

**Transcript:** [Episode 12 / December 7, 2009](#)

Coming up next on ATETV.

Geographic information sciences.

It's a way to model spatial data digitally.

Biomanufacturing.

Biomanufacturing is the growing of cells in order to create a drug that you might want to cure disease.

And information and communication technologies.

The high speeds, ubiquitous connectivities is changing for, forever the landscape of everything that we do.

Now, on "ATE TV".

From across the country to your own backyard, "ATE TV" shows you the many advanced technological education opportunities available at your local community college.

Ever heard of GIS?

Well, if you've ever used Mapquest, Google Maps, or any other mapping services, then you've already experienced the power of GIS, but what exactly is GIS?

Like a certification one, certification two in GIS.

I do a great deal of work with GIS.

The signups saying study GIS.

Another program that I've worked with is GIS.

We have a GIS certificate.

G period, I period-- S period.

I have no idea.

A gorgeous, intelligent system.

Guppy International Survey.

That doesn't even make sense.

It's Geographic Information Sciences, and it's, it's a growing field right now because it's a way to

represent or to model spatial data digitally. And so we're able to create representations of geographic features and surfaces within a computer, and then use that information for a variety of purposes.

More and more businesses are using geographic information sciences, and the demand for GIS specialists has never been higher. Many community colleges now offer GIS certification programs that can prepare you for a job in this rapidly-expanding field.

Have a passion for biology and chemistry?

You can turn that passion into a high-paying career in the challenging world of biomanufacturing.

In high school, they had a great biotechnology program, and through that program, I got interested into science and biotechnology, which led me to Great Bay Community College.

Those classes were then able to be transferred towards actual college credit, and those credits would be transferred to Great Bay Community College.

Well, it's just starting. The media's going to go up through the pump, in, and it's going to go up the filter, and the stuff we don't want is going to come out of this tube into this bottle, and the proteins and the media that we do want will go back in to the bottle. So, essentially, we are concentrating this down into the protein of interest that we do want.

Biomanufacturing is the growing of cells in order to create a drug that you might want to cure disease and purifying the drug that's produced by that organism so that you can give them to patients to save that person's life.

Ph or conductivity.

What are we doing here, ph?

Yup.

Ph meter going.

Oh, right -

I attended Great Bay because of actually their apprenticeship program, it, because it gives me hands-on training and real-life skills that I will need through the industry. I thought it would be a great way to boost my career.

Once I'm graduated this December, I'm going to go and attend a four year university in either biochemistry or molecular biology, and I want to take that and work for another biomanufacturing company in process development because I am really passionate in process development.

It sounds like Joe knows exactly where he's headed, and he's taking advantage of the credits he's earning now to help him transfer into a four-year university.

Be sure to check out a community college near you to see what programs they offer in biomanufacturing.

Take a look around you. Mobile phones, computers, televisions, wireless devices. They all represent career opportunities in the field of information and communication technologies.

Here's your router. It'll go to the firewall.

ICT is information and communications technologies. We define ICT as being end device to end device communications. That end device could be a computer, a cell phone. It could be a high-definition TV set hanging on your wall. That end device is running an operating system. It's running some hardware. That device is connected to a network and is communicating to another device just like it on the other end.

Telecommunications, networking, security, wireless, all of the things that you use a computer and networks and the Internet for, fall under the, the umbrella of ICT.

In order for information technology to be useful, information has to be transmitted, sent, received, and acted upon by either other people or other machines, and that's the role of communications technology. Because those two efforts are so vital and complement each other, there is a convergence that's irreversible, and that convergence is called information and communications technology.

Now, see, you have the convergence term, you have the unified networks, you have information and communications technologies. We like to think of ICT as being a more broad term that covers all this stuff, but it's really voice, video, and data communications all on the same network.

We're seeing this transition, and it's happening very rapidly.

You know, this hyper connectivity that some people are calling this, the, the fact that it's, you know, high speeds, ubiquitous connectivities is changing for, forever the landscape of everything that we do.

There will be nothing but growth for ICT. Information communications technology literally enables so many other jobs that if you could find a switch labeled "ICT" and turn it off, the economy of the world would stop seconds later.

There's no doubt that careers in ICT are in growing demand, and your local community college offers the educational opportunities that will help you meet that demand.

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

Thanks for watching.