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## Courseware - Practical Teaching Ideas with NI Multisim

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### Practical Teaching Ideas with Multisim

Practical Teaching Ideas is a collection of laboratories that implement elements of the NI Electronics Education platform (described below) such as Multisim and the NI ELVIS prototyping platform. The course was originally developed by Tracy Shields, an electrical engineer and experienced instructor from Toronto, Canada. Practical Teaching Ideas provides instructors with ready-made labs that can be used in their courses immediately. The labs cover common introductory and advanced concepts in electrical engineering from basic DC circuit analysis using Multimeters to sophisticated measurements with network analyzers.

The Practical Teaching Ideas may be used free of charge without restriction in an educational setting. These exercises, complete with lab procedures and questions, will reinforce important concepts, build student confidence and make the most of valuable lab time. These experiments can be given directly to students as lab exercises and also include suggestions as to other areas of possible use.

### Availability

Practical Teaching Ideas is organized into 12 separate sections covering discrete topics. You may download individual sections along with their corresponding NI Multisim circuit schematics, or you can download the entire Practical Teaching Ideas manual as a single set.

### Download Full Manual

You can download the entire Practical Teaching Ideas manual in a single compressed .ZIP archive. The archive also contains the Multisim circuits for each chapter.

[Practical Teaching Ideas with NI Multisim 11 \(complete download\)](#)

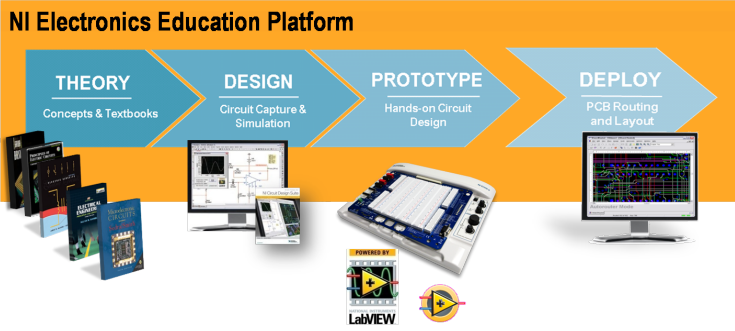
### Download by Section

- [Section 1 - Circuits and Thevenin's Theorem](#)
- [Section 2 - Oscilloscope and Filters Introduced with the Bode Plotter](#)
- [Section 3 - Diodes](#)
- [Section 4 - Transistors](#)
- [Section 5 - Troubleshooting and Problem Solving](#)
- [Section 6 - Operational Amplifiers](#)
- [Section 7 - Thyristors and Switches](#)
- [Section 8 - Digital Circuits](#)
- [Section 9 - Analog and Digital Combinations](#)
- [Section 10 - Radio Frequency Communication](#)
- [Section 11 - Waveguides and the Network Analyzer](#)
- [Section 12 - Student Evaluation and Pre-Labs](#)

### The NI Electronics Education Platform

The NI Electronics Education Platform is an end-to-end tool chain designed to meet the needs of students and educators. It is an ideal mix of integrated hardware and software that guides students through the engineering and design process from understanding circuit theory to developing and simulating designs, and then on to prototyping and validation.

The platform consists of NI Multisim, the NI ELVIS prototyping workstation, and NI LabVIEW and SignalExpress. NI Multisim provides intuitive schematic capture and SPICE simulation to help students explore circuit theory and investigate behavior. Multisim also includes a 3D prototyping environment which can help students to bridge from a software environment to real-world designs. The NI ELVIS is a prototyping platform that allows students to quickly and easily develop their circuits and take measurements interactively using 12 built-in virtual instruments such as an oscilloscope, multimeter, variable power supply, and function generator. NI LabVIEW and SignalExpress are ideal environments which offer intuitive interfaces to measurements, and allow students to compare their measurements and simulations on the same display.



[+] Enlarge Image

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