



Transcript: Episode 47 / August 23, 2010

Coming up next on ATETV, Electronics Engineering...

Every since I was kid, I always tore stuff apart and tried to fix things.

Partnerships with industry...

Industry tells us what kinds of workers they need. That, in turn, helps our academic partners knows what rate they have to introduce changes into the curriculum

And women in lasers and photonics technology.

I like technology; I think it's cool. I had good math and science scores whenever I took my placement test, so that was a plus.

Now on ATETV.

From across the country to your own backyard, ATETV shows you the many advanced technological education opportunities available at your local community college. If you have a passion for hands-on electronics and see yourself in a rapidly emerging green industry, you might want to explore the career pathways of fuel cell technologies.

My name is Andrew Engel. I'm in the Electronics Engineering Program at Stark State College. Ever since I was a kid, I always tore stuff apart and tried to fix things.

Now your motor's up. Well, now your motor's higher.

I've always been kind of geared to alternative energy, so kind of got urged towards the Fuel Cell Technologies Program. There's a lot of hands-on labs like DC and AC circuit analysis they'll keep you busy with their labs.

The beauty of the two-year school is just the hands-on learning component. You're in the labs, you're putting all the balance of plans, parts together, seeing how they all work together, and then actually using some software to capture all of those results.

You can use fuel cells to store power during off time with the grid, and you can put that power back to the people, you know, when it's in high demand, and so you increase the efficiency just trying to do something for the better good.

Andrew is getting a strong foundation in fuel cell technology and because the program he's taking works so closely with leaders in the industry, he'll be at the forefront of that emerging field. If you want to learn more about programs in electronics engineering, be sure to visit your local community college.

Advanced technological education programs offered through community colleges benefit from being part of a large network of expertise and shared resources. Curriculum is structured with input from industry and faculty are trained to be up to date with the skills they are teaching. Take a look.

My name is Gordon Snyder. I'm the director of the National Center for Information and Communications Technologies at Springfield Technical Community College in Springfield, Massachusetts.



The center provides curriculum and workforce and development information for telecommunications technicians, electronics engineering technology programs, and other related programs of instruction, primarily in community colleges, and it also provides pathways to four-year university degrees.

People that were involved with us, their students could learn what they needed to know to still get good jobs in this changing field.

So now the learner goes through the process that they just watched.

So if somebody calls up or contacts us and says, "Hey, I'm looking for some content. I want to teach a course or teach a piece of my course on this new technology," we can very rapidly make a connection, and that's a lot of what we do. The subject matter expertise is no longer in our office. It's spread out and scattered around the country, and a lot of what we do is make those kinds of connections.

The speed of light of the frequency

The faculty are getting the most current skills and training and incorporating that into our curriculum is really a great benefit to the students. I think it provides them with greater opportunities for employment, it provides them with skills that have been validated by industry and skills that industry are looking for, real market-relevant skills.

Copy that folder and bring it down to your desktop. If you're going from your web PC...

Industry tells us what kinds of workers they need currently and also tells us what kind of workers they're going to need into the future. That, in turn, helps our academic partners not only know what they have teach now and into the future, but at what rate they have to introduce changes into the curriculum to make sure that they're teaching the students the right kinds of skills and the right proportion to make sure that they're job-ready.

This is good stuff for distance learning.

It's really important to bring together expertise from all over the country, collect that expertise and then facilitate the sharing and dissemination of that expertise.

It's working, it's working.

It does work.

So it was the firewall.

Yeah.

Okay, cool.

Students in advanced technological education programs get exposure to a wide range of technologies and will graduate with experience that will make them highly marketable. For more information on programs like these near you, be sure to visit your local community college.

Industry is looking to hire more and more women in technology positions, and community colleges are offering all sorts of incentives to increase female enrollment in areas typically dominated by men. Check out this lasers and photonics technology program being offered at Central Carolina Community College.



Output coupler.

Very good.

From the resistors point of view I'd say five volts. So those lasers actually makes it larger.

Females usually do better, they usually study harder, they're more focused, they usually make higher grades. Some of the top students I've ever had in the program were females.

The lights use the line lasers because some lasers run off of light instead of electricity or gas.

Laser pointer, real cheap laser pointer.

I recruit a lot. I go visit high schools, talk to high school students try to encourage them to go into technology programs like ours, Lasers and Photonics.

I was studying engineering in high school. I took a couple of technical classes, and he came and spoke to our technical class about the Laser and Photonics, and I found it interesting, so I decided to come and attend the program. There's a woman that recruits with me. She's a great engineer, encouraging females to consider it as a field.

I like technology; I think it's cool. I had good and math and science scores whenever I took my placement test, so that was a plus.

You take your hand and follow the beam around and show how it's hitting the mirrors...

One thing that we have is a sex equity grant, and all females can go to school for free, free tuition, free books. It doesn't make any difference whether they're real poor or real rich, it's free education. Can't beat that.

When it comes through, it's a small beam, this spreads the beam out.

A company calls, one of the first questions, "Do you have any females we can hire?" And they get out in the industry, and the industry will pay for them to continue their education. You make a lot of money in the field, and it's very broad, and it's continuing to grow.

In five years, hopefully doing something with lasers or electronics, working in research.

After I graduate, I hope I will be making lasers for the military. They use like the laser beams off of body heat, use it under camouflage, like in the forest and stuff like that.

Free tuition that's an incentive. There's never been a better time for women in technology, and programs like that one are preparing their female students for high-paying, high-demand jobs. For more information on anything you've seen today, explore our web site at ATETV.org. Thanks for watching.