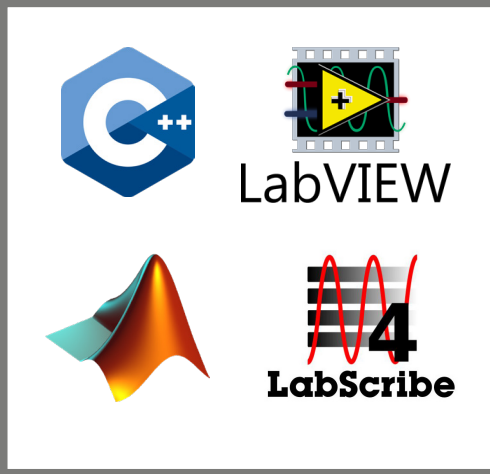


Compatible With:



# BioInstrumentation Teaching Kit



Step-by-step instructions



59 labs and 100+ exercises



Adaptable to any lab manual



Quick setup

## BioInstrumentation Physiology Kits Include:

- TA Control Module with iWire-compatible Biopotential (ECG, EMG, EEG) Amplifier, Built-in Stimulator
- LabScribe™ Software
- Solderless Breadboard
- Heart Sounds Sensor
- Pulse Probe
- Non-Invasive Blood Pressure Sensor
- Temperature Sensor
- Grip Force Sensor
- Event Marker
- Muscle Twitch Sensor
- Courseware

## Specifications:

- 20k Samples/sec per channel simultaneous
- 2 BNC  $\pm 10$  VDC, 16 bit resolution
- 2 DIN8  $\pm 10$  VDC, 16 bit resolution
- 1 - GSR (skin conductance), 3 - Biopotential
- 2 Low Voltage Stimulators - range  $\pm 15$ V 35mA
- 1 Isolated HV constant current Stimulator 0-20mA
- 8 Digital inputs and outputs
- Differential pressure sensor
- 2400mV, 1200mV, 800mV, 400mV, 200mV, 100mV, 50mV, 25mV, 12mV Biopotential Ranges
- USB 1.1, 2.0, full speed Interface



iWorx professionally developed courseware includes over 80 experiments and 200 exercises in cardiovascular physiology, neuromuscular physiology, and BioInstrumentation

## Circuit Design:

- Students can create experiments and study design of add-on circuits using the breadboard
- Signal from any input channel of the recorder can be routed to the stimulator and sent to the breadboard
- Students have the ability to design a custom circuit to condition the signal, and the conditioned signal can then be sent back to the recorder
- Compare the raw signal and the signal conditioned signal in software

## BioInstrumentation:

- ECG, EMG Signal Conditioning
- ECG Noise
- Frequency Response of Filters
- Op-Amp Circuits

## Human Muscle:

- Grip Strength and Electromyogram (EMG) Activity
- EMG Activity in Antagonistic Muscles
- EMG and Arm Wrestling
- Oculomotor Muscle Activity
- Response, Work, Summation and Tetanus in Human Muscle
- Human Muscle Twitch

## Human Circulation:

- Blood Pressure, Peripheral Circulation, and Body Position
- Blood Pressure, Peripheral Circulation, and Imposed conditions

## Human Heart:

- The Electrocardiogram (ECG) and the Pulse
- Heart Sounds and the Electrocardiogram (ECG)
- The Effects of Exercise on the Electrocardiogram (ECG) and the Pulse
- The Six-Lead Electrocardiogram
- The Diving Reflex

## Human Nerve:

- Auditory and Visual Reflexes
- Human to Human Interface
- Stretch Receptors and Reflexes with Plethysmograph

## Human PsychoPhysiology:

- The Electroencephalogram (EEG)
- Multi-sensory Reaction Times
- Visual Evoked Potentials (VEP)