

RCCC: Starting Points

"I'm ready to get crackn' and, you never know, maybe invent a cure for cancer."

– Cierra Darling, RCCC biotechnology student

Cierra Darling, Mark Secunda along with Roger and Susan Lee, are students in Rowan-Cabarrus Community College's BTC 181, basic lab techniques class. They are working their way through a semester of learning about everything from solution preparation to volumetric dispensing to documenting experiments. In one of their first labs, they practiced statistics using M & Ms as aids. Two weeks later, they advanced to practicing measurements with micropipettes.

Shirley Foley, Ph.D., who teaches the course, is one-third of RCCC's biotech program. Alan Kaufman, Ph.D., a 16-year veteran in numerous types of manufacturing, is head of the Bioprocess Manufacturing Technology Program. Marcy Corjay, Ph.D., who worked in pharmaceutical research and development and project management, is the biotechnology program head. All three instructors are teaching basic biology and biotechnology courses until they begin advanced course offerings like cell structure, genetics, recombinant DNA, immunology and immunologic techniques in fall 2009.

Foley's students represent four of the approximately 30 students who have attended RCCC's biotechnology

courses since they were first offered in 2007. The number is expected to increase. At enrollment each semester, the instructors see new students who are, at this point, taking development courses in math and biology to prepare them to enter the school's associate degree programs in biotechnology and agricultural biotechnology. Even more information seekers call or come by the R³ Center in Kannapolis, where the instructors have their offices.

"I get at least two calls a day for information," Corjay said. "We get a lot of calls from people who already have degrees. In some cases, advanced degrees who want to retrain themselves so they can get employment over there (the North Carolina Research Campus). We tell them courses that will allow them to restyle their resume and, with their dependability and track record, will help them get a job."

"We also see types who want to stay in business and are trying to get specialized information that helps them compete," Kaufman said.

STARTING A BIOTECH CAREER

For those considering a career in biotechnology, the first step is to sharpen math and science skills. Corjay emphasizes that RCCC's development courses are excellent and "prepare students well, building their confidence in their abilities."

"Our students can end up with more experience than a Bachelor of Science student could," Corjay said. "Because of the applied science, it means they are actually working, doing, experiencing in a lab. All of our courses have significant lab portions as well as lectures. It is hands-on training. They are going to walk into the lab and be more comfortable and familiar than I was with a BS in biology."

Corjay cautions that lab work can mean hard work. "The average student should expect to work," Corjay said. "It's not the kind of courses that you memorize facts and cram for the exam. You actually have to apply math. In many instances, the non-traditional students, because of their dedication and increased discipline, are doing better."



Cierra Darling learning to use a micropipette in a basic lab techniques class at Rowan-Cabarrus Community College.

Secunda is an example. After 20 years in manufacturing engineering, he's glad to be back in the lab. "My first two years were in laboratories, and that's when I was happiest," he said. "I've got to get back to the labs. Whether it will be research or industrial, I'm not sure yet. For now, I'm updating myself with the technology."

He's considering pursuing a doctorate of pharmacy following his coursework at RCCC. "Pharmacy will always be cutting edge. Pharmacy will allow me to be on the forefront of these technologies."

Roger Lee, who also has a background in manufacturing engineering, is interested in agricultural biotechnology. His wife Susan, whose manufacturing job was sent overseas, is thinking about becoming a laboratory technician.

"I was with manufacturing for 25 years," Susan said. "So now, I'm going to reinvent myself. I'm in my second year. I'm really starting to get into the harder classes. It was intimidating in the very beginning. Now that I've been here for awhile, I don't feel as uncomfortable as I did at first. You see a lot of people here my age too. It's really a new adventure and a lot of fun. Well, there's times when it's not so fun."

Roger obtained his first degree from Central Piedmont Community College in Charlotte in welding. He later earned a two-year degree in manufacturing engineering. He worked at IBM for 20 years, 16 of which he ran robotic lines that built printers and computers. After being laid-off and receiving disability, he became interested in agriculture. When he found that RCCC offered an agricultural biotechnology degree, he decided "it was time to try and get a job in the biotechnology field."

At 20, Darling is the youngest in the class. She attended South Rowan High School in China Grove, dropped out and then got her GED. She enjoyed math and science in high school but didn't apply herself. The opening of the North Carolina Research Campus caught her attention. She's now thinking about toxicology as a career path.

At a time when most of her friends are "concerned with having fun," she's ready to start a career. "I'm ready to get crackn' and, you never know, maybe invent a cure for cancer. The possibilities are endless," she


said. "My mom is a nurse. She told me to get into something where I knew I could be successful. With biotechnology, I know I am going to be successful."

MEETING DEMAND

As more people look for success in biotechnology, RCCC will meet the demand. In February, the college received approval from the North Carolina State Board of Community Colleges to enter into an agreement with Castle & Cooke Inc., developers of the NCRC, for the construction of a 62,332 square-foot training facility slated to open for the fall 2010 semester. In early March, RCCC signed a 20-year, lease-to-own agreement with NCRC developers Castle & Cooke, Inc. for \$2.5 million a year in rent. The groundbreaking is slated for May. Construction will take at least 15 months. RCCC is to receive about \$3 million a year from the state to pay for the lease and operations.

RCCC's building at the NCRC will house its associate-degree programs in biotechnology and agricultural biotechnology and continuing education programs related to biotechnology and clinical research. The facility will include multiple science and computer laboratories and multiple classrooms with a full array of technology.

In the meantime, classes will continue to be taught in temporary lab spaces. Fortunately, Corjay said, RCCC has received funding for equipment that is on par with what's found in industry.

"I've been in a number of universities," Secunda said. "RCCC's biotech program puts a lot of practical application to the sciences that are being taught here. A lot of other courses and curriculum, it's a lot of theories. It's hard to grasp. The biotech program does a very good job putting a lot of practical applications. So it's easier to learn the concepts here." 



Susan Lee checks her measurements during basic lab techniques class.



For more information visit:

www.rowancabarrus.edu