VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

7

3960189

Division	Student Affairs				
	Campus Division Student Health C	**Melissa**	**Acuna**	melissa.acuna@csusb.edu	(909) 537-3655

Total Amount Requested for FY 2018 $12,000.00

Project Title: Coyote Fitbit Program at PDC

Project Abstract:

The CSU Chancellor's Office recognizes student engagement and personal wellbeing are essential components to each student's college life experience and overall academic success. As wellbeing is a key factor to the GI2025 graduation initiative, the Student Health Center's (SHC) Department of Health Promotion (DHP) seeks funding to purchase FitBit Inspire HR fitness trackers for the Palm Desert Campus. The Inspire HR fitness tracker is a technology-based tool that encourages healthy behaviors. According to the CSUSB National College Health Assessment (2018), 51% of CSUSB students are overweight or obese which is 9% higher than the national average (42%). In addition, only 44% of our students meet daily physical activity recommendations necessary for improving and maintaining one's health. Over 26% of CSUSB students indicate sleep difficulties negatively affect their academic performance, followed by stress (35%) and anxiety (25%). Adopting the Coyote Fitbit Challenge at PDC, where students monitor their fitness goals using the Fitbit HR tracker, would encourage participants to increase their physical activity, to improve their sleep, and to feel more connected to the campus community. In addition, students will use the tracker to compete with other students to achieve physical activity goals as the trackers are able to "communicate" with each other. The trackers also set movement reminders, and track the critical stages of sleep (Light, Deep, REM). The Inspire HR tracker is popular with students and is easy for everyone to use including students with disabilities and mobility challenges.

Challenge(s) this project will address:

Students will have greater access to and connection with technology that encourages healthy behaviors. They will also feel a greater sense of community and connectedness when engaging in the Coyote Fitbit Challenge (a reoccurring semester program). Funding for this program will also provide an opportunity for students at PDC to enjoy and benefit from a program already available on the San Bernardino campus.

Alternate solution(s) should this project not be funded:

PDC students consistently express interest in the Fitbit Challenge and are frustrated the program is unavailable on that campus.

Impact(s) if this project is not funded:

If this program does not receive funding, only a few students will have access to the Fitbit HR tracker. In addition, the Fitbit Challenge program will be unavailable at PDC.

Cost: $$ (One time or recurring)

12,000.00 One time.

What are your intended Process Outcomes and/or Student Learning Outcomes?

1. A significant increase in the number of students participating in the program each semester at PDC 2. Students will understand the relationships and benefits to healthy behaviors (movement/fitness, sleep, nutrition, community) to their wellbeing and academic achievements 3. Students will learn key skills to improving health behaviors for movement/fitness (explore options such as bike riding, hiking, swimming, sports), sleep (monitor REM cycles and keep sleep inventories), nutrition (healthier/balanced meals on a student budget, CalFresh education), and community (engaging with peer students on a weekly basis).

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

DHP will utilize Qualtrics for assessment purposes. A pre-assessment will generate information on individual health behaviors and will be compared to post-assessment changes/improvements. Satisfaction Surveys will be utilized at the end of each semester to assess areas for future improvements in the overall program. Weekly assessments will be sent and correlated to the weekly goal. Follow up from each team coach will encourage student participants to stay on track with goals.

Project Timeline   **Start:** 8/3/2020 12:00:00AM   **End:**   5/31/2021 12:00:00AM   **First Quarter of Student Use**   Fall 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/106-07afbdff45d41aa62365ffb2b76a076f_Coyote_Fitbit_Program-_VETI_budget.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

23

Division	Academic Affairs	College of Natural Sciences		101958
	Campus Division	**Scott**	**Rose**	srose@csusb.edu	(909) 383-3052

Total Amount Requested for FY 2018 $10,000.00

Project Title: Online Teaching Enhancemnets

Project Abstract:

Use of a Learning management system (Blackboard) to record or stream live lectures to Online students, both at Palm Desert and San Bernardino Campuses. During in class lecture section, materials covered will be streamed or recorded (podcast), for link to Course Module Learning Outcomes, and General reviews of Course Term Paper Guidelines, Reflective Essays and Discussion Questions to reduce student frustrations, email bottlenecks, and enhance learning retention and meeting course learning outcomes more efficiently. Associated work in collaboration with ATI/IT staff, Instructional Designers, and Audio Visual Staff for follow-up recording as needed to be posted in Course Modules.

Challenge(s) this project will address:

Cost/Benefits measurable outcomes, and cost projections of Hardware/Software requirements.

Alternate solution(s) should this project not be funded:

Work with ATI, Instructional Designers and Audio Visual staff to post online in Learning Management System(Blackboard), of pre-recorded scripts of course materials, resources and course requirements/deliverables.

Impact(s) if this project is not funded:

 Student understanding and learning retention would be reduced

Cost: $$ (One time or recurring)

Estimate of $12,000 for starting work with ATI Instructional Designers, and will be recurring as modified for improvement.

What are your intended Process Outcomes and/or Student Learning Outcomes?

Increase understanding of course materials, depth of knowledge and shared applications for positive personal behavioral changes.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

Surveys of satisfaction and reflective essay feedback.

Project Timeline	**Start:** 3/15/2020 12:00:00AM	**End:** 9/20/2020 12:00:00AM	**First Quarter of Student Use**	Spring 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/180-80ce9edc8491e1075acf00ed862f4809_SRose_VETI_Project_2020.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

33

Division	Academic Affairs	Undergraduate Studies		110356
	Campus Division	**Camelia**	**Fowler**	fowlerc2@csusb.edu (909) 537-3345

Total Amount Requested for FY 2018 $25,000.00

Project Title: Mobile Laptop Charging Cart for University Honors Program Classrooms

Project Abstract:

The University Honors Program at California State University, San Bernardino develops public scholars and artists whose values are shaped by inquiry and exploration. The Honors Program achieves this by providing opportunities to explore the complexities of the world, challenges to develop students' abilities, and a community of support. With the campus' primary goal of student success in mind, one goal of the University Honors Program is to foster life-long learners who pursue knowledge through inquiry, exploration, and application. As we introduce our new semester based curriculum, we anticipate instructors will need students to have access to technology in the classroom, particularly in our new first-year writing and foundation seminar classes. With that being said, we want to provide our students with the resources they need for academic success. Providing a mobile laptop charging cart in the classroom will ensure access to computers for students, and equip students with the resources they need to succeed in the classroom. Integrating technology in education helps students stay engaged. Most students today have been using mobile devices like tablets and smartphones to play and learn since they could crawl. Honors faculty are increasingly seeking to leverage that familiarity with technology to engage students in active learning strategies. It is necessary, then, to align today's classrooms with the way that our students want and are used to learning. Recognizing the traditional passive learning model is broken, having a mobile laptop cart in the classroom will enable our faculty to appeal to different types of learners.

