HP VEE in Education

"Technology is the tool. Education is the goal."

HP VEE
Visual Programming Language

Automate your engineering labs easily. Demonstrate engineering and scientific principles effectively. Keep your students focused.

New HP VEE 4.0 Shines as Teaching Tool
As a visual programming language, HP VEE has been used extensively within the education industry for research projects involving data acquisition and test & measurement. Now, HP VEE version 4.0 provides the features you need to effectively demonstrate complex engineering and scientific principles. In particular, HP VEE is an excellent tool for demonstrating RF communication and lightwave technology.

As a core element in engineering curriculum, HP VEE is an easy-to-learn, easy-to-use visual language that enables students to focus on learning the course material not the programming language. HP VEE programs can be used for simulation, modeling, and analysis.

Develop and Maintain State-of-the-Art Teaching Labs
Create computed-controlled labs that emulate real-life design experience but that are also easy to build, replicate, and maintain. Consistent with Microsoft applications, HP VEE's user interface is instantly familiar. The Program Explorer helps students see their program structure as they work toward their solution, and it helps instructors evaluate the end result.

HP VEE's powerful debugging capabilities make students more efficient with their time as they develop visual programs. In addition, the Profiler gives a students look at how they can tune their programs for execution speed, providing them with a taste of the tradeoffs they will face as practicing engineers.

Streamline Instrument Control
HP VEE can control any instrument from any vendor, whether it be

GPIB, RS-232, VXIbus, or PC-plugin. Use any industry-standard VXI*plug&play;* instrument driver or control instruments directly with HP VEE's fast, efficient Direct I/O.

HP VEE 4.0 provides "best in class" instrument communication (including an instrument manager, point-and-click instrument driver control, and Direct I/O). Students focus on making measurements rather than interfacing to the instrumentation.

View and Understand Data
Students can create operator interfaces in minutes using HP VEE. And a graphical user interface makes data easier to view and manipulate.

HP VEE provides over 200 math and analysis functions that range from elementary math to calculus, digital signal processing, and regression analysis. When a solution must be constructed from a long mathematical equation, HP VEE's formula box allows users to simply type it in.

HP VEE brings data and test results to life with indicators, meters, thermometers, tanks, and simple XY plots and stripcharts. Students can display complex data including waveforms and spectra on polar plots, Smith charts, and magnitude and phase plots.

Students can develop and print reports within HP VEE, or they can send their data to other applications for further analysis and formatting.

Prepare for Graduation
HP VEE's unlimited runtime version enables students to create programs using HP VEE that can distributed as part of a resume.

In every corner of the globe, HP VEE is changing the way engineers work. From simulating and measuring satellite test signals to monitoring a nuclear power plant...from testing jet engine components to life-testing consumer appliances...HP VEE is becoming the preferred software productivity tool when companies need to develop better tests faster.

Make sure your students have the HP VEE advantage when they enter the workforce.

> *"Some of the best features of HP VEE are the Direct I/O and the advanced math features. We use a lot of DSP-type testing techniques, therefore the ability to perform FFTs, windowing functions, polygon smoothing, and integration/differentiation are very important to us."*
> **Dennis Lewis, Canadian Microelectronics Corporation**

Teaching the Physics of Fiber Optics at Munich's Polytechnic University

At the Polytechnical University (Fachhochschule, FH) in Munich, Germany, PC-based controllers and HP VEE simplify and automate

the difficult tasks of instrument control and automation. The university's opto-electronics laboratory includes a test assembly that determines the spectral damping and cut-off wavelength of monomode fiber optics. The primary purpose of the lab is to acquaint students with the physics of fiber optics.

A test run consists of scanning a defined spectral range. At each wavelength that is fed into the fiber, a light-sensitive diode measures the relative intensity of the light. A PC controls a monochromator and a lock-in amplifier. An HP VEE program controls both instruments, automatically performs the required tests, including calibration, and analyzes the data.

As a visual environment, HP VEE allows students to gain a quick overview of the test program, and then interactively enter parameters and formulas while the test is running.

University of Illinois: Air Quality Research

Ordering Information

More and more colleges and universities are discovering the power and elegance of HP VEE to enhance the engineering curriculum. With the launch of the new version 4.0, HP VEE now provides even more opportunities to help you educate the next generation of engineers and scientists.

If your college or university has an AE16V purchase agreement with Hewlett-Packard, you qualify for the following products and discounts:

Description	Part Number
HP VEE 4.0 for Windows95/NT for Education 40 development licenses, unlimited runtime, four Prentice-Hall HP VEE books, and 1 set of manuals. Educational discount: 50% off list price	**HP E2122E** **Opt. WNT**
Automation Kit (adds HP IB card to Opt. WNT) Educational discount: 50% off list price	**Opt. PCN**

If you are not covered by an AE16V purchase agreement, order as follows:

Description	Part Number
HP VEE 4.0 for Windows95/NT on CD on 3 1/2 inch floppies	**HP E2120E** **Opt. AA8**

Earlier Versions of HP VEE

HP VEE 3.1 for Windows 3.1	**HP E2120C**
HP VEE 3.1 for HP-UX Series 300	**HP E2110C**
PC Automation Kit (HP VEE 3.1 + HP IB card)	**HP 82345B**