

**Division of Academic Affairs
Technology Fee – Project Proposal
2014**

Project Proposal Type

Instructional Technology Enhancement Project (ITEP)

Project Title

Laboratory Instruction Using Smart Podium Interactive Pen Displays and Expanding Student Computer Availability

Total Amount of Funding Requested

\$11,400

Primary Project Coordinator

Katie Cavnar

Laboratory Instruction Using Smart Podium Interactive Pen Displays and Expanding Student Computer Availability

1. Introduction

The Program in Clinical Laboratory Sciences (CLS) started in 1963. It is a nationally accredited program that serves students who seek a career in clinical laboratory sciences which can lead to employment opportunities in hospital laboratories, toxicology laboratories, and biotechnology companies to name a few. For several decades, all instruction for the program has occurred in Building 58, Room 78, which is a teaching laboratory. In 2010, the number of CLS students admitted to the program tripled. While lecture classes are now held in various classrooms on campus, all teaching laboratories still occur in room 78. The CLS student spends approximately 8-10 hours in laboratory instruction a week for three consecutive semesters. While the teaching laboratory still physically accommodates this influx of students, an enhancement in technology would be beneficial.

2. Project description

This proposal has two separate projects: a) attaining a Smart Podium Interactive Pen Display (SMIPD) with Smart Notebook software for the clinical lab sciences laboratory classroom and b) purchasing six laptop computers for students to use in the laboratory classroom.

- a. Almost all of the classes required for the CLS program are accompanied by a lab component. Part of the lab period is spent lecturing, either to cover new material being introduced in the laboratory exercises or reiterate material covered in previous lectures that pertains to laboratory exercises. By upgrading to an SMIDP, those lectures could be enhanced, and those lectures that include interactive notes can be saved and accessed in eLearning. The students have to learn numerous calculations that can be done using the Smart Notebook software. It would be easier to fill in and alter charts and graphs while interacting with students during lectures. They learn a lot of structures, such as different cell types and microorganisms, and SMIDP would make it easier to highlight and label features during lecture discussions. These are a few examples of the numerous ways an SMIDP would be useful in the laboratory classroom. The SMIDPs are already used by the CLS instructors in the lecture classrooms, having one in the laboratory classroom would extend those capabilities to the laboratory lectures. Also, the projector screen obscures the teaching board in the laboratory classroom, so an SMIDP would allow instructors to interact with information on the screen. The CLS students are required to sit for a national registry board exam in order to obtain a license for employment, having lectures with additional notes available that they can access on eLearning would be beneficial.
- b. The CLS teaching laboratory currently has 14 desk top computers. Many of the laboratory exercises incorporate digital microscopy. This allows for students to

capture images of cells, microorganisms, and elements from slides and other specimens. An employed clinical laboratory scientist spends a considerable amount of time using microscopy in their career. It is essential that the scientist can accurately characterize and distinguish these elements for their profession. Several classes require the students compose a picture atlas of what they are studying in the lab for that semester. This helps in both learning for the student, they have digital images they can save and reference, and the instructor, who can analyze and grade the images for precision and accuracy. Digital microscopy helps standardize the student's assignments and strives for an unbiased assessment from the instructor. Over the last several years the CLS program has purchased twenty Motic® cameras with software. These cameras plug into USB ports on the computers and allow the students to capture and save images they find on the microscope and then upload the images into various types of documents for assessment. Recently, the program has exceeded the amount of students per computer in the laboratory. Each laboratory section is capped at 20 students, so six additional computers would allow each student to work on their own computer. CLS students spend hours performing digital microscopy and therefore sharing computers is not optimal. Laptops are more advantageous over desk tops for several reasons. They can run on battery, freeing up electrical outlets, which are at a premium in the laboratory. They take up less bench space. Storing and routine maintenance are easier and they can be locked away when not in use. Having a computer available for every CLS student would optimize their learning in the laboratory.

