## UNIVERSITY OF LOUISIANA AT LAFAYETTE

# STEP COMMITTEE

# Technology Fee Application

Innovation Lab Enhancement - MDD 107 **Title** 

> Douglas Williams, Aimee Barber Name (Submitter)

> > College of Education Organization

### ABSTRACT PAGE

Title: Innovation Lab Enhancement

Date: July 8, 2021

#### Name (Contact Persons): Douglas Williams

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**Dept/College:** Department of Curriculum and Instruction, College of Education

#### Abstract

Since 2010, the **Innovation Lab (MDD 107)** in the College of Education has provided a key space for innovative field experiences for our early childhood, elementary, and secondary education majors (Approximately 200 undergraduates each year). In this space, our majors work with children as they engage in engineering design reaching approximately 400 children each year.

We **have identified a gap in the resources** for this lab to better provide optimal learning experiences for approximately 200 undergraduate education majors each year

We are requesting funds to purchase 6 iPads, 6 Laptops, a locking charging station, solder stations, drills, and other tools essential to engage our majors in design, innovation, and engineering design (required for education majors).

This proposal directly addresses the following outcomes for the STEP 2021-2026 Strategic Plan:

**SLE 3.1** – A number of classrooms will be equipped with interactive multimedia instructional technologies.

**SLE 3.2** – Various departments within the University may submit proposals to meet the technology needs of that unit.

**SLE 3.3** – Multimedia classrooms require a balance between technology and the learning environment.... adequate seating and fixtures to be able to provide students with an optimal learning environment.

### Hands-on Science Technology

### A. Purpose of Grant

This grant will enhance the equipment in the **Innovation Lab (MDD 107)** for use in IRED 320, a required technology integration class that has approximately **200** education majors each year.

This grant **fills a gap** we have in equipment needed to support advanced innovation, design, and engineering education topics for early childhood, elementary, and secondary majors.

We are requesting **6 iPads** (Air and Pro), **2 MacBook Pros**, **1 iMac** to enable students to sketch the parts of systems, engage in multimedia development (StopMotion animation, movie creation), 3D design, coding, and robotics. The eight mobile devices will be stored in a locking charging station.





Solder stations, drills, screwdriver sets complement the tools we already have in the lab (coping saws, 2 drills, hammers).

To provide a way to store materials for maker projects, we are requesting the <u>Jonti Craft</u> <u>3522JC STEAM Multimedia Cart</u>.

These resources will fill the gap in needed tools / resources our students should learn to master before graduation.

# **B. Impact on Student Body**

This proposal will impact approximately 200 education majors each year.

In Summer 2021, we plan on expanding our Summer Robotics Camps to include more education majors and children. This will provide opportunities for UL students and create vital outreach to our community.



Additionally, each year approximately **500 K-12 children** have opportunities to work with our education majors using the equipment.

#### C. The Projected Lifetime Of Enhancement

We expect this project to benefit students for at least the next four years.

### C. Person(s) Responsible for Project

- a. Implementation: Douglas Williams, Aimee Barber
- b. Installation: Doug Williams, Aimee Barber
- c. Maintenance:Doug Williams, Aimee Barber
- d. Operation: Aimee Barber, Douglas Williams
- e. Training: Aimee Barber, Douglas Williams

### E. Qualifications:

**Aimee Barber, Ed.D.,** is an assistant professor of educational technology, curriculum, and pedagogy in the College of Education at UL Lafayette. Dr. Barber holds a bachelor's degree in Elementary Education, a master's degree in Education of the Gifted, both from the University of Louisiana at Lafayette, and a doctoral degree in Curriculum, Teaching, and Teacher Education from the University of Florida. She has 15 years of experience designing and implementing curriculum for diverse learners and spent eight of those years also teaching future teachers to see themselves as designers of learning experiences for the diverse students they will soon serve. She teaches educational technology, restorative classroom management, PK-3 math methods, and coaches teacher interns. Her research interests include maker-centered learning, design thinking, and using Practitioner Inquiry to develop innovative and inquiring mindsets in pre-service and in-service teachers to become change agents for education. Dr. Barber is co-chair of the committee developing the Learning Lab.

**Dr. Douglas Williams** has a doctoral degree in educational technology with an emphasis on educational multimedia. He has over 15 years of experience in the computer industry as a programmer, network administrator, and website designer. Douglas is an Professor in the College of Education.

