Paul Rael's decision to enroll in the Department of Technology at the University of Northern Iowa in 2000 for a bachelor’s degree in electromechanical systems must have been surprising — to his friends, colleagues, and family.

After all, he already had an associate's degree in electronics engineering technology from Hawkeye Community College and had been working as an electronics technician for more than 10 years.

He had his reasons, though — two, to be precise.

"I was fixing automated machines," he says, "but seeing them being built made me realize I wanted to know how to engineer them."

Also, the company that he was working for at the time "was just entering the OEM [original equipment manufacturer] automated equipment business."

"Unfortunately, their OEM automated equipment endeavor was short lived," Rael recalls. "While I was attending UNI, they got out of it. Thankfully, I decided to finish my degree anyway."

Going back to school after such a long break was challenging, Rael recounts. "Being a non-traditional student, the challenge was juggling home life, work, and school. I had to sacrifice the things I liked to do in my free time for classes and study time."

The undergraduate coursework at UNI was challenging, too, he says. "Some of my most challenging courses were Calculus I and II and Physics for Science and Engineering I and II, but for me they were also some of the most rewarding."

The most interesting project that Rael worked on was his senior year design project.

"It was a standalone test cell project for John Deere," he recounts. "It contained a programmable logic controller and a human-machine interface for the operator to customize various aspects of the test he/she was performing."

Rael graduated summa cum laude from the Department of Technology in 2004 and, two years later, he joined TDS Automation, a Doerfer company.

"At TDS Automation, we build OEM automated equipment for various industries," he says. "I work as an electrical controls engineer designing, programming, testing, and installing the equipment we engineer."

What Rael likes most about his job is the variety of tasks that it involves.

"Sometimes I'm doing the electrical CAD [computer-aided design] of a project, while at other times I'm programming a machine to perform the specific task it's designed for," he says. "Most of our projects last from a few weeks to a few years. Every project is different, giving me the opportunity to learn something new all the time."

He thinks what he studied at UNI laid the foundation for him to "understand and use the technologies we engineer into our equipment every day."

"The science and technology courses taught me how to understand, evaluate, and overcome difficult technological challenges," he says.

His days at UNI may have been challenging but Rael strongly believes "the reward was definitely worth the price."

"I don't think I'd be where I'm at today without the education I received at UNI," he says.

Thus, he advises students to "study in high school, dream big, and go to college."

"For most, having a college degree will present many more opportunities than a high school diploma," he adds. "Having entered UNI as a non-traditional student, I can also say that it's never too late to go to school."

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