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Up next on ATETV, a look at the educational pathways that can lead to a career in the lab.

A degree in biotechnology gives you the lab skills and strong knowledge of specialized techniques and instrumentation that are the key to a successful career working in many types of labs and production facilities.

Twenty to 25 .

The applications right here.

DNA is hopefully bonded to the membrane now.

Biotechnology is the process by which cells are used to make some kind of a product. So it could be a protein or an enzyme. It could be the cells themselves.

This class is called Research Methods in Molecular Biology. It's a course that teaches them how to work with DNA and how to use DNA to make RNA and proteins.

This is going to be the membrane that will incubate and this will be the one that we store for backup.

They're creating what's called a library which is a collection of bacterial cells that contain different DNA sequences from a virus. We have an entire semester just in basic lab skills.

I get to do everything there from handling fresh tissue to processing tissue to staining it to providing the samples to hospitals.

The courses in this program require that they work in the laboratory for six to seven hours a week. So they've spent hundreds and hundreds of hours. They pretty much think of the laboratory as home.

We've got four samples.

We learn about the fundamental tools of biotechnology and learn about the products that companies are making and how to make them ourselves.

Be sure that the dye is mixed in well with the DNA sample.

After we load these 4 we'll load a ladder and then based on these samples along the ladder, we can see how many fragments you have and how big they are.

Many of the things you do will be fairly simple and very structured, very supported and fairly straight forward but then later they're going to become complicated, more independent.

The equipment that we use here is right up there with what they're going to be using in research labs, pharmaceutical labs, production labs. I mean all of this will be seen again.

So what we're measuring here when we determine the end product from our transient transfection --

We do see the need for introducing a lot of the material in terms of lectures because in order to have a really solid foundation in biotechnology, you know we feel that you have to understand some of the concepts of course before you apply them with your hands. Once they starting working individually they get a tremendous amount of confidence and that really, really translates well into the workplace.

They're giving it to us straight up, how it's going to be in the real world and what we're going to encounter.

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

Thanks for watching.