

**Transcript:** [Episode 26 / March 15, 2010](#)

Coming up next on ATE TV. GPS and GIS --

You know, you use GPS in all sorts of applications, whether it be putting it on a tractor or marking a spot where there's a tree.

And Preparing the technical workforce --

Making sure that we have a competitive, technologically savvy workforce for the future.

Now, on ATE TV.

From across the country to your own backyard, ATE TV shows you the many advanced technological education opportunities at your local community college. Did you know that farming and agriculture have gone high tech, and the job opportunities have never been greater? Let's meet Dan Miller, a student in the GPS and GIS program at Kirkwood Community College who's studying to become a cutting edge farmer.

My name is Dan Miller. I am attending Kirkwood Community College in Cedar Rapids, Iowa, and I'm currently in the GPS/GIS program here. I grew up on a farm with my father. We farmed on 1000 acres, have a little hay, grow crop. We used to have hogs, and that's what started my interest in the field of agriculture.

Agricultural technology is -- I guess there'd be a broad definition. You have your GPS, which is involved in a lot of tractors. You know, you use GPS in all sorts of other applications, whether it be using -- putting it on a planter in a tractor or marking a spot where there's a tree in a field that needs to be taken care of. There's an infinite amount of options to use in the field of agriculture right now. It's opened my eyes up to all the programs that are available to be able to use on our own family operation, to help create my own business.

You know, just if I were to stop farming, you know, I would have an opportunity to go anywhere, whether it be construction, natural resource, even in the field of agriculture but not farming, I'd still have a background and still be able to have a career in something that I really enjoy.

There's -- you know, there's days where I have three or four hours of school, plus work, plus, you know, going home on the weekends. It's strenuous at times, but I usually try not to let it get the best of me. I usually just enjoy what I'm doing and have a good time while I'm at it.

Once I graduate, my passion is to go back home and farm with my dad. That's always been what I've wanted to do, and that's really what I want to go back to home to do, but also, I want to be able to possibly do some grid soil sampling as I get older and kind of have my own business doing that, just having a career in, and you know, the farming community. That's what I've always enjoyed, and that's what I really want to do.

Dan's opening the door to some terrific career opportunities, and whether he decides to work on his family's farm or branch off into his own business, the technical education he's getting now will pay off in the future.

If you're interested in finding out more about GPS and GIS programs, be sure to visit your local community college.

Up next, we're going to visit the South Carolina Advanced Technological Education Center of Excellence at Florence-Darlington Technical College. They offer programs in engineering technology that helps students to acquire the skills they need to obtain the jobs they want.

Take a look.

The South Carolina ATE Center of Excellence has developed proven models and successful practices to improve education, making sure that we have a competitive, technologically savvy workforce for the future. We are working with scientists, mathematicians, engineers, educators.

Information about one central --

We have worked one-on-one with a number of educators and other organizations around the country to develop practices that we know that work, strategies that we know that work to increase the quantity, quality, and diversity of engineering technicians to support economic development. All of the educational research today is pointing to the value of hands-on, contextual learning, inquiry-based learning.

We're actually working on the little fan belt thing.

Essentially, it means that the student is not just being told something or just memorizing something, but they're seeing how the pieces fit together.

This is the fan belt right here. Hypothetically, it should work.

They are learning how to figure it out on their own. It makes the content theirs.

And when the fan belt turns on, it basically slides across, pulling the paper across the thing.

And when you do it, how far apart it is, that shows you how fast the fan belts going.

So --

Without that hands-on experience and putting it in context and having to grapple with it a little bit and work at learning it, then it doesn't stick with you, and you don't know how to use it the next time you encounter it.

We started doing this to meet the learning styles of particular students, and what we discovered is it made learning for all students more meaningful and better.

The systemic changes that we have implemented have included changing entirely the way we approach the first year of study for engineering technology students, where we integrate mathematics, physics, technology, and communications, and we have an interdisciplinary teaching team to coach the students through this learning process. We also have an internship program, so we can provide the students opportunities to work while they're going to school.

We call it a "grow your own" approach, where the industries actually get these students early on in the program, and these students then sort of grow up with the industry as they complete their two-year associate degrees.

We recommend an industry consortium, and you discuss what it is that they need and how you can best meet those needs. The industry consortia looks at the big picture, the employment picture for the community as a whole, and the way that they can work together collaboratively with the college to help meet that need. Industry partners are valuable in helping you develop curriculum at the college. They know what the new cutting-edge technologies are coming down the pike. They know what their specific needs are.

There is a very common core of technology, math, science, communications, problem solving, teamwork skills that we find that are universal to all of the industries.

Then, in the conclusion --

When we listen to those industries, and we make sure that we're teaching those competencies in the classroom, then we know we're going to have a good match between graduate and job.

You don't have to go all the way to South Carolina to experience the work being done there. The South Carolina Center is working with community colleges and industry partners all across the US. Check out your local community college's Engineering Technology program to find out more.

And for more information on anything you've seen today, explore our website at [atetv.org](http://atetv.org).

Thanks for watching.