Challenge(s) this project will address:

Currently, there are no mobile laptop carts in the Honors facility. Thanks to a VETI grant, we currently have a total of (8) computers in the Honors computer lab, but that number prevents instructors from taking students in for classes. Moreover, because our classes are all in Cajon Hall, we have no local access to other labs or other departments' laptop carts. This project is to combat these issues so students will have the opportunity to use a computer while in class, which will contribute to their academic success. Additionally, having a mobile laptop cart available in the classroom will give students the opportunity to enhance the interaction with their classmates and instructors by encouraging collaboration.

Alternate solution(s) should this project not be funded:

If the project is not funded, we will continue our normal day-to-day operations of the Honors Program and classes, with limited availability of technology. As we continue to grow, this will become more of an issue because availability of computers and laptops are currently limited.

Impact(s) if this project is not funded:

 If this project is not funded, it will significantly impact student success. Instructors are moving away from traditional methods of teaching, test taking, and collaborating which means if a student does not have access to a laptop, they will be severely limited. This will lead to students under-performing in the Honors program, which can result in removal from the program.

Cost: $$ (One time or recurring)

This would be a one-time cost of $23299; any maintenance would be the responsibility of the University Honors Program.

What are your intended Process Outcomes and/or Student Learning Outcomes?

Increase access to laptops for academic purposes (Google Scholar, One Search, and other search engines required by some faculty) Increase availability of technology in Honors facility Reduce the wait time for technology in Honors facility

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

Survey of faculty utilizing laptop cart that focuses on perceived benefits to student learning Tracking student usage through EAB or other tracking software Install a firewall on each computer that filters information coming through the Internet connection into our Honors laptops Qualtric Survey for purposes of documenting student feedback and experience with computer and laptop usage in the Honors facilities

Project Timeline   **Start:** 8/17/2020 12:00:00AM   **End:** 8/17/2023 12:00:00AM   **First Quarter of Student Use**   Fall 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/4-339c7359ff60c8b23242523488589aa0_VETI_BUDGET_TEMPLATE_HON_2020.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

44

Division	Academic Affairs	College of Social Behavioral Sciences		5424753
	Campus Division	**Eric**	**Vogelsang**	eric.vogelsang@csusb.edu	(909)537-5575

Total Amount Requested for FY 2018 $11,400.00

Project Title: Preparation for the Job Market and Graduate School: Stata Statistical Software Lab

Project Abstract:

With approximately 800 majors, the Sociology department strives to ensure its students will remain competitive in the job market and with graduate school admissions. The Sociology Department asks for the purchase of 30 licenses of Stata statistical software for the SB-356 computer lab, at a cost of $11,400.   Three main benefits can result from this purchase. Firstly, Stata is the primary statistical program used in graduate schools for the social sciences. With Stata incorporated into their undergraduate training, CSUSB students may (a) have an advantage in their graduate school applications; and (b) acquire competitive advantages when seeking research assistantships and starting their research agendas in graduate school. Secondly, Stata is well-known for its power as a data management tool, particularly with survey data. With this grant we can begin to offer a data management course, teaching students how to code and manipulate raw data for statistical analysis. Such a course in data analytics is critical in our knowledge economy and has become a standard offering in many departments throughout the country   Thirdly, many social science professors were trained in Stata during graduate school. The VETI grant will enhance student success by having our instructors extending, rather than abandoning, their existing programming skills for teaching and research. Since our department shares lab spaces with other departments, students and faculty from other disciplines (e.g., Economics, Psychology, Social Work, Criminal Justice) will also benefit from this grant. We expect a high user rate once the programs are installed.

Challenge(s) this project will address:

This project will address three challenges. First, the sociology department currently lacks certain technological infrastructure that can build an effective data management course, especially for students who feel they need additional "quantifiable skills" in the job market. A course using Stata for data management and advanced statistical analysis may address this need. For example, Stata coding syntax borrows heavily from coding languages valued in the job market. In addition, such a course will cover basic data visualization techniques for creating graphs and graphics. Social scientists have long recognized that Stata's graphic capacity is more advanced and flexible than its competitor, SPSS. Second, since Stata use is common among graduate training in the social sciences, introducing the software in undergraduate courses will ease the burden and learning curve for students continuing their education. This is true not only for statistics classes, but also for independent studies and honors projects. Having learned data management skills in Stata, students can gain competitive advantages in seeking research assistantships during graduate study. Third, many of our current instructors in social research and statistics are adept in using Stata in their own research. However, they are often asked to teach with other software (e.g., SPSS in the sociology department). This practice has undermined their teaching effectiveness. Accordingly, the purchase of Stata licenses will greatly enhance student success by strengthening instructors' accumulated skills, allowing them to pass their existing programing knowledge and skills onto the students. We expect a high user rate for the newly installed program, since four of our five method instructors in sociology were trained in Stata and are currently using Stata in their research practices. We expect a similar trend in other social sciences discipline. So the installation of Stata in the sociology labs will also benefit a wide range of social sciences students.

