

2014 BIOTECH DIRECTORY

HAVE CREDENTIAL, WILL TRAVEL

Forsyth Tech leads \$15M effort to build new biotech learning model

By **MATT EVANS** THE BUSINESS JOURNAL

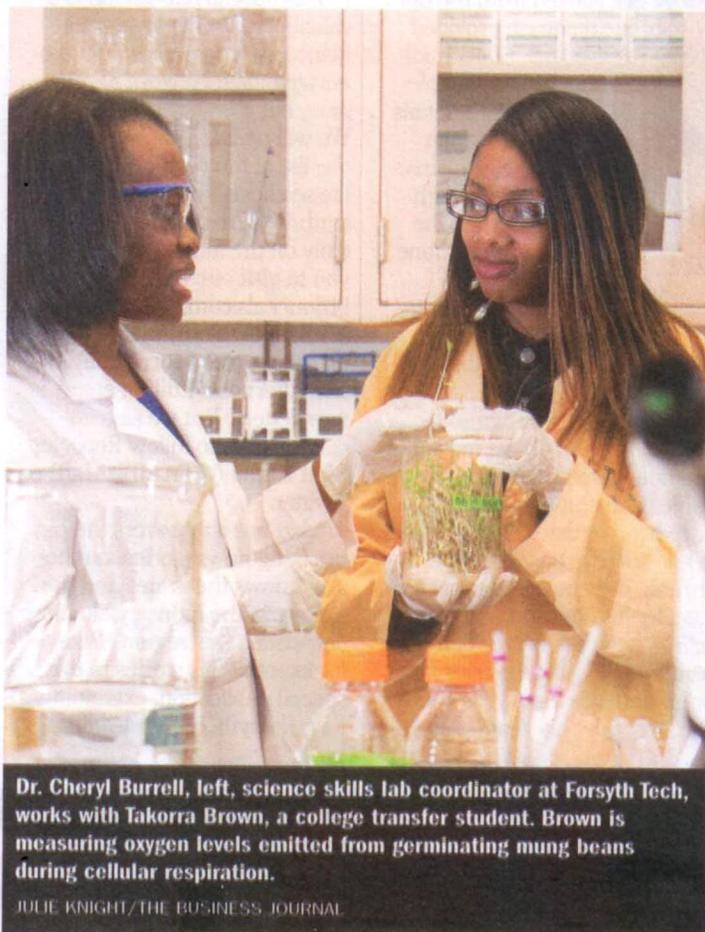
WINSTON-SALEM — “That’s sure a nice certificate in lab skills you received from your community college back home. But I don’t know what they actually taught you there, so, sorry. Next applicant, please.”

Not an encouraging conversation for somebody hoping to break into the \$100 billion biosciences industry to hear. And it’s one that, hopefully, fewer people will suffer through after a nationwide consortium of schools led by Forsyth Technical Community College completes a three-year project.

That effort seeks to design and implement a set of harmonized and nationally recognized credentials in biomanufacturing, medical devices and lab skills. It labors under a mouthful of acronyms — it’s called the Community College Consortium for Bioscience Credentials, or “c3bc”, and is funded by a \$15 million grant from the Department of Labor’s Trade Adjustment Assistance Community College Career Training, or TAACCCT. The grant from the program was awarded to Forsyth Tech in 2012 and pays for the school to coordinate work at 11 other colleges around the country, including Alamance Community College and Rowan-Cabarrus Community College, plus dozens of private companies, public work force boards and industry organizations. Acronym challenges aside, the goal is relatively straightforward, says Russ Read, director of the National Center for the Biotechnology Workforce at Forsyth Tech and also the c3bc project director.

“What we’re trying to come up with is a core of skills that will be recognized by industry across the many facets of biosciences,” Read says.

The c3bc consortium is more than a year into its work now, and representatives from many of the partners were scheduled



Dr. Cheryl Burrell, left, science skills lab coordinator at Forsyth Tech, works with Takorra Brown, a college transfer student. Brown is measuring oxygen levels emitted from germinating mung beans during cellular respiration.

JULIE KNIGHT/THE BUSINESS JOURNAL

to be in Winston-Salem meeting at Biotech Place in the Wake Forest Innovation Quarter at the end of March to report on their progress, Read says.

The teams have been busy so far laying the groundwork for what will ultimately become about 25 new courses and credentials, plus new or revised sets of skill standards made freely available to any community college in the country.

For example, he said the group of schools focused on laboratory skills, led by City College of San Francisco, has been revalidating existing skill standards. Their mission was to see if the standards still fit employer needs, while also creating several courses as part of a new Environmental Monitoring certificate. Meanwhile, the medical

devices group led by Ivy Tech in Bloomington, Ind., worked with industry partners to create entirely new skill standards in areas such as quality control, regulatory affairs and production.

“Where there were no skill standards before, they do exist now,” Read says. “That’s a huge win.”

There is also a group, or “hub,” focused on biomanufacturing led by Montgomery County Community College in Pennsylvania. And in addition to coordinating the whole project, Forsyth Tech is also leading the “learning technologies” hub with Alamance and Rowan-Cabarrus.

Online and hands-on training

The learning technologies hub role is to create the kinds of tools and resources that students will

need to learn biotech skills as efficiently as possible, according to Michael Ayers, dean of Forsyth Tech’s math, science and technologies division. These days, that means a lot of emphasis on online learning.

