UC SANTA BARBARA

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Great Odds

Raya Feldman was taken off guard when she first heard about actuarial science. “On my second day here, a student walked into my office and said, ‘I want to be an actuary.’ And I said, ‘act-what? I need a dictionary, I don’t know what that is,’” recalled Feldman, a mathematician who grew up in Eastern Europe and the Middle East.

Feldman went on to develop one of the top actuarial science programs in the country at UC Santa Barbara, where she serves as its director.

Actuaries assess and manage risk. They’re best known for their work in the insurance industry, but their skill-set finds applications across the economy. And the path into the profession provides a truly multifaceted experience. Students take classes in math and statistics to understand data and equations; in finance and economics to understand commerce and behavior; and computer science and programming so they can take advantage of analytic technology. “It’s an extremely interdisciplinary program,” said Feldman, “and that’s what attracts a lot of students.”

UC Santa Barbara’s still-young combined bachelors and master’s degree program is unique among its peers. It also is turning out award-winning students. Among them is senior Stephanie Lee, who in November won first-place for her research presentation at the 2018 Actuarial Research Conference in Canada.

“It means a lot to me because this award is very prestigious,” said Lee, who will graduate in spring 2019. “I had the opportunity to share my research in a world-wide competition.” Lee presented her work on risk in the reverse mortgage program, which had yet to garner widespread attention in the actuarial community. “It is rewarding to see my research being so well received,” she added.

UC Santa Barbara sends students to present at the Actuarial Research Conference every year. “These are students who are basically undergraduate and master’s students, and they compete against Ph.D. students from other universities for the prize,” said Feldman, an associate professor in the Department of Statistics and Applied Probability.

Established in 2010, the university’s undergraduate actuarial science program has been expanding ever since. “In nine years we grew from zero to 358 students,” said Feldman. The dual BS/MS program was added in 2012, originally intended for around six students. In 2018 it had 17 master’s students, and next year it will grow to 20.

“I wish we could take more students,” Feldman said. The program’s core curriculum limits the number of applicants the department can accept.

The faculty designed the master’s program around a two-quarter research class in which students work on teams to address projects submitted by actual businesses and organizations. “We have projects on text-mining this year from two companies, as well as on predictive analytics and medical care,” Feldman said. “So the students really use what they learned in their classes on real data and projects which are of actual importance.”

The capstone has attracted a great deal of praise from the profession. Funding, too. The Society of Actuaries awarded UC Santa Barbara an education grant that supports a post-doctoral researcher to work specifically with the students in this course.

In addition to providing students experience with conferences and case studies, the dual-degree program also prepares them for the realities of a career as an actuary. Students must pass six to seven exams to become certified as an actuarial associate, one of the two levels of accreditation. Generally, they sit for two to three exams while at school and continue taking exams while working, said Feldman.

Each exam is typically three hours long, requires around 100 hours of studying and has a pass-rate between 30 and 40 percent. The curriculum of UC Santa Barbara's program covers all the topics that appear on the various exams, as well as the education requirements set forth by the accrediting institutions.

What's more, the department reimburses students for passing exams while they are enrolled at the university, starting from the second exam passed. "We want to make sure that students do not delay taking exams because of the high cost," said Feldman.

In 1991, long before an actuarial program existed on campus, students established the UCSB Actuarial Association, which now complement the university's stellar program. Today that association is a crucial complement to the academic program. It provides resources to students interested in the vocation, connects them with professionals and hosts an annual career fair in the fall.

The association also organizes student teams to participate in actuarial case competitions, in which they compete to best solve a particular case study. These are especially valuable for students who are not in the master's program, said Lee, who served as the association's president in the 2016-2017 academic year. Currently, Permoon Hussaini leads the organization, which has an active and diverse membership.

"According to the Society of Actuaries, only 30 percent of accredited actuaries are women." Feldman explained. "So I'm very proud that our association has lots of women leaders."

Actuaries report some of the highest job satisfaction levels out of any profession. And, as Feldman noted, it can't hurt that it's practically a recession-proof job — when the economy takes a downturn, companies focus even more resources on managing their risks. The path into the career is challenging, but UC Santa Barbara has crafted a unique program to ensure its students' success.

"I can't imagine a better, more supportive program that prepares you for the actuarial career than UCSB's program," said Lee. "I'm so happy that I came here."

About UC Santa Barbara

The University of California, Santa Barbara is a leading research institution that also provides a comprehensive liberal arts learning experience. Our academic community of faculty, students, and staff is characterized by a culture of interdisciplinary collaboration that is responsive to the needs of our multicultural and global society. All of this takes place within a living and learning environment like no other, as we draw inspiration from the beauty and resources of our extraordinary location at the edge of the Pacific Ocean.