The Women in Engineering and CS Endowed Scholarship provides over and above support to first-year female engineering or computer science majors, with additional support for the remaining three years if the student continues in the program.



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Math, Computer Science, and Engineering
Eastern Mennonite University
www.emu.edu/math Fall 2024

Intercultural Adventure



Last summer, Stefano Colafranceschi, Associate Professor of Computer Science and Engineering, led an intercultural experience for 23 enthusiastic students at CERN, the European Organization for Nuclear Research. This immersive program aimed to blend science and culture as students explored cutting-edge laboratories and engaged with researchers at the forefront of particle physics. The highlight was a collaborative project on designing a rocket engine intended to reach the TRAPPIST solar system. Working together, students from diverse backgrounds shared their unique perspectives, combining creativity and technical skills to tackle the complex challenges of space travel.

After their time at CERN, the group journeyed to Rome for two enriching weeks dedicated to exploring the themes of Christianity and faith. Their itinerary was packed with visits to iconic landmarks,

including the Vatican and ancient cathedrals, where students could witness the intersection of history and spirituality. By bridging the gap between advanced technology and the profound questions of faith, the experience cultivated a deeper understanding of the world and our place in it!

Program News

S-STEM Grant

A team of EMU professors secured a \$1.9 million S-STEM Track 2 grant from the National Science Foundation. The grant will run from 2025-2030 and provide substantial scholarships to 23 incoming STEM majors who have demonstrated both academic talent and financial need. Cohort members will also receive opportunities such as a one-week bridge program to EMU, opportunities to engage with the Park Woods Restoration Project, pairing with a mentor in industry, and paid summer research internships. Scholarship recipients will be selected by a committee based on financial need, academic merit, and alignment with the interdisciplinary goals of the program.

Engineers in Action!



Mana Acosta and **Levi Stutzman** helped to build this bridge in southern Africa.

Spotlight on Student Internships

A number of math, computer science, and engineering majors worked as interns this past summer, in a variety of settings. Here's what our student interns have been up to:

- **Mana Acosta** and **Levi Stutzman** (engineering) traveled to Eswatini in southern Africa as part of a bridge building team with Engineers in Action. Levi was the logistics manager and Mana was the design manager for the bridge build. (see photo)
- **Rebekah Copeland** (CS) did an REU at Virginia Commonwealth University on attempting to predict conversational derailment and toxicity in user interactions on GitHub, using large language models.
- **Benjamin Friesen-Guhr** (engineering) worked at the Kauffman Museum in North Newton, KS, designing and building the technical aspects of traveling exhibits.
- **Abby Greenleaf** (math) worked as an actuarial analyst intern at a reinsurance firm in Nashville, TN.
- **Kervens Hyppolite** (CS) worked on cybersecurity-related projects for Commonwealth Security and Risk Management (CSRM) at the Virginia IT Agency (VITA).
- **Micaiah Landis** (engineering) conducted a total of 50 bridge inspections in West Virginia, inspecting bridges that had been designed by JZ Engineering and built by Mennonite Disaster Service.
- **Adam Stoltzfus** (engineering) interned as a mechanical engineer at Valley Engineering in Mt. Crawford, VA, doing CAD work designing HVAC systems.

Faculty News

Welcome John Pescatore



John Francis Pescatore joined EMU's faculty this fall as Associate Professor of Engineering. The Boston, MA, native holds degrees from Northeastern University, University of Cincinnati and Tennessee Technological University. He is a Registered Professional Engineer in Virginia and Ohio. He is an enthusiastic promoter of the engineering profession, and is excited about joining other faculty in the mission of educating the next generation of engineers. John comes to EMU with a background in both professional engineering and academia in the USA and UK.

Sabbatical Spotlight

Daniel Showalter, Associate Professor of Mathematics, focused his spring 2024 sabbatical on how professors can best support student mental health. "Although mental health may seem far from the mathematical content in our classrooms," Showalter said, "the reality is that our mental health impacts every area of life, including learning and motivation. I want to be better prepared to work with students holistically so they can succeed in the classroom." During his sabbatical, Daniel talked with students, student life staff, and counseling centers at several schools and universities; examined the research literature; and worked on several individual areas of concern. He will share more in a Sabbatical Spotlight presentation at EMU on February 18.