Qty	Item	Description	Cost Each	Total
2	MacBook Pro 13-inch, 16 GB, 512 GB Storage + AppleCare	Laptops will be used by our education majors when working on projects and during field experiences with children. (SLE 3.1, 3.2)	\$1,778	\$3,556
3	iPad Air + AppleCare +	iPads will be used by our	\$723	\$2,169

#### **Budget Category Descriptions**



	Pencil	education majors when working on projects and during field experiences with children. (SLE 3.1, 3.2)		
3	11-inch iPad Pro + AppleCare + Pencil	iPads will be used by our education majors when working on projects and during field experiences with children. (SLE 3.1, 3.2)		\$2,913
1	24-inch iMac with 4.5K Retina display	For developing multimedia projects in Innovation Lab. (SLE 3.1, 3.2)	\$2454	\$2454
1	<u>Charging Station - 12</u> <u>Devices</u>	Secure storage and charging of devices.	\$300	\$300
1	Jonti Craft 3522JC STEAM Multimedia Cart	For storage of materials in the Innovation lab. <b>(SLE 3.3)</b>	\$510	\$510
2	X-Tronic 3020-XTS • 75W Soldering Iron Station Kit	Soldering station for advanced maker projects. (SLE 3.1, 3.2)	\$60	\$120
2	<u>BLACK+DECKER 20V MAX</u> <u>Cordless Drill / Driver,</u> <u>3/8-Inch (LDX120C)</u>	Drill for maker projects (SLE 3.1, 3.2)	\$60	\$120
5	Screwdriver Set, Lionmount Magnetic Ratcheting Screw Drivers Set - 5X Faster 12pcs Multi-bits Set	Tools for maker projects (SLE 3.1, 3.2)	20	\$100
			Total	\$12,242

Length of Implementation 1 (in years)			3	
1. Equipment	\$12,242			
<ol> <li>Software</li> <li>Supplies</li> </ol>	0			
<ol> <li>Maintenance</li> <li>Personnel</li> </ol>	0 0			
6. Others	0			

## Budget Proposal

TOTAL:

\$12,242

### Timeline

**Year 1:** Order and install hardware.

### **Previously Funded STEP Grants**

Williams and Barber had a STEP Proposal funded in the Fall 2018 cycle to expand replace aging robotics equipment for use by elementary majors.

Mr. David Lynch and Mrs. Louise Prejean had a STEP proposal funded during 2010 to provide software for the department computer lab.

Dr. Doug Williams, Mrs. Louise Prejean, Dr. Yuxin Ma, and Dr. Mary Jane Ford, had a STEP proposal funded during 2006 to provide software for a pedagogical laboratory for pre-service teachers.

Mrs. Louise Prejean, Dr. Yuxin Ma, Dr. Doug Williams, and Dr. Mary Jane Ford, had a STEP proposal funded during 2006 to provide hardware and software for an educational technology course.

Mrs. Louise Prejean, Dr. Mary Jane Ford, and Dr. Doug Williams had a STEP proposal funded during 2005 to provide software for the student computers in the undergraduate computer lab in the College of Education.

Dr. Sally Dobyns, Dr. Doug Williams, and Mrs. Louise Prejean had a STEP proposal funded during 2005 to provide EduCaching equipment for undergraduate and graduate classes.

Dr. Gail Dack, Dr. Ford, Dr. Doug Williams and Mrs. Louise Prejean had a STEP proposal funded during 2005 to provide video equipment for the student computers in the undergraduate and graduate computer labs in the College of Education.

Mrs. Louise Prejean, Dr. Mary Jane Ford, and Dr. Doug Williams had a STEP proposal funded during 2004 to provide robotics software and hardware for the student computers in the undergraduate computer lab in the College of Education.

Dr. Doug Williams, Mrs. Louise Prejean, and Dr. Mary Jane Ford, had a STEP proposal funded during 2004 to upgrade software in the undergraduate computer lab in the College of Education.

Dr. Mary Jane Ford, Dr. Doug Williams, and Dr. Susan Lyman had a STEP proposal funded during 2000 to upgrade the student computers in the undergraduate computer lab in the College of Education. The server was not upgraded as part of this grant.

Dr. Doug Williams, Dr. Mary Jane Ford, and Dr. Susan Lyman had a STEP proposal funded during the 2000-2001 funding cycle to install equipment and software in the College of Education Materials Center.