A conversation with Zulma Toro-Ramos

By Dan Voorhis
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Zulma Toro-Ramos had to really lean on her niece to persuade her to become an engineer. Her niece is happy now, Toro-Ramos said, but it can be a tough sell.

It's a battle that the dean of Wichita State University's college of engineering is winning more often these days.

Toro-Ramos has become a major player in WSU's effort to become an engine of economic growth, in addition to its traditional educational mission.

The college is turning out more engineers, assisting companies with engineering challenges, encouraging faculty to commercialize their research, even dispensing grant money to finance company growth.

It recently awarded competitive grants to several local companies with promising technologies and expects to conduct another round in the spring.

Toro-Ramos, 52, is a native of Mayaguez, Puerto Rico. Drawn by a natural love of working with her hands and fixing things, she went into industrial engineering — one of the few women to do so, although she said that is changing.

She taught engineering at the University of Puerto Rico-Mayaguez before discovering a talent and taste for administration. She headed up the engineering school at the University of New Haven in Connecticut before coming to WSU in 2005.

What is the college of engineering doing about economic development?

“About a year ago we launched a new center, the Center for Innovation and Enterprise Engagement, and the main purpose of the center is to facilitate the transfer of the technology and research findings from the lab to the market.

“The main focus of the center is not the big companies. We support the big companies if they need our support, but mainly we are focused on providing technical support and technical expertise and facilitating that transfer to small and medium-sized companies.”

What does the college of engineering offer?

“We have the faculty, we have the students and we have the infrastructure in the university. We have very specialized labs that you can find nowhere else in the neighborhood. We have students that at the same time they are getting a degree, are learning about these new technologies and immediately after graduation they can become effective engineers.

“And the faculty, as well. If you look at higher education traditionally, we were an ivory tower. This is a different model in which the faculty is involved in solutions to real-world problems and helping economic development.

“The other way we are different, as a center, is that in most of these cases we can match the money that the companies bring to the table. We have sources of funding from the federal government. That allow us to match their funding.”

Is it wise for a public institution to get involved in funding young companies?

“We are not investing big amounts of money … and even if the company is not successful, we provide our students the opportunity to be educated. And that is main objective: to educate the engineers of today and tomorrow.”
Are the faculty really entrepreneurial?

“This type of activity is not for 100 percent of the faculty. We have some faculty with the desire and personality to allow them to be in this type of role. Some will decide not to be in this type of role. And that’s fine.

“But when we hire faculty we are very, very careful in the type of faculty that we hire. We hire people who fit our needs and our mission as a research university.”

Are students responding to the call for more engineers?

“From fall 2005 to fall 2011, the number of undergraduates in the college increased by 59 percent. That tells you the college of engineering is growing.”

How are you getting more students?

“We have been working closely with the K-12 system for a number of years and now we are seeing the results of that pipeline of students interested in Wichita State University.”

But how many are actually local?

“People talk about the high percentage of international students we have and, at the undergraduate level, that is not true. At the undergraduate level, 80 percent of our enrollment is domestic. Only 20 percent is international. When we talk about graduate enrollment, the situation is different, but at the undergraduate level, which is what the Legislature has talked about, we can say that 75 percent of them come from Kansas.”

How do you encourage these Kansas undergrads to seek higher degrees?

“We have a grant from the Department of Labor to help us in achieving that. We have 30 scholarships at the master’s level and 10 at the PhD level that will allow us to pay the tuition for those students who are selected. It’s only for domestic students. So we are really interested in building that pipeline.”

Is engineering really a sure-fire job for students?

“As we speak, at companies across the United States, such as Spirit and Boeing, at least 40 percent of their engineers are retirement age. They’re baby boomers, and a good number have not retired because of the market. But in the next three to five years, they will retire. And that is only replacing those who now have jobs, not those needed for an expanding economy.”

So, if want to be an engineer, you’ll get and keep a job?

“Definitely, and you will be getting higher income than average.”

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