Alternate solution(s) should this project not be funded:

While R, an open source software, has become popular among data analysts, its operating structure is extremely cumbersome and its programing demands are less user-friendly. This is particularly true for undergraduate students who do not have prior computer programming experience. Stata offers an intermediary position, one which demands just enough programming skills for students to advance in their research careers. It also offers easy ways to learn these basic programming skills (e.g., providing some drop-down menus; which then provide users the associated syntax to learn for future use).

Impact(s) if this project is not funded:

 Should the project not be funded, we will likely not offer an upper division elective in data management. We will continue to teach our required research methods and statistics courses, and we will still encourage our students to conduct independent research. However, both students and teachers will not have a viable alternative to the currently used (but limited and somewhat outdated) SPSS.

Cost: $$ (One time or recurring)

All 30 perpetual STATA/SE network licenses come at a one-time cost of $11,400.   Quote provided by Stata directly to Vincent Cornejo on Feb 13, 2020.

What are your intended Process Outcomes and/or Student Learning Outcomes?

Process Outcomes 1.   More Sociology students will use the computer lab. 2.   More Non-Sociology students will use the computer lab (since we will be the only computer lab in SBS to have Stata) 3.   Students will create code for honors projects (or independent studies) that can be carried forward to graduate school. 4.   New 400+ level course will be offered (in Data Management). 5.   Professors can utilize instructional materials from graduate school and/or their former job.   Learning Outcomes   1.   Students will learn basic-to-intermediate data management skills. 2.   Students will learn basic coding syntax and techniques that can apply to other software. 3.   Students will learn basic-to-intermediate visual data skills (e.g., creating graphs and charts). 4.   Students will learn how to communicate statistical concepts more skillfully. 5.   Students will improve their project management skills.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

1.   Document how often students are using Stata as the preferred platform for projects. (Process Outcome 1 & Learning Outcome 3) 2.   Document student enrollment and student feedback for a new data management class. (Process Outcome 4 & Learning Outcome 4) 3.   Document computer lab usage and reservations by non-Sociology Classes and Professors. (Process Outcome 2 & Process Outcome 5) 4.   Have students submit Stata code to instructors to gauge proficiency. (Learning Outcome 1 & Learning Outcome 2) 5.   Students will work in teams to create final projects for external review (e.g., Meeting of the Minds, CSU-Student Research Competitions). (Learning Outcome 4 & Learning Outcome 5) 6.   Department will document student success (job and graduate school placement) after graduation. (Process Outcome 3 & Learning Outcome 1) 7.   Document how often professors are using Stata as the preferred program for teaching. (Process Outcome 5)

Project Timeline   **Start:** 6/1/2020 12:00:00AM   **End:** 6/22/2020 12:00:00AM   **First Quarter of Student Use**   Fall 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/169-dd4c705f33c757b2edac9a79a8207fb9_Vogelsang_VETI_Template.xls

Palm Desert Campus (PDC)   **Thomas**   **McGovern**   mcgovern@csusb.edu   909-537-5849

Total Amount Requested for FY 2018 $20,510.00

Project Title: Equipment for PDC Photography Courses

Project Abstract:

Digital photography classes will be offered at PDC for the first time in Spring semester 2021. To do this, students need access to high quality photography equipment. This includes inkjet printers, prosumer digital cameras (with manual modes and capacity to capture with RAW files), portable studio lighting equipment and a flatbed scanner. In this course students will learn how to use high quality digital cameras; capture still images in RAW format and convert them to stable, lossless images files; edit their images with Adobe Lightroom and Photoshop software; store and organize their files; create digital books; shoot and edit basic video; and learn to print exhibition quality photographs and to create digital files from analog media (film and prints). Most importantly, students learn how to 'read' photographs, analyze and interpret images, and understand how photographs affect us both consciously and subliminally. Students also learn how to criticize images and speak thoughtfully about image content. Photography is fun and creates career opportunities in a variety of commercial and fine art applications such as portraiture, wedding, corporate, drone photography, hospitality, public relations, social media, personal expression and gallery exhibitions and sales.   Lens based media is the dominant language of our time. Though we all make and distribute images, it is advantageous to learn how to capture, edit, store and print high quality photographs. Images communicate in subtle ways, and learning how to analyze and interpret photographs is the key to understanding photographs, to becoming career-ready, and to making compelling images.

Challenge(s) this project will address:

PDC has a lack of digital technology classes, digital literacy classes, visual literacy classes, art classes and electives for all majors. This course is open to all students, does not have prerequisites and fulfills the digital literacy requirement and Media Arts Standard for the Liberal Studies Major in the semester curriculum. The photography course helps correct an imbalance in course offerings between PDC and the SB campuses.

Alternate solution(s) should this project not be funded:

Students would need to buy their own camera ($400), have their pictures printed off campus (thus, they wouldn't learn the printing process, which is a learning objective of the course) and would not be able to learn the studio and on-location lighting techniques, or how to scan analog material, another learning objectives of the course.

Impact(s) if this project is not funded:

 Prevents this course and its valuable career-ready skill sets from being offered to PDC students. PDC will not have an entry level course without prerequisites that addresses visual literacy, digital literacy or art.
 PDC students will have one less elective class

Cost: $$ (One time or recurring)

One time cost of $20,510

What are your intended Process Outcomes and/or Student Learning Outcomes?

Process Outcomes are a large influx of students taking photography classes to fulfill electives, and the digital literacy requirement, increased student satisfaction with PDC course offerings and the quality of their education.   Student Learning Outcomes: increase digital literacy, increase visual literacy and increase ability to analyze and interpret art in oral and written formats and to prepare for careers in photography related fields.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

Students will submit a digital portfolio of their images, written exhibition reviews (two page paper), artist's statement and self-evaluation form, all of which demonstrate digital literacy and the ability to analyze and interpret art.

