

SJSU

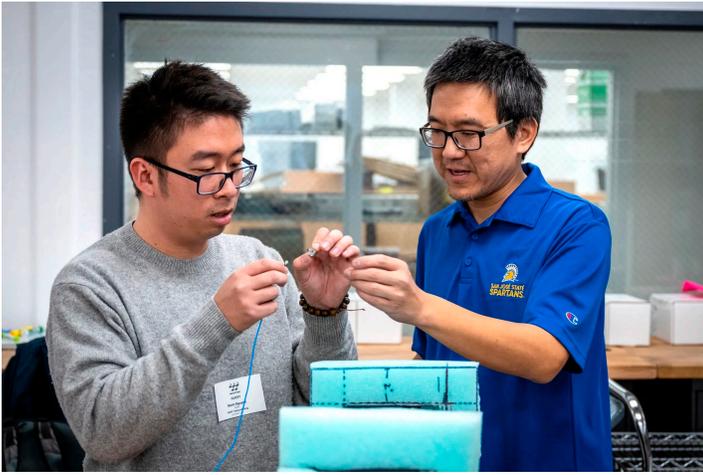
GOOD THINGS COME in (Many) Packages

by Cassie Myers | Spring 2024

By the time a package is delivered to a consumer's doorstep or a company's warehouse, countless seemingly invisible things have already happened: feats of organization design engineering logistics and other considerations have all come together to ensure its safe arrival.



Manh Nguyen, '25 Packaging, and Edmund Tang, assistant professor of nutrition, food science and packaging, examine a package during testing at Westpak labs. Photo by Robert C. Bain.



Edmund Tang (far right), assistant professor of nutrition, food science and packaging, helps Manh Nugyen, '25 Packaging, test a package at Westpak labs. Photo by Robert C. Bain.

One of these steps is the design and testing of the package itself, a complicated process that is largely overseen by a misunderstood and often overlooked profession: packaging engineers. Someone has to create the packages that products are shipped (and flown and driven) in, to ensure that items arrive safe and sound. This is important for consumer products, of course, but even more important for other crucial items that are moved around the world, including medical devices, food, pharmaceuticals, high tech and even hazardous materials.

“The first fact I usually say is that packaging will never, ever be obsolete because every product needs a package,” says Edmund Tang, assistant professor of nutrition, food science and packaging and director of the SJSU packaging program.

“You can pretty much go into any industry you want. If you look at the Bay Area, specifically, we’re saturated with medical device, pharmaceutical and high tech companies.” And as one of only two packaging programs on the West Coast, the SJSU packaging program is unique.

SJSU packaging students have a nearly 100% job placement rate, and starting salaries for newly graduated packaging engineers can easily begin in the \$80,000–90,000 range. Ashwini Wagle, department chair of nutrition, food science and packaging, says her son Tanay Prabhu, '19 Packaging, “has a great job and is very happy.” He’s worked at HQ Pack for nearly four years, packaging high-sensitivity materials, including semiconductors — the packaging alone can cost thousands of dollars.



Autumn Walker, '24 Packaging (left), and Ronak Singamsetti hard at work testing packages in the Westpak lab. Photos by Robert C. Bain.

Partnering with Westpak

Packaging design is one area of expertise; packaging testing is another. At San José State, packaging students get a chance to experience both, thanks to a long-standing partnership with Westpak, a local third-party test lab. Tang is a long-standing employee at Westpak, and still works there part-time as a principal engineer while he's teaching. Westpak has also donated funds and equipment over the years.

Westpak CEO Nora Crivello also sees SJSU and Westpak as intertwined: "So many local packaging professionals come from San José State's packaging program and so many of them test at Westpak that the two have become inextricably linked," she explains. Westpak founder Herb Schueneman has been a lecturer at SJSU for decades, and at one point was the interim program director, which Crivello says "further solidified the WP/SJSU bond." She adds, "While I personally didn't go to SJSU, Westpak's founder is my father, so I've always felt an affinity for the school and the bond between the two organizations. I always love seeing the students in the lab after hours, working with Edmund."

Over the past 20 years, SJSU students have interned at Westpak. Tang also takes them on field trips and introduces them to guest lecturers in the field.

Students learn how to use software to design and develop their own packaging for different products, then build the packaging out of various materials and, in some cases, even test its effectiveness. And students also have the opportunity to take various courses that allow them access to the laboratory at Westpak.

These courses range from advanced testing to medical device packaging to protective packaging and dynamics. Late one Friday afternoon in early December, four Advanced Packaging students gathered with Tang to test packages designs in the lab, a large open warehouse space filled with several wicked-looking, state-of-the-art machines.

They used Westpak equipment, including machines that simulate transportation vibrations (like the vibrations of a plane, train, or truck), drops (a machine that literally drops packages from various heights), and compression (using a machine that exerts force on packages from above). The lab resounded with loud bangs and crashes every few minutes from the drop tests, but none of the practiced packaging students even flinched. They were there to work and learn.



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An exciting program

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"We always work in small groups in every class, so I consider being at Westpak a team exercise," says Manh Nguyen, '25 Packaging. "No matter the course, we always begin with a briefing of the daily material, and then we are given time to apply whatever concept into a simulation of a real-world situation."

Nguyen began the program with an interest in designing packaging for consumer electronics, but says that since he learned about testing he's "more open to other industries and functions within packaging."

"The San José State packaging program has been a great experience," he concludes. "It let me enjoy my college experience as well as learn a bunch of skills I'll actually be applying in the real world."

For her part, Autumn Walker, '24 Packaging, learned the field from her father, a packaging engineer. But she chose SJSU particularly for its emphasis on science.

"There are a few different ways you can go in packaging," she explains, "and this program seemed to focus a lot on the actual science behind it, especially in materials and foam and other things like that. So it was very exciting."

She interned in packaging development at Benefit Cosmetics and hopes to continue with the company after graduation. Luckily, she'll be graduating into a tight-knit and supportive community.

"The packaging professional industry is small; we all know each other and more importantly, root for each other," Crivello says. "I love that Edmund is now the glue that connects students and new grads to industry, and industry takes them in and mentors them. It's a tradition I hope to see continue for decades to come with more support from industry for the program, and more students available to industry from San José State."

Learn more about package testing at Westpak labs



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