3. Project alignment with UWF Strategic Plan

This proposal aligns with strategic priorities: 1.1 and strategic direction 3.

Priority 1.1: Fostering student learning and development to include the knowledge, skills, and dispositions that optimize students' prospects for personal and professional success.

An SMIDP in the CLS laboratory will enhance the student's learning experience and allow them to access the newfound technology. The extra computers will optimize the student's time and ability to perform required laboratory tasks. Both of these technology enhancements will help the student as they endeavor in a career in clinical laboratory sciences.

Strategic Direction 3: Valued Partnerships: Community Engagement and Service

The CLS program is five consecutive semester. The last two semesters are spent as internships at local and regional hospitals where the students are further trained in the profession. The program has cultivated relationships with 17 hospitals in the region. The education coordinators from these hospitals visit UWF campus several times a year for meetings which are held in the CLS laboratory. Using an SMIDP can help facilitate these meetings and demonstrate the CLS program's advancement in technology. The digital microscopy displays the program's commitment to deliver student interns that are

prepared to learn and work in the profession, which serves the UWF community. Lastly, an SMIDP and extra computers will be beneficial when hosting young students of the community, such as the 100 students from Brown Barge Middle School that are coming at the end of January to learn about white and red blood cells and digital microscopy. They will be able to take and print pictures to facilitate their learning experience.

4. Description of benefits provided:

- a) *Ways in which student access to technology will be enhanced.*

Any lectures using the SMIDP can be saved and accessed by students on eLearning.

- b) *How the student experience will be enhanced.*

The extra laptop computers will enhance their learning experience, giving them more time to focus on digital microscopy.

- c) *How assessment will be conducted.*

A survey dedicated to technology in the laboratory classroom will be administered to students after their 3rd semester, before they start their internships and the Student Evaluation of the CLS Program survey given to the CLS students before the graduate will include specific questions about laboratory classroom technology.

- d) *Which and how many students will be impacted.*

Approximately 35 to 40 CLS majors and biology majors who choose CLS classes as electives will be impacted.

- e) *How students with special needs or disabilities would be helped.*

Students with special needs may benefit from having a computer always available to them during the laboratory sessions. The smart podium can record sessions, which may also be beneficial for students with disabilities to be able to replay the session.

- f) *How training of students and faculty in the use of technology would be enhanced.*

Instructors will be trained on the SMART Notebook software and have access to further training opportunities.

5. Measurement of success

A survey dedicated to technology in the laboratory classroom will be administered to students after their 3rd semester, before they start their internships and the Student Evaluation of the CLS Program survey is given to the CLS students before the graduate will include specific questions about laboratory classroom technology. An assessment summary will indicate if the new technology has been beneficial to students in the CLS laboratory.

6. Required resources for the project

- a) Any hardware requirements which should comply with standards established by the ITPAC.
 - One Smart Podia 518 interactive pen display with Smart Notebook software (SP518-SMP): \$ 3000
 - Six Dell Latitude E6430 Laptops: \$1225.81/each *Please see attached quote
Wireless lab setup is not required
 - Incidentals (Extended warranty for SPIDP (\$300), programming, etc.): \$1000
- b) Any software requirements which should comply with standards established by the ITPAC.
 - There are no software requirements.
- c) Any personnel costs – only OPS and other time-limited appointments, non-recurring.
 - There are no personnel costs.

7. Proposed timeline

1. July and August 2014- order, receive, set up and familiarize with SPIDP and laboratory laptops
2. August 2014- Fall classes begin, faculty begins to use SPIDP and students become familiarized with laptop computers
3. All Term 3 students that are ready to leave for their respective internships at hospitals take a survey composed by the department. The survey will include questions about technology used in the laboratory setting. Also, all students take another survey at the end of the program, before graduation, which will also include technology used in the CLS laboratory.

