

EDUCATING ENGINEERS

By Diane Donofrio Angelucci '81

Diane Donofrio Angelucci is a freelance writer living in Clarksboro with her husband, Dan Angelucci '75, and their two children.



When Henry and Betty Rowan made their stunning \$100 million gift to the College in 1992 and proposed starting an engineering school, it seemed like a freshman class was eons away. Last month, the Rowans' investment in educating young engineers came to life when 102 of the brightest students in the region and nation began their college career at Rowan.

Most of the freshman engineers turned down offers of admission to large, well-established engineering schools. Many turned down scholarships at other institutions. Their reasons for choosing Rowan's start-up program are as varied as the futures into which they will walk, all educated in engineering disciplines redesigned at Rowan for the coming millennium.

When prospective students weighed their options, one feature that tipped the scales toward Rowan was the PRIDE 2000 Program, Partners with Rowan in Developing Engineers. PRIDE 2000

unites local and international companies, such as Johnson Matthey Inc., 3M, and Bell Atlantic, to provide scholarships and summer internships and to foster collaborations with engineering faculty. Scholarships also will be provided by the Rowan College Foundation, private donors and the Glassboro State-Rowan College Alumni Association.

"I thought it was an opportunity to make a difference, if only in one person's future," said Michael Critser of Norwalk, Conn.-based Reed Exhibitions Cos., which sponsored a scholarship. "That one person could be the next Bill Gates."

The combined package—a leading edge engineering school and paid tuition—was irresistible to many prospective students. "I never even considered another school," says Aislinn Polhamus, a freshman from Millville. "After all, if you were going to sink this kind of money into a program, you would make sure that it was the best."

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Students learn about membrane separation technology with Dr. Stewart Slater. The process has uses in many fields, including medical, environmental and chemical disciplines.

The faculty excitement about the program also lured many students. "I was very impressed with the enthusiasm of the dean of engineering and his staff," says Theresa Gouker of Ellicott City, Maryland. "I visited other colleges and they just seemed to me to say, 'Just come to our college. It's a really good school.' But they weren't as enthusiastic as the staff at Rowan was."

"Talking to the lead electrical engineering faculty member, Dr. John Schmalzel, helped convince me to come," says Scott Rehm of Centerreach, New York. "He was so excited about the program it was contagious."

Enthusiasm continues to grow as administrators and faculty prepare to arm this Class of 2000 with the skills these students will need for a new era. "The timing of this is quite significant because we do need a different kind of engineer for the 21st century," says James H. Tracey, founding dean of the School of Engineering.

To meet this challenge, the School of Engineering has built a unique program, pulling together the best features of engineering schools throughout the nation. "Engineering is rapidly changing

in so many ways," says C. Stewart Slater, professor and program chair of chemical engineering and the 1996 winner of the esteemed George Westinghouse Award for his contributions to engineering education. "In starting a new school, we can take advantage of all the new technologies that are out there and implement them."

This hands-on, highly integrated, team-oriented program will expose each student to every facet of electrical, mechanical, civil and chemical engineering. "The important problems in our society of the 21st century do not fall within single engineering disciplines," Tracey says. "They're multidisciplinary in nature."

In many companies today, problems are solved by teams that include engineers, business people, and those with other expertise. Rowan's E school hopes to provide a similar experience in the classroom, an opportunity that appeals to David Thatcher of Edgewater Park. "I'm excited by the interdisciplinary focus of the engineering program: everybody working together, really mixing it up," he says.

Sheth Jones, a freshman from

Philadelphia, believes the teamwork training will give him an edge in the job market. "I think that's something that a lot of companies are looking for," he says. "When you get into the real world you have to work with other people, so you might as well do that in college, too."

"The interdisciplinary nature helped me make my decision," says Nicholas Jankowski of Reading, Pennsylvania. "I thought, 'Wow! We're not just going to get pushed off into a corner—we're going to be in the real world.'"

The engineering program will strongly emphasize communications skills, modern engineering problems in the laboratories (with many of these challenges provided by regional industry), and a summer internship program. The internship program was one of the reasons Sean Hanson of Williamstown chose Rowan. "I think it might help in getting a job when I get out," he says.

In addition, Rowan's engineering program will cultivate an entrepreneurial spirit. Students will be challenged to determine the marketability of products they build. This is particularly unique, explains Tracey, because many engineering programs have no business component. "We intend to graduate engineers who think not just of absorbing a job, but of creating jobs," Tracey adds.

The enthusiasm that propels this program is not dampened by its current lack of a permanent home. The 100,000-square-foot Henry M. Rowan Hall, which will house the School of Engineering, is scheduled to open its doors to students in fall 1997. In the meantime, graduate classes, which began last fall, and undergraduate classes are held in existing classrooms and laboratories. Although the school cannot seek accreditation until the first class of engineers graduates, accreditation will be retroactive once it is attained.

Despite these challenges, engineering faculty from across the country have been eager to join this innovative program. More than 500 educators applied for seven faculty openings. "This is the

kind of challenge that I've been looking for all my life," says Ralph Dusseau, professor and program chair of the civil engineering program. A Michigan resident for 40 years, Dusseau explains that he moved here specifically to be part of this program. "It's that important."

The newness of the program also seemed to attract students, according to Al Betts, associate director of admissions. "I think that the type of student that we're dealing with tends to look for a challenge," he notes. Damen Cheung of Boonton, who learned about the program from his guidance counselor, was intrigued. "It's kind of exciting to be part of something new—to be part of the first class," he says.

The goal was to enroll 65 students for the first freshman roster. Results surprised everyone, including the dean. "When I started here we thought that if

we have even 60 very good students, that would be good for a new program because we were targeting students with SATs of 1200 or higher and in the top 20 percent of their high school class," says Tracey.

At the application deadline, 455 students had applied. Of the 155 students who were accepted, 102 students enrolled. Their SAT scores averaged 1274, with an average class rank in the top 12 percent of their class. "We've recruited probably the best group of students that I've ever had the chance to work with," says Dusseau.

The bright freshman group includes 17 women. "Women are still the minority in engineering, but that is changing," says Zenaída Otero Keil, faculty member and associate dean of engineering. "Rowan has a commitment to encourage women. We can no longer afford to

waste any talent."

Luis Garcia of Mickleton appreciates being able to earn a quality education close to home. "I thought about it for a long time, but I knew that a new program would be a great opportunity for me," he says.

For years to come, countless students will continue to benefit from this program, conceived through the generosity of Henry and Betty Rowan. As the School of Engineering develops and flourishes, Henry Rowan observes it with interest. "It's a tremendous source of both pleasure and satisfaction to me to see the progress of the engineering school, to see the energy that's going into it, to see the enthusiasm for it, and to see the determination to make it the quality school that we are hoping for," he says. "I think it's marvelous." ■



Expecting about 60 students to enroll, plans for the first E School class were hopeful but conservative. By September, 102 of the brightest students in the nation had chosen Rowan's revolutionary program to prepare them for engineering in the new millennium. Faculty and staff joined students for this photo.