Distance education is a particular challenge for fields such as biotechnology, where hands-on lab work is a big part of the learning experience. So hub partners have put effort into using interactive simulations and graphic animations to help the concepts translate online.

But literal hands-on is still important, so Forsyth Tech recently opened a new “Science Skills Learning Lab,” a one-room laboratory on the main campus that is open and staffed extended hours so students enrolled in certain biology and chemistry courses can come in to get help and practice their skills whenever they can.

“A lot of students at community colleges may also be working one or two jobs and have families to take care of. Schedules that are just erratic,” Ayers says. “So the beauty of this center is that students don’t have to come at a set time like they would to a traditional class. They may come in one Monday morning at 7 a.m., and on Friday afternoon the next time. The goal is to reduce barriers as much as possible.”

The students seem to love the flexibility, says Cheryl Burrell, the faculty coordinator of the Science Skill Lab, and also their ability to use their time to target the specific skills they feel they need the most work on. Since it is a pilot program, though, she’s taking note of things that might make the lab even more useful in the future.

“For example, we may make some videos about using certain equipment so that when people come to the lab they will have a better idea of what to do,” rather than relying only on help from

PLEASE SEE **BIOTECH**, PAGE 4

2014 BIOTECH DIRECTORY

'INDUSTRIAL FELLOWSHIP' DRAWS EDUCATORS TO N.C.

By **MATT EVANS** THE BUSINESS JOURNAL

While Forsyth Tech, Alamance Community College and Rowan-Cabarrus Community College collaborate on the c3bc bioscience credential project (see related story, page 3), they're also sharing North Carolina's acknowledged prowess in biotechnology with teachers from around the country.

The National Center for the Biotechnology Workforce based at Forsyth Tech will work with its community college partners and several Triad and North Carolina biotech companies to host a dozen teachers during each of the next two summers. The Bioscience Industrial Fellowship Project is funded by a \$548,000 grant from the National Science Foundation.

While in the Triad, those teachers — who may teach any subject at either the high school

or college level — will visit companies such as Transtech Pharma and Banner Life Sciences in High Point, Targacept and Tengion in Winston-Salem, and the Joint School of Nanoscience and Nanoengineering in Greensboro, among many other educational and commercial institutions in the state.

Russ Read, the executive director of the National Center, says the mission of the fellows will be to translate the information and experiences they glean from those visits into classroom instruction they and

'They want instructors teaching who can relate to what they do.'

Russ Read,
executive director,
National Center for the
Biotechnology Workforce

others can use.

"Say a math teacher comes, and we go over to TransTech and see how important the calibration of equipment is to them," Read says. That teacher will work with others in the program on ways to integrate that information in their classes, "and they'll be able to say 'I've seen this happen, and I know how it works.'"

The point, of course, is to encourage students with a variety of interests and backgrounds in a career in biosciences.

The fellows will surely include several from North Carolina, but

it's a tribute to the regional and state biotech industry that teachers from further afield will come here to learn too, Read says.

The companies and organizations involved in the program are excited too, he says, even though it's possible that many of the students who ultimately benefit from the teachers' experiences will be in far-flung parts of the country, possibly beyond their usual recruiting range.

"But you never know where students will end up," Read notes. Biotech executives know their industry is growing and will need workers with good skills everywhere.

"They want instructors teaching who can relate to what they do," Read says.

Reach **MATT EVANS** at (336) 542-5865 or mlevans@bizjournals.com.

BIOTECH: Funding a challenge

From page 2

the instructors staffing the lab. "That would allow students to work more independently" and increase the student capacity of the facility.

The Department of Labor grant is paying to run the lab and also to renovate a larger space on campus to use as well starting next year. Ayers said it hasn't yet been determined if that new space will replace or be in addition to the existing skills lab.

Long-term challenges

It's a great idea — but also a tough one to pull off long-term, said Bill Woodruff at Alamance Community College, who has been teaching biotechnology for 27 years. During the online era he's tried various approaches to combining distance and hands-on training, such as holding Saturday labs for students who got their lectures online.

That's obviously not as flexible as an extended-hours, freely

accessible lab. But it was also a lot cheaper.

"It's very difficult to fund a lab that's going to be open 12 to 15 hours a day, not knowing when students will be there," Woodruff says. The grant money won't last forever, but "I hope they can pull it off, because I'd really like to see a model like that work."

Besides planning for sustainability, there's still plenty of other work for the c3bc consortium to do during the next couple of years, Read says, some of which will be mapped out at the meeting taking place in Winston-Salem. Among the tasks will be to upload all the new content being created to the website of the National Training & Education Resource, or NTER, where other schools will be able to access it.

"The whole plan for everything we're doing is to make it shareable and open source," Read says.

Reach **MATT EVANS** at (336) 542-5865 or mlevans@bizjournals.com.

Healthy
Volunteers
Needed
For A Research Study



Are you
Healthy?

◆ If you qualify you will receive all study related care at no cost.

◆ You may be compensated up to \$2,850.

Call for more information on how you can participate!

(855) 6-TRIALS
(855) 687- 4257

HIGH POINT
clinical trials center

This study is for research purposes only and is not intended to treat any medical condition

Health insurance is not required to participate



www.HPCTrialsCenter.com
Follow us on Facebook.com/HPCTC