Project Timeline   **Start:** 7/1/2020 12:00:00AM   **End:** 12/1/2020 12:00:00AM   **First Quarter of Student Use**   Spring 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/196-22b1671112a44e0f4db620b02c0113e4_VETI_BudgetTemplateExtendedUpdate.xlsx

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

65

Division	Academic Affairs	Jack H. Brown College of Business and Public Administration	3603807
	Campus Division	**stephen**　　　　**abbott**　　　sabbott@csusb.edu	909-537-3597

Total Amount Requested for FY 2018　　**$24.83**

Project Title:　　Support for mobile application development lab

Project Abstract:

The Jack Brown College has stepped up to be a leader in a cohort of business schools focused on the role of coding and mobile app development within the undergraduate student population. CSUSB has begun the process of introducing their business students to the technical and business aspects of the app economy, building upon a free curriculum offered by Apple. The focus of the effort is in learning the vernacular and process of mobile app development. In parallel with these efforts, Apple has been engaged at a system level with the AACSB and the California State University through the Chancellors Office and with leadership at each CSU campus - specifically, with a focus on the intersection between technology, student success and workforce readiness. There are clear synergies between this broader effort and the work with CSU schools around Swift coding (Apple product). In order to take full advantage of the program that Apple is providing support for, the Inland Empire Center for Entrepreneurship (IECE) within the Jack H Brown College of Business and Public Administration is requesting that the VETI grant program provide partial funding for the support staffing of the lab on campus. This lab is made up of workstations funded by the college and requisite software for the mobile app development process. Apple is providing the training and actual development environment. The college has allocated the facility, equipment and controlled environment. We request funding for graduate and undergraduate student interns to oversee and mentor users of the lab.

Challenge(s) this project will address:

The app economy has completely turned around the world. Every student on campus uses apps every day. This high volume usage has triggered 1,000s of new app ideas. The challenge becomes: how do we get an app built? Until Apple unveiled their Swift initiative, app development was the purview of the computer science or the computer engineering areas. But we all must realize that using that process to build apps creates a tremendous funnel problem in delivering apps. There are only so many CS experts and they all do not develop apps. The vast majority of app ideas languish trying to find a way through that development funnel. Our experience is that a very small percentage can get traction with developers. Thus comes this initiative. Apple is providing support for campuses to train students in fast app development techniques that do not require Computer Science background. Our lab is open to all students on campus but would reside in Jack Brown Hall. There are 2 reasons. One is that the College is willing to house the effort. The second is probably more important. There will be faculty and students from the business school (particularly the Entrepreneurship area) available to provide support for those using the lab to provide process and tools for the vetting of app ideas from the viable business perspective. You don't want to spend time building an app if you have not done the work to determine if the app can be delivered to market with a sustainable business model. The confluence of business and technology will come together in this lab. Bringing app development out into the open will allow students to understand and be able execute on the development and deployment of mobile apps. Again, the lab will be for all students on campus.

Alternate solution(s) should this project not be funded:

The lab will operate with reduces hours and much reduced mentoring support as can be provided by the faculty and staff.

Impact(s) if this project is not funded:

 If not funded the App Lab initiative will operate on a very limited scope as the mentoring is a key component. It will remain in a proto-type status and only allow a very limited access to the program.

What are your intended Process Outcomes and/or Student Learning Outcomes?

Student Learning Outcomes 1.　　　Non-Computer Science students will be exposed to and understand the vernacular and mobile app development process 2.　　　　Students will be exposed to and understand the business vetting process

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

1. Number of student who start the courses and the number who complete them tracked by college and department 2. Number of projects that are vetted for commercialization

Project Timeline　　**Start:**　9/1/2020 12:00:00AM　　**End:**　6/30/2021 12:00:00AM　　**First Quarter of Student Use**　　Fall 2020

Statements of support by collaborating organization(s) or department(s) (if applicable)

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Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/130-57d7aab25c22a976791520582c30f4cf_VETI_BUDGET_APPLAB_2020.xlsx

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

66

Division	Academic Affairs	College of Natural Sciences		4195996
	Campus Division	**Tomasz**	**Owerkowicz**	towerkow@csusb.edu	(909) 537-5312

Total Amount Requested for FY 2018 $82,126.00

Project Title: "Every breath you take, every move you make": updating animal physiology lab equipment for Biology majors

Project Abstract:

The project will support acquisition of modern hardware and software for laboratory instruction in animal physiology courses. This equipment provides the analog-to-digital (A/D) interface, along with numerous relevant accessories (pressure transducers, strain gauges, biopotential electrodes, stimulators, etc.), for data collection and analysis in student-led experiments in the physiology lab. The current lab equipment (purchased over 10 years ago) is already obsolete by technology standards, breaks down frequently, and is no longer "update-able". Replacement of this equipment is vital for completion of degree requirements by Biology majors, and is essential training in physiologic techniques for students planning careers in health- or zoology-related fields. Acquisition of the cutting-edge hardware units, with the associated plethora of software modules, as well as new animal lab protocols developed by Dr Owerkowicz for the semester transformation, will give CSUSB students significant hands-on experience, above and beyond what is offered at other CSU and even UC campuses. This equipment will become the workhorse of student instruction in laboratory exercises of the new year-round course Comparative Animal Physiology I and II (BIOL 3630 & 3640). It will also be used in courses offered with varying frequency: Invertebrate Zoology (BIOL3410), Chordates (BIOL3420), Mammalogy (BIOL3430) and Herpetology (BIOL3440), and Comparative Biomechanics (5550). Over 100 undergraduate and graduate students will benefit from training on the new equipment every year.

