Engineering Teaching Solutions
Teachers who care about students experiencing real-world applications choose NI and Digilent.

Engineering Topics paired with Digilent and NI Solutions
Use Digilent and NI hardware in conjunction with compatible software to up-level your student’s learning.

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<th>Analog Discovery 3</th>
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<th>Analog Discovery Pro 5000 Series</th>
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<th>Nexys A7</th>
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Built On Industry Standards
Using Digilent and NI, for both software and hardware, equips students for real-world roles and applications.

Engaging and Hands-on Learning
Bringing theory and textbook learning into the real-world with hands-on labs and personal project use.

Higher Student Success Rates
Students who use Digilent and NI tools benefit from higher graduation and hiring rates than those who don’t.

Versatile Coding Platforms
From application software to text-based coding, students can learn how to control hardware with LabVIEW, Python, HDL, and more.
Engineering Solutions for the Classroom
Hardware, Software, and guided materials for engineering class and labs

Hardware Options from Digilent
Use with software and curriculum for a full engineering course solution.

Analog Discovery 3 (For NI myDAQ Users)
Portable all-in-one hardware with access to 10+ test instruments (oscilloscope, waveform generators, etc.), trigger pings, and digital I/O. Great for student designs and projects.

Analog Discovery STUDIO (For NI ELVIS III Users)
Equipped with 13 instruments such as Oscilloscope, Logic Analyzer, Spectrum Analyzer, Waveform Generator, and more. Combined with a removable breadboard, it’s perfect for lab work.

Analog Discovery PRO (ADP5250)
Combination of performance analog and digital channels, external triggering, and a built-in programmable DMM and a tri-output power supply capable of up to 25 V. Great for lab work, student design, and projects.

FPGA Trainer Board

BASYS 3*
Create and interact with a variety of combinatorial digital logic circuits, from basic gates to adders, comparators, and multipliers. An ideal platform for teaching fundamental digital design principles.

NEXYS A7*
Best for computer architecture courses. Ready-to-use digital circuit development platform that brings industry applications into the classroom environment and allows students to start learning right away.

FPGA Development Board

ZYBO Z7*
Integrates a programmable FPGA and a dual-core ARM Cortex-A9 processor to provide an ideal starting point for hands-on learning and experimentation in system-on-chip (SoC) architecture.

*PMOD - Peripheral I/O Module
Extend the capabilities of the programmable logic and embedded control boards with small digital I/O boards including sensors, displays, motor controllers, and other I/O devices.

Prototype Wireless Communications Systems

Universal Software Radio Peripheral (USRP B200)
Designed for low-cost experimentation. It combines a fully integrated direct conversion transceiver with up to 56MHz of real-time bandwidth, an open and reprogrammable Spartan6 FPGA, and fast bus-powered USB 3.0 connectivity.

ni.com/academic
Software Options from Digilent and NI

Use with hardware and curriculum for a full engineering course solution.

**WaveForms**
WaveForms software allows for access to 10+ test instruments. Supported by Windows, macOS, and Linux. Compatible with Analog Discovery hardware from Digilent.

**LabVIEW (Community Edition)**
Use all of the capabilities found in the LabVIEW Professional editions for non-commercial use. Also includes the LINX toolkit for use with Raspberry Pi, BeagleBoard, and Arduino. And access to the G Web Development Software for creating web-based applications.

**Free with Compatible Hardware**

**Free for students to use on personal computers**

**Multisim LIVE**
Fully browser-based circuit simulation. Test the behavior of a circuit, demonstrate the application of a design, or illustrate concepts to students. Environment powered by industry-standard SPICE for visualizing circuit behavior.

**Stand-Alone Software -- Basic edition free, upgrade for extended support**

New Academic NI Software Pricing for Teaching and Research
Equip your students with a beginning-to-end experience of industrial test and measurement projects and roles.

**NI Academic Individual Licenses**
Purchase individual computer/user NI software licenses for teaching and research.

Get popular NI academic software including LabVIEW, toolkits, FlexLogger, and more.

**NI Academic Volume License**
Extend the capabilities of just one software with application software for data logging, analysis, automation, and so much more! Added benefits include access to on-demand training, dedicated training credits for instructors, and certification. As well as special discounts on select non-academic hardware.

