



## Virtual instruments help students come to grips with test equipment at West Genesee High School

The Electronics Lab at West Genesee High School is part of their CTE Computer Technology strand. It features a computer-based electronics teaching system that has the added benefit of Virtual Instrumentation and multimedia learning resources.

We talked with teacher, Steve Ficara, about his program;

“We use this for the Fundamentals of Electronics Course, I find it well designed, it really makes sure that the students succeed. We have a range of abilities in our classes and with this system the less able are able to do as well as the high flyers, it just takes them a little longer.

### The flexible learning system

The way we can use it is great from a teacher’s perspective. We do the theory on the first day using the PowerPoint® presentations. I like to use the handheld virtual whiteboard to do this because it gives me the freedom to move around the class and interact with the students.

The next day the students log-on and do the associated practical work. This is a reinforcement of the theory, for those who didn’t grasp the theory the first time around or were absent, the system provides access to the same theory material.”

In the corner of the lab there was an electric guitar and a speaker, we asked Mr. Ficara why this was there;

“I used that for my first day of the program, as the students walked into the lab I had one of them playing it. It gave me a great hook to introduce electronics in the way I like to teach it - input-process-output. Using the guitar as an example the students get interested in what they are going to be learning and can see an electronics application they understand in context.”

“The kids really enjoy it and they find it fun, the practical work helps them understand the electronics and the computer aided instruction lets them work at their own pace.”

Mr. Steve Ficara,  
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## A complete mixed media

The lab is equipped with the Digiac AEP Electronics System which provides a complete electronics fundamentals program that has a combination of hands-on practical labs, circuit construction projects and teacher delivered theory lessons with class-based assessment. Students take the class as an introduction to electronics, to enhance the work they are doing in the school's A+ or Network+ programs that are part of the CFE Academy.

According to Steve Ficara, the students really enjoy the practical work;

“The kids really enjoy it and they find it fun, the practical work helps them understand the electronics and the computer aided instruction lets them work at their own pace.

## Virtual tools make management easy

I can work with the whole class, with them all at different points in the lesson. The management system helps me pinpoint the areas where individual students are having problems and may need my help.

The virtual instrumentation in the electronics base units are great for the students, I introduce them to the feature on a whole class basis to make sure that they understand the basic concepts. What's really good is that the computer-aided instruction gives them access to special video instructors that also show them how to use the instruments.

Once they learn how to use the virtual instruments it makes servicing the lab easy, we don't have to provide lots of bench space and I don't have to keep maintaining physical meters and scopes that can get damaged or go out of calibration.”