Challenge(s) this project will address:

Given how fast technology has advanced in the last couple of decades, and how widely available "wearables" (FitBit, etc.) have become to consumers, science-savvy students now expect to use plug-and-play equipment in lab exercises. Alas, with a few exceptions, most science labs at CSUSB lag behind in updating the standard equipment. In the animal physiology labs, the data acquisition units (iWorx modules) are over 10 years old, often require re-wiring between tasks, and frequently malfunction. These units with associated accessories have been the workhorses of our weekly lab exercises, used for all manners of measurements: breath volumes, heart EKGs, joint movement, muscle force, nerve signal transmission, etc. When working properly, they are a source of much enthusiasm among physiology students. When they are not working (because of broken wiring, drifting baselines, or noisy signals), they are the source of much frustration. Time has come for these units need to be retired, and replaced with smaller, lighter, higher-fidelity, wireless-capable versions. Neither departmental nor college funds are sufficient to cover the cost associated with complete replacement of these units. As long as they function, these units are "useable". But with a VETI grant, we can move forward and update the physiology lab to give our students a 21st century experience they expect and deserve. This proposal requests funding for eight cutting-edge data acquisition units, with accompanying accessories (including wireless BioHarness telemetry vests) and intuitive software, which will allow quick and precise measurement of a slew of physiologic parameters. The units are ADA-compliant, and can be easily operated by students with sensory and motor disabilities. They will be used in labs of major-required animal physiology courses offered in both semesters, as well as elective zoology courses. It will benefit over 100 students per year. By allowing experiential learning with hands-on exercises on live animals, the new physiology equipment is expected to increase student success rate in these courses. This will improve graduation rates, and thus contribute to the meeting the Graduation Initiative 2025.

Alternate solution(s) should this project not be funded:

We will continue to use the old equipment, and keep approaching the administration for lottery funding year after year...

Impact(s) if this project is not funded:

We can continue to train our students on such old equipment, but their classroom "life expectancy" is rapidly dwindling. The frequent equipment breakdowns detract from the learning experience, and sometimes are a roadblock for our students' understanding of the key scientific concepts best taught in a lab setting. Continuing physiology instruction without updating the equipment will constrain the lab exercise repertoire, and handicap our students in their educational progress toward their scientific careers.

Cost: $$ (One time or recurring)

82126 (one time)

What are your intended Process Outcomes and/or Student Learning Outcomes?

Process outcomes: 1. students will be more enthusiastic about physiology laboratories when hands-on training with modern data acquisition hardware (with unique accessories) is part of the weekly curriculum. SLO's: 2. students will understand how the ventilatory and cardiac systems function; 3. students will better absorb concepts of heat transfer and temperature regulation; 4. students will better comprehend neuromuscular control and signal transduction; 5. students will develop an intuitive grasp of the force generation and velocity of muscle contraction during exercise; 6. student success rate in animal physiology courses will improve when updated laboratory exercises using the new data acquisition units are integrated in their respective curricula.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

KPIs: 1. level of student enthusiasm will be assessed using anonymous questionnaires, and compared for lab sections with hands-on equipment where students can take measurements on themselves, and analogous online modules. We expect higher level of enthusiasm in the former. Outcomes 2-5 will be assessed individually using appropriately phrased questions (pertinent to each SLO), interspersed between regular questions in lab and lecture exams. We predict student performance to show significant improvement once the new data acquisition units with various accessories are up and running. 6. Student pass rate for each animal physiology course using new equipment will be compared with pass rates in the last three years using old equipment. Considering that the course material and instructors have remained the same over this time period, a direct pre/post-implementation comparison is possible. In each course, we predict student pass rate to show a statistically significant increase after implementation of updated technology.

Project Timeline   **Start:** 8/15/2020 12:00:00AM   **End:** 8/15/2030 12:00:00AM   **First Quarter of Student Use**   Fall 2020

Statements of support by collaborating organization(s) or department(s) (if applicable)

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http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/216-1bfcaca339524a570947ad7138e1e197_Bio_dept_letter.pdf

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/226-98bd9b591e988a60205be91e5f507407_VETI_BUDGET_Owerkowicz.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

67

| **Division** | Academic Affairs | College of Arts and Letters | | 3223 |
| | Campus Division | **Thomas** | **McGovern** | mcgovern@csusb.edu | 909-537-5849 |

Total Amount Requested for FY 2018 $10,701.00

Project Title: Large Format Printer, Ink and Scanners for Photography Program in Department of Art & Design

Project Abstract:

Photograph is partially driven by technology and one of the most accessible and exciting is the ability to print very large images. Large format printers provide outstanding print quality at very large scale on a wide variety of materials from paper, to transparency to canvas. Large photographs are ubiquitous in fine art galleries and commercial advertising and marketing campaigns. Photography is often a hybrid medium incorporating analog and digital technologies. A scanner is a necessary tool to convert the analog film or print into a digital file. Like printers, scanners vary widely and high quality results for output require a high resolution scanner. We are requesting two scanners since up to 24 students are in a class to reduce waiting time for access to the equipment. These vital technologies prepares our students to be career-ready and to enter numerous art and commercial photography fields._____

Challenge(s) this project will address:

Scale is an important consideration in art and commercial photography and this printer and scanner allow students to explore imagery and applications well beyond the limited scale of our current equipment. Hybrid capture and output are increasingly common in fine art and commercial photography and this requires a high resolution scanner. With this technology students are learning how to print large, high quality photographs on a variety of media, scan prints, negatives and transparencies for high quality output, and learn the details of file sizes, file types, color management, media profiles and other details that will aid them in their photography careers

Alternate solution(s) should this project not be funded:

There may be other large format printers on campus that we can access, but the students will miss out on learning how to print images themselves, which is a career-ready skill. (see #18). There are scanners on campus but students will miss out on learning how to control scan properties, another career-ready skill. Acquiring the skills to properly use these pieces of equipment is a career-ready skill.

Impact(s) if this project is not funded:

Students will miss out on the creative and practical aspects of large format printing and hybrid photography and the career- ready training and experience gained from operating these pieces of equipment._____

Cost: $$ (One time or recurring)
one time cost of $10,701

What are your intended Process Outcomes and/or Student Learning Outcomes?

Process Outcomes include an increase in students seeking to participate in photography classes; increased student satisfaction that they have access to current technology, and in their ability to create scans/images/prints for various applications, and their ability to market themselves are ready to enter the workforce. _Student Learning Outcomes will be an advanced knowledge of large format printing and how large scale images effect how viewers understand and interpret these images. Technical outcomes will include a strong understanding of color management, print and paper profiles and file resolution and file types. These are career-ready skills

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

Students will demonstrate their ability to conceive and execute large format prints from both scanned and digitally captured files, which will be critiqued in class and exhibited in public forums.

