

BLUEPRINTS AND BARBELLS

Competitive Weightlifting Helps Civil Engineering Grad Build on Her Success

By MELANIE JOHNSON

When **Susanna Eng** crossed the Commencement stage in May, she left with much more than a well-earned degree.

The graduating civil engineering student also took with her a sense of profound triumph for her accomplishments and a community she has actively contributed to building – literally and figuratively.

The Walnut resident served as treasurer of Bronco Lifting, a campus club for students interested in strength sports. When she started with the club in 2022, formerly called CPP Olympic Weightlifting, there were less than a dozen members.

“The intent was to revitalize the club because I noticed a growing interest among students in competing for weightlifting,” Eng says. “At the time, we had unofficial training sessions together, and I even had to bring my own bar to campus due to lack of equipment we faced.”

Today, the club has close to 100 members and is an affiliate of both USA Weightlifting and USA Powerlifting. Club members actively compete in local and national competitions. While nationwide participation in the sport is growing for women, Susanna was the sole female competitor and board member of the club during her third year with hope to make the club more inclusive.

“I was the first girl from our university to compete in a national competition, which requires a qualifying total,” Eng says. “It was a great opportunity to do something athletic and represent Cal Poly Pomona in the snatch and the clean and jerk events.”

Her current total is at 121 kilograms (267 pounds), but she has plans to continue her hobby after college.

For Eng, weightlifting is not just about building herself up physically. It also gives Eng, who has dyslexia and ADHD, the mental toughness needed to take on a particularly challenging major.

“If it wasn’t for weightlifting, I wouldn’t have the attitude to manage a course load of engineering for four years,” she says. “It takes away a lot of academic stress.”

Eng sees the parallels between engineering and weightlifting as well – the dedication, discipline and meticulous nature needed to be successful in both.

“If I am making myself stronger by adjusting detail in each lift,” she says, “how can I make this structure stronger to uphold public safety?”



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Journey of Exploration

Eng's area of civil engineering, geospatial engineering, is very specialized, with about seven to 10 graduates from CPP each year. It involves mapping, collecting and analyzing geographic data. Eng knew she had an interest in engineering from her experience with science projects in middle school at Southlands Christian and athletic extracurriculars with iPoly High School. It helped her become more diligent and committed.

She also pursued a minor in computer information systems (CIS) to cultivate her tech skills. She has worked as a student assistant for seven academic terms in the Division of Information Technology (IT) on campus and as a teaching assistant in the CIS department for four terms.

CIS Professor Ruth Guthrie says Eng is well organized and a problem solver. "She was the most outspoken and participatory student you could ever imagine, and she brought everyone along with her," Guthrie says. "She lightened the mood in the class. It's amazing how much she has on her plate, and she does it all so well."

Civil Engineering Professor **Allan Ng** affectionately refers to Eng as his "niece" and has taught her in four classes and two labs. Diligent and hardworking, Eng has grown and matured as a student and person over the past four years, Ng says.

"She is very persistent to the point where she is stubborn," Ng says. "Her tenacity is something I notice. Whatever class project or research she is doing, she will get it done."

Eng, who will be pursuing a graduate degree in geomatics engineering at Oregon State University, served as treasurer of the Institute of Transportation Engineers where she had opportunity to present research in several professional conferences. The college journey has all been about the experiences and space to learn, grow and lead.

"When I look back at college, I want to remember the chance I had to contribute meaningfully to this university that provided me with an opportunity to become a better person," she says.

Making SWIFT Work of the Competition

By **MICHAEL LANDERS**

By the end of 2024, the cost of cyberattacks on the global economy could surpass \$10.5 trillion, according to Forbes Magazine. Industries such as finance and hospitality have grappled with these crimes, and cyberattacks are also impacting supply chain management, local cities and school districts. Cybercrime Magazine reports that "60 percent of small companies go out of business within six months of falling victim to a data breach or cyberattack," so it's no wonder that cybersecurity is one of the top concerns in the global business sector and geopolitical landscape.

Through competitions, research opportunities and faculty leadership, Cal Poly Pomona is preparing students to meet the increasing demands of this crucial industry. The university is entering its third decade of designation as a **Center of Academic Excellence in Cyber Defense** by the National Security Agency, Department of Homeland Security and Central Security Service.

In addition, the university's programs reach out to high school students, creating a much-needed pipeline to college and industry.

"Cyber is a STEM (Science, Technology, Engineering and Math) field and there are great opportunities for employment in technical, non-technical or mixed environments. Cal Poly Pomona cybersecurity students mentor each other, train every weekend, and are often recruited by major firms and government agencies while they're still in school. Many have high-paying jobs waiting for them after graduation," says **Ron Pike**, director of the **California Center for Cyber Risk** and professor of computer information systems.