**Recommended for institutes with more than 5 individual licenses**

ni.com/academic
Other Digilent and NI Equipment for Academia

Digilent and NI have a wider portfolio of hardware used in industrial applications such as verification, validation, and manufacturing tests. Use these in sensor measurements and higher-level engineering courses. Build your own courseware and allow students to use industry-standard equipment.

NI USB DAQ
Low-cost and plug-and-play multifunction I/O hardware. Analog I/O and digital I/O in a small form factor for all +/- 10 V and 3.3 or 5 TTL measurement and signal needs.

It provides basic functionality for applications such as simple data logging, portable measurements, and academic lab experiments.

Digilent Plug-in for Raspberry Pi®
DAQ HATs bring professional-quality measurement products to the Raspberry Pi® platform.

The HATs come with resolution of up to 24-bits and sample rates of up to 100 kS/s. These devices provide data acquisition features like analog and digital I/O in a small, stackable format.

NI CompactDAQ Chassis + C Series Module(s)
Teach students the fundamentals of industry level measurement, automation and control concepts.

**CompactDAQ Chassis:** Connects straight into a Windows laptop or computer to control, acquire, and log data. The base for adding C Series Modules. Add and/or swap our modules as tasks change. For more options, visit ni.com.

### 1-Slot Chassis:
- **Type:** NI-9210
- **What is it:** Connects to 1 C series module and is bus-powered. Perfect for on-the-go and portable needs. No outlets required.

### 4-Slot Chassis:
- **Type:** NI-9214
- **What is it:** Connects up to 4 C series modules and is bus-powered. Portable and measurements within the chassis can be synced with collecting.

**C Series Module(s):** Some sensor and signal-specific hardware to go into CompactDAQ Chassis’. 60+ modules available, or more options, visit ni.com.

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<th>Type</th>
<th>Module</th>
<th>What is it</th>
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| Temperature Input     | NI-9210 | Connect mini-thermocouples. It includes anti-aliasing filters, open-thermocouple detection, and cold-junction compensation for high-accuracy thermocouple measurements.
| Strain/Bridge Input   | NI-9237 | Connect strain-based sensors such as load cells, torque sensors, pressure sensors, and strain gages. It includes all the signal conditioning required to measure up to four bridge-based sensors simultaneously. |
| Sound/Vibration Input | NI-9230 | Can measure signals from integrated electronic piezoelectric (IEPE) and non-IEPE sensors such as accelerometers, tachometers, and proximity probes. The NI-9230 is also compatible with smart TEDS sensors. |
| Voltage & Current Input | NI-9207 | A combination voltage and current input module designed with multi-signal systems in mind. It features eight current and eight voltage input channels, with built-in noise rejection. |
| Digital               | NI-9472 | Works with industrial logic levels and signals to connect directly to a wide array of industrial switches, transducers, and devices. Each channel is compatible with signals from 0 V to 5 V, features transient overvoltage protection between the output channels and the backplane, and has an LED that indicates the status. |
| Digitizer             | NI-9776 | Measure finite samples up to 20 MS/s/ch to capture fault detections or to measure continuously at up to 4 MS/s. It provides referenced single-ended analog inputs with two timing modes for applications such as fault detection in electrical transmission lines or structural failure events. |
| Current Output        | NI-9205 | Ideal for interfacing and controlling industrial current-driven actuators at high rates. The module has built-in open-loop detection as well as zeroing outputs to ensure safety and avoid driving actuators at system power on. |
| Voltage Output        | NI-9203 | Simultaneously updating analog output module. It features overvoltage protection, short-circuit protection, low crosstalk, fast slew rate, high relative accuracy, and NIST-traceable calibration. |
| Relay Output          | NI-9482 | Directly connects to a wide array of industrial devices such as motors, actuators, and DC devices. Each channel provides access to an electromechanical relay for switching signals up to 60 VDC (1 A) or 250 Vrms (1.5 A), features channel-to-channel isolation, and has a LED that indicates the status. |

Institutions with an Academic Volume License will receive special academic discounts for select hardware. Please contact your local sales agent to learn more.