8. Plan for sustainability

Sustainability is certain for this project. The Smart Podia and laptops will be maintained by the CLS department and CASTech. The number of students per laboratory is capped at 20; therefore with the addition of 6 laptop computers, there will be enough computers for all students enrolled in a CLS laboratory.

9. Resource matching

Non-applicable

10. Implementation of the project

The faculty of the CLS program will implement the program. Any new faculty will be introduced and trained on the SPIDPS and referred to ITS for additional training including Instruction Technology Workshops.

11. Principal Investigator

Katie Cavnar, M.S, MT(ASCP)
Instructor
Clinical Laboratory Sciences Program

12. Notification of submission

Dr. Kristina Behan, CLS Program Director
Dr. George Stewart, Chair of School of Allied and Health Sciences
Dr. Michael Huggins, Dean of the College of Arts and Sciences

Attachment:

Dell Latitude E6430 Laptop Specifications and Pricing



Print Summary



Latitude E6430 Laptop - Build Your Own

Price **\$1,857.29**
Instant Savings **\$631.48**

Price \$1,225.81

Preliminary Ship Date: **2/4/2014**

My Selections All Options

• Latitude E6430 Laptop - Build Your Own

Date	1/17/2014 12:10:38 PM Central Standard Time			
Catalog Number	25 Retail rc971997			
Catalog Number / Description	Product Code	Qty	SKU	Id
Processor: 3rd gen Intel® Core™ i5-3230M Processor (2.6GHz, 3M cache)	I53230M	1	[338-BBKR]	2
Operating Systems: Windows 7 Home Premium,Media, 64-bit, English	W7HP61E	1	[330-6322][421-8037][421-8718]	11
Latitude E6430: Dell Latitude E6430	E6430	1	[225-2655]	1
Energy Star & EPEAT: Energy Star 5.2 Enabled / EPEAT	ESTAR	1	[331-6213]	40
LCDs: 14.0" HD (1366x768) Anti-Glare LED-backlit	HD	1	[320-3062]	10
Graphics: Intel® HD Graphics 4000	UMA4	1	[318-1890]	6
Memory: 8.0GB, DDR3-1600MHz SDRAM, 2 DIMMS	8G2D6	1	[319-0038]	3
Internal Keyboard: Internal English Single Pointing Keyboard	ENGSP	1	[331-5825][331-9783][332-0472]	4
Camera/Microphone: Noise Cancelling Digital Array Microphone	MIC	1	[318-1719]	17
Systems Management: No Out-of-Band Systems Management	CSMD	1	[331-5836]	21
mechanical hard drive: 320GB 7200rpm Hard Drive	320G72	1	[342-4940]	8
E-Modular Primary Optical Device: 8X DVD+-RW	DR	1	[318-0466][318-1732][318-2231]	16

Wireless LAN (802.11):				
Dell Wireless™ 1504 802.11g/n Single Band Wi-Fi DW1504 Half Mini Card		1	[430-4639]	19
Modem:				
No Modem	NOMODEM	1	[313-9606][331-5834]	14
Primary Battery:				
9-cell (97WH) Primary Lithium Ion Battery, (3.0Ah) ExpressCharge Capable	9C	1	[312-1319]	27
AC Adapter:				
90W A/C Adapter (3-pin)	90AC3P	1	[330-4016][331-5829]	15
Security Hardware:				
No Dell ControlVault, No Fingerprint Reader, No Smartcard Reader & No Contactless Smartcard Reader, SP	NOFRSP	1	[331-5839]	9
Processor Branding:				
Intel Core i5 Label	I5NBR	1	[331-1633]	749
Hardware Support Services:				
4 Year Basic Hardware Service with 4 Year NBD Limited Onsite Service After Remote Diagnosis	U4OS	1	[991-2878][993-8341][993-9491][994-0681][994-0921]	29
Complete Care:				
4 Year Accidental Damage Service	ACDAM4	1	[988-7689][993-9631]	33