Project Timeline   **Start:** 7/1/2020 12:00:00AM   **End:** 8/24/2020 12:00:00AM   **First Quarter of Student Use**   Fall 2020

Statements of support by collaborating organization(s) or department(s) (if applicable)

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/182-34f7d51d00574ade4a4188cf5e85421c_Student_letters_of_support.pdf

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/194-c834a1e05719aa8111a852d75d993a4f_VETI_BudgetTemplateExtendedUpdate.xlsx

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

68

Division	Academic Affairs	College of Arts and Letters		576457
	Campus Division	**Kellli**	**Cluque**	kelli.cluque@csusb.edu 909-537-3473

Total Amount Requested for FY 2018 $9.18

Project Title: Coyote Radio & Advertising Student Media Training

Project Abstract:

Our unit is a multi-media lab that houses the campus radio station (Coyote Radio) and the advertising/marketing learning workshop (Coyote Advertising). Including overseeing the Communication Studies Radio Practicum class (Comm 243B), we have several student assistants, interns and volunteers that brings our yearly student experience to over 400 students per year. The following are areas that we teach the students and practice with them: on-air radio broadcasting, broadcast script writing, press release writing, interview skills (question writing, recording, editing and final production), graphic design, photography, videography, social media content, music programming, on-site promotion skills (tabling), podcasting and digital audio editing and production. For the VETI Grant proposal we are requesting a few items that are vital to our operation for the students to: A) be fully prepared to enter the workforce knowing the latest technology for a multi-media position (iMac, Sony camera with video, Zoom H4 remote recorders) and; B) to continue operation without interruption for Coyote Radio (Arakis broadcast console). Items requested will be implemented to support our students practicing in the Coyote Radio and Advertising facilities. The purpose is to fully train students for 21st Century media leadership positions. The items requested will give our students practical skills so they can apply their experience to real-world broadcasting, podcasting, media and marketing jobs. Everything we do at our unit is to prepare students for a job in creating and editing content through multiple platforms in media.

Challenge(s) this project will address:

In the Coyote Radio and Advertising facilities, we encounter a shortage of equipment to furnish to the students. We utilize our equipment efficiently but would like to provide more opportunities for students to have a hands-on experience, thus our request for an iMac, a camera and two hand-held recorders. In addition, to continue operating the student-run Coyote Radio station, we are in need of replacing a dated and faulty on air studio console (radio board).

Alternate solution(s) should this project not be funded:

We will request funding from our College, Arts and Letters.

Impact(s) if this project is not funded:

Students will have less access to equipment that would enhance their learning and practicing experience. And also, we may experience operating loss of Coyote Radio from the aging studio on-air board (console).

What are your intended Process Outcomes and/or Student Learning Outcomes?

Because of the VETI enhanced improvements we expect to see lesser what times to check-out and use equipment. In addition, Because of this greater availability with our equipment, we expect to see a great number of students training and practicing with the equipment. About the Coyote Radio studio console board, we expect to see less "downtime" for students who operate the radio station. As the students interact with Coyote Radio and Advertising, we expect the students will improve their photo and video editing skills, their social media contest posting skills, their interviewing skills and their podcasting skills.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

We will be able to assess the students' success by the finished product of their work in graphic design, photo and video editing, remote recording and audio editing skills and social media posts as they furnish us with their finished graphic designs, audio projects and media content items.

Project Timeline   **Start:** 7/1/2020 12:00:00AM   **End:** 6/30/2021 12:00:00AM   **First Quarter of Student Use**   Fall 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/57-149a7e4f4acc5bd1ab2935ad074fc80c_VETI_budget_2020_Coyote_Radio_and_Advertising.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

Division	Academic Affairs	College of Natural Sciences		4512598
	Campus Division	**Guillermo**	**Escalante**	gescalan@csusb.edu (909)537-7236

Total Amount Requested for FY 2018 $110,772.00

Project Title: Sports Medicine Equipment Grant

Project Abstract:

The department of Kinesiology and CSUSB Sports Medicine Center (SMC) collectively serve over 1,100 CSUSB students as either kinesiology majors or student athletes. Specifically, there are approximately 250 student-athletes and 950 kinesiology majors. The SMC is committed to the health and welfare of student-athletes and is dedicated to providing the highest quality care. The SMC and the department of kinesiology work close together to improve student engagement and academic/experiential preparation to enter the fields of athletic training, physical therapy, and other sports medicine related fields. In addition to serving as the primary medical care facility for student-athletes, the SMC partly serves as a central teaching hub for kinesiology majors for classes such as prevention and treatment of athletic injuries and field experience in allied health professions. Over the last year, 445 kinesiology majors have utilized the SMC as part of their learning experience for their classes and approximately 15 students per year are selected by the SMC staff as volunteers to assist them in rendering care for student-athletes year-round. The purpose of this grant is to update the SMC with new equipment that will be used to treat student-athletes while simultaneously improve student engagement and the academic/experiential learning of the kinesiology students to prepare them for their future careers in the field. Over the last year, the SMC provided 15,734 treatments to student-athletes.

Challenge(s) this project will address:

1) Improve student engagement by providing access to the latest sports medicine equipment used in the field today. 2) Improve academic preparation of students by providing them with access to the latest sports medicine equipment that they may use in the field as they enter graduate school or the work place. 3) Improve data-informed decision making for return-to-sport decisions for injured student-athletes while allowing students the ability to learn how the sports medicine equipment can be used in the decision-making process for patients. 4) Assist in administration of treatments by utilizing ipads. The online software program used to track injuries and treatments will be easily recorded in digital format on an iPad. Student-athletes, student-volunteers, and sports medicine staff can quickly and easily use iPads to log injuries, treatments, and progress. 5) Increase access to more sports medicine equipment to treat more student-athletes efficiently and effectively.

Alternate solution(s) should this project not be funded:

The kinesiology department and the sports medicine center would have to budget over time to get this equipment funded. It is not likely that all of this equipment will be able to be purchased over a one year period.

