

# **UNIVERSITY OF LOUISIANA AT LAFAYETTE**

**STEP Committee**

**Technology Fee Application**

**Physiology Teaching Kits/Laptops  
for Biol 221/318**

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Title

**Penny P. Antley**

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Name of Submitter

**Department of Biology**

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Organization

Title: Physiology Teaching Kits/Laptops for Biol 221/318 Date: 1/15/2018  
Name (Contact Person): Penny P. Antley  
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Department/College/Org: Department of Biology, College of Sciences

## **ABSTRACT**

Providing hands on experience in physiology enhances a student's ability to learn and retain information that will be important in their lives and future professions. Being able to provide this experience to 500 plus students each semester can be a challenge. With the iWorx physiology teaching kits we will be able to provide the opportunity for students to preform and design physiology labs that explore the cardiovascular, muscular, respiratory and nervous systems. This grant is requesting six iWorx physiology teaching kits and six laptops for Biol 221/318 - Human Anatomy and Physiology labs in the Department of Biology. With these kits and the computers to support them our students will be able to perform live experiments rather than relying on virtual simulations to learn about physiology.

- a. Purpose of grant and impact on student body as a whole.

The purpose of this grant is to be able to enhance the current physiology experiences that Biol 221/318 students have by providing physiology teaching kits that will allow them to preform actual physiology experiments in lab rather than doing them virtually. Every fall and spring 500 or more students are enrolled in Biol 221/318 which is the first and second human anatomy and physiology labs. In the summer at least 100 students take the Biol 221 lab. Many of these students are nursing majors, biology majors and kinesiology majors that want to go on to professional schools.

- b. Projected lifetime of enhancement - These kits will be able to be used for 10-15 years if not longer. When they are not being used for a lab they will be stored in the prep room inside of BLD 123.
- c. The person responsible for the implementation, installation, maintenance and operation of the physiology teaching kits is Penny Antley who is the lab coordinator for Biol 221/318.
- d. The IWorx representative will train us on how to use the equipment and will provide continual support as needed.
- e. Justification - The iWorx HK-TA Human Physiology Teaching kit (see attached quote) includes the necessary hardware, components and software to preform physiology exercises related to blood pressure, pulse, cardiac output, body temperature, electrocardiogram, grip strength, electromyogram, auditory and visual reflexes, nerve conduction, human psychophysiology, and spirometry. It also includes the LabScribe software with site license and free updates. We will be able to put a link to the software in moodle so each student will have access to the software for free.

There are 44 experiments and over 100 exercises that come with each kit. It also comes with the disposable mouthpieces used for the spirometry experiments. These mouthpieces will be able to be replaced using lab fees monies as needed.

Students will be able to collect the data during lab and because the software is available on moodle they will be able to analyze the data at home. Once students learn how to do the various exercises they will be able to design their own research projects.

Ideally we would like to purchase laptops to go with each of the physiology teaching kits. This will allow us to set up the kits anywhere in the lab and take them down for storage in the prep room which is secure and located within BLD 123. Without the laptops students will have to use their personal computers. We will be able to use the laptops for other experiments in the lab and would allow students to have access to the masteringAandP.com website in lab which has additional study tools available to them.

Having 6 physiology teaching kits and laptops will allow the students to work in groups of 4. Currently we have three spirometers and 6 blood pressure cuffs. Most of the physiology labs that we do are done virtually and are all simulated. With these physiology teaching kits the students will be doing similar exercises but with each other in the lab collecting live data. This will provide a richer and more substantial learning experience for our students.

Previously funded STEP Grant:

2014: STEP Grant: *Microbiology Lab Computer/Projector*. \$2,512.78.

## **Budget Proposal**

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1.	<b>Equipment</b>	<b>\$24,658.00</b> ( <i>see attached quote for 6 iWokx physiology teaching kits</i> ) <b>\$6,060.00</b> ( <i>6 Laptop Standard – Dell Latitude 5000-Series PC Depot</i> )
2.	<b>Software</b>	<b>\$0.00</b>
3.	<b>Supplies</b>	<b>\$0.00</b>
4.	<b>Maintenance</b>	<b>\$0.00</b>
5.	<b>Personnel</b>	<b>\$0.00</b>
6.	<b>Other</b>	<b>\$0.00</b>
<b>TOTAL:</b>		<b>\$30,718.00</b>



iWorx Systems, Inc.

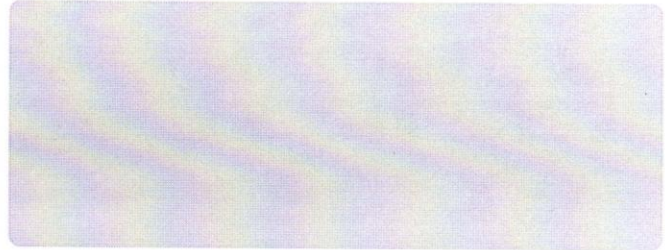
62 Littleworth Road  
Dover, NH 03820

Phone: 800-234-1757  
FAX: 603-742-2455

Quote No	29786
Date	Dec 15, 2017

Federal Tax ID  
04-3211-969

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NOTE: Prices and Terms presented in this document are confidential and not to be shared with those outside your organization.

QTY.	PART NO.	DESCRIPTION	PRICE/UNIT	AMOUNT
6	HK-TA	Advanced Human Physiology Teaching Kit Includes: IX-220 Recorder, LabScribe Software, iWire-B3G, NIBP (BP-220), Heart Sounds (HSM-220), Spirometer (A-FH-300L), Grip Force (FT-220), Pulse (PT-104), Event Marker (EM-220), Temperature (TM-220), Striated Muscle Transducer (SMT-220), 100 Ag/AgCl Electrodes (A-GC-7165) and Courseware.	\$3,995	\$23,970
1	A-SRK-100	Student Disposable Respiratory Kit, set of 100, includes bacterial/viral filter and nose clip	\$350	\$350

**TERMS AND CONDITIONS:**

- Net 30 Days (1.5% surcharge on credit card payments)
- All quoted products manufactured and provided exclusively through iWorx Systems, Inc.
- Prices are **FOB Destination** - Prepay and added to invoice.
- Quoted Prices are in USD and are Valid for 60 days.
- All Hardware warranted for 36 months.
- Software and Firmware Upgrades Provided at No Charge.
- Lab manuals provided in PDF and HTML, which may be modified and duplicated in part or whole.

Sub Total: \$24,320  
 Shipping: \$338  
**Total: \$24,658**

Ashish More