Impact(s) if this project is not funded:

Business will continue as usual in the sports medicine center with the current equipment available. Although the equipment needs to be updated, students and student-athletes will still benefit from the equipment currently there.

Cost: $$ (One time or recurring)
One time cost $110,772

What are your intended Process Outcomes and/or Student Learning Outcomes?

Process Outcomes: 1) Increased use of sports medicine services by student-athletes 2) Improved satisfaction with treatments provided due to use of state-of-the-art equipment 3) Improved rehabilitation treatment outcomes 4) Improved data-informed decision making for return-to-sport decisions for injured student-athletes Student-Learning Outcomes: 1) Increased knowledge on the latest sports medicine equipment available 2) Improved skills in assessing, treating, and rehabilitating sports injuries 3) Improved skills in documentation of treatments rendered

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

Process Outcomes: 1) Compare number of treatments provided 12 months before the equipment and compare to number of treatments provided 12 months after equipment is installed 2) Provide treatment satisfaction surveys before the equipment and compare to treatment satisfaction surveys after the equipment 3) Compare sports rehabilitation outcomes (i.e., lost time due to injury, re-injury rate, etc.) before the equipment was installed and compare to after the equipment was installed 4) Physician survey on data provided regarding injured athletes to assist in return-to-sport decision making prior to equipment installation and compare to after equipment installation   Student Learning Outcomes: 1) Test students on knowledge of sports medicine equipment before the equipment is installed and compare to after the equipment is installed 2) Test students on knowledge of assessment, treatment, and rehabilitation of sports injuries before the equipment is installed and compare to after the equipment is installed 3) Test students on treatment documentation before the equipment is installed and compare to after the equipment is installed

Project Timeline **Start:** 8/3/2020 12:00:00AM **End:** 9/30/2021 12:00:00AM **First Quarter of Student Use** Fall 2020

Statements of support by collaborating organization(s) or department(s) (if applicable)

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/55-ae2eac306a970463afedea8734e45abd_Kinesiology_Department_Chair_VETI_Letter_of_Support_pdf.pdf

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/182-77df6cb5bd93c8799d83b4541689b818_Sports_Med_Equipment_VETI_Budget.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

70

Division	Academic Affairs	Student Research, Office of		4805953
	Campus Division	**Christina**	**Hassija**	chassija@csusb.edu 818-632-5586

Total Amount Requested for FY 2018 $4,584.66

Project Title: Office of Student Research Technology to Promote Efficiency and Engagement

Project Abstract:

The mission of the Office of Student Research (OSR) is to facilitate the research and creative activities of all CSUSB students by providing programs, activities, and funding opportunities. The OSR was established in 2011, and has grown considerably since its inception. During the 2018-2019 academic year, the OSR provided resources, support, and programs to over 3,000 CSUSB students from all disciplines. In the Fall of 2019, the OSR launched its peer-advising program through our Coyote Research Ambassadors (CRA) program and is supporting the development of a new student club, the Coyote Scholars Club. The OSR is requesting to purchase ten iPads for peer-advising, to promote student engagement, and to improve efficiency at OSR and Coyote Scholars Club events for students.

Challenge(s) this project will address:

Increasing efforts have been focused on engaging undergraduate students in high-impact practices (HIPs) that include activities, such as engagement in research and creative pursuits. The primary objective of exposing student to opportunities to engage in research and creative activities is to enhance students' familiarity with empirical observation and ability to engage in systematic investigation and research (Kuh 2008). Research has shown that engagement of undergraduate students in research can result in improved student success via increased retention, graduation rates, academic performance, and academic satisfaction and higher enrollment in graduate programs (Nagda et al. 1998; Hathaway et al. 2002; Gregerman 2009, Pukkila et al. 2013). Studies have also shown that students who participated in undergraduate research report greater self-confidence which can enhance their ability to work independently (Brownell and Swaner 2010; Lopatto 2010). The Office of Student Research (OSR) was developed in 2011 to support student engagement in research and creative pursuits. The mission of the OSR is to facilitate the research and creative activities of CSUSB graduate and undergraduate students by providing programs, activities, and funding opportunities. For the first time since its inception, the OSR will have its own physical space on campus. The OSR has been increasing the number of students it serves at CSUSB annually. In the 2017-2019 academic year, the OSR served 2,043 students, and last year, 2018-2019 we increased our total participation to 3,162 (a 54% increase). We anticipate continuing this growth trajectory as we have begun work on a number of strategic goals designed to improve visibility of the OSR on campus and increase student participation in our programs, events, and training opportunities. For example, this year we have added an advising program, improved our approach of reaching students via workshops, and have created new programs that serve the research needs of current students and faculty, as well as prospective CSUSB students. Our long-term vision is to be the CSUSB entity that best facilitates CSUSB students' inquiry, discovery, and creativity in all disciplines through faculty-student collaboration within and outside of the classroom in research and creative activities. We hope to be able to provide all CSUSB students with an opportunity to participate in course- and mentor-based research and creative activities as a part of their educational experience at CSUSB. By doing so, the OSR will contribute to CSUSB's mission to offer a challenging and innovative environment to improve graduation rates, driven by teaching and research excellence, intellectual interaction and creativity. We are looking to secure funds to purchase appropriate technology to improve our ability to work with and engage students on campus. Specifically, we are requesting funds to purchase 10 iPads. These iPads will be used by our student ambassadors (CRAs), Coyote Scholar officers, and student support staff to improve our interaction and engagement with the student community. First and foremost, iPad technology will be used to improve the ability of our CRAs to effectively provide peer mentoring on campus. Each CRA will be loaned an iPad for the academic year to use for peer mentoring that occurs in our office, on campus, and at OSR tabling events and workshops. These iPads can be used to navigate the OSR website, visit departmental and faculty pages, teach students how to search for research programs and internships, etc. during peer-advising sessions, tabling events, and OSR workshops. Hence, CRAs will be better able to serve students at various campus locations and events. In addition, having this technology will also enable us to more effectively administer post-advising surveys to students to evaluate our peer-advising and peer-statistician programs. For example, currently, we email students with a survey after peer-advising or peer-statistician tutoring sessions, but have found that response rates are low. Having this technology will enable us to be able to ask students to confidentially complete the surveys at the end of the advising appointment to ensure improved data collection and evaluation of our programs. The iPads will also be used to enhance students' experiences and to promote engagement at OSR events, such as the "CSUSB Research Competition," "Taste of Research" at the Palm Desert campus, and "Meeting of the Minds." Currently, at OSR events, we try to track participation and attendance with paper and pencil sign-in sheets. We also use this as an opportunity to collect the e-mail addresses for students whom we add to a listserv to inform about future OSR events and grant activities. Our current process is tedious and often leads to long lines and missed opportunities to connect with students. Further, all data must be manually imputed by our staff. At our recent CSUSB Research Competition in February 2020, we created a QR code to check participants in and collect their information to add them to our email list. This was a very successfully modality that appeared to lead to better satisfaction among student attendees and student staff. We would like to be able to continue this process and implement this technology at other OSR events and activities that are designed to promote student engagement, such as when we table at campus events and offer workshops. Lastly, the OSR is sponsoring a new student club, Coyote Scholars. This club is designed to promote connection among students from all disciplines that are engaged in research and creative activities and improve awareness and utilization of campus resources and scholarly events. A second objective of the club is to provide outreach to students to enhance engagement of all students in mentored research and creative activities. Officers from the Coyote Scholars Club will be able to check-out iPads for their use at club events to track participation and recruit members. Having access to iPad technology will improve our Coyote Scholar club's ability to better accomplish their goals.

Alternate solution(s) should this project not be funded:

If the proposed project is not funded, there is not identified alternative. The OSR will continue to identify and pursue alternative campus funding initiatives that will enable us to purchase necessary technology.

Impact(s) if this project is not funded:

The OSR will be limited to effectively and efficiently provide its student clientele with support and resources to promote student engagement in research and creative activities.

Cost: $$ (One time or recurring)

$4584.66 - one time

What are your intended Process Outcomes and/or Student Learning Outcomes?

1.   Strengthen depth of knowledge in a specific field 2.   Enhance technical skills within a discipline 3.   Improve critical thinking skills 4.   Enhance creative problem-solving skills 5.   Enhance communication skills 6.   Enhance ability to put classroom knowledge into practice and real-world application 7.   Acquire study strategies that can be applied to other courses

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

Learning outcomes will be assessed via the following methods: 1.   A survey which assesses student's self-reported confidence in skills (see attached). The measure assesses participants' confidence in a variety of academic skills and asks respondents to rate themselves in a variety of academic areas on a one to five scale (1 = very low to 5 = very high). Sample areas include subject knowledge, critical thinking skills, problem solving skills, etc. 2.   Learning Outcomes will also be measured using data obtained from Institutional Research (IR) that will reveal OSR participant's GPA and graduation rates. 3.   Information will be collected regarding the number of students served and the rates student success in applying admission and gaining acceptance to graduate programs.

Project Timeline   **Start:** 8/3/2020 12:00:00AM   **End:**   6/1/2020 12:00:00AM   **First Quarter of Student Use**   Fall 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/57-07755cfa9cac758e6521984263f3ec6f_2020_VETI_BUDGET_TEMPLATE.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

Division	Academic Affairs	College of Natural Sciences			3158
	Campus Division	**Brett**	**Stanley**	bstanley@csusb.edu	(909) 537-7218

Total Amount Requested for FY 2018 $71,898.39

Project Title: Student Development of Capillary Electrophoresis Methods in Discovery-Based Instrumental Analysis Laboratories

Project Abstract:

Capillary Electrophoresis (CE) is a relatively new separation technology in analytical chemistry. It is the basis of modern DNA analyses, but methods can be developed for numerous other applications. These developments have lagged behind those in high performance liquid chromatography. The proposed project will replace a severely aged CE in the Department of Chemistry & Biochemistry purchased in 2002. A quarter-to-semester (Q2S) transformation of CHEM 545 (to CHEM 5200) is adding 30 hours of instruction to the laboratory component in order to foster discovery-based experimentation. Students will be engaged to develop methods using CE, which will not only train them in CE technology at a higher level, but also give them invaluable general experience in analytical method development. The instrument will also be available to our biochemistry laboratories, new semester senior project/research courses, and independent faculty/student research projects.

Challenge(s) this project will address:

Modern analytical instrumentation is very expensive. College equipment and lottery funding that formerly used to purchase new and replace old instrumentation has been diverted from college budgets to other categories. Yet employers in the chemical and biotechnical industries and government laboratories still expect graduating chemistry majors to be trained on various instrument technologies and method development. The current CE in the Department of Chemistry & Biochemistry is 17 years old and in disrepair. Being a high voltage device, for safety reasons many components are constructed of non-conductive polymers, and these are deteriorating. At this point, repair requires a complete overhaul and replacement of all the plastic and rubber parts, and replacement of the instrument is really the only viable option. From an instructional standpoint for students, CE method development provides an opportunity for them to learn and choose how to development many types of methods, because CE can be performed in several â€œmodesâ€ that exploit different chemistries. Instructional space (time) has been created in the semester-transformed curriculum (e.g. CHEM 5200) to allow students to work on and develop their skills with modern instrumentation. The challenge is supplying the modern instrumentation to work with! CHEM 5200 currently serves 20 seniors per year. If sufficient equipment is not available, too many students are trying to complete projects on an insufficient number of instruments in our labs. Students notoriously love new technology, and become discouraged if they donâ€™t receive exposure to the current technology used in their major field of study.

Alternate solution(s) should this project not be funded:

We will continue to use the current CE until it is no longer possible. This point in time may have already transpired. In Spring 2019, our CE began leaking coolant at an alarming rate, and the CHEM 545 experiment with it had to be terminated. Over the summer the coolant reservoir was removed and glued back together and reinstalled. It still leaks a little bit. While inside the instrument, several other plastic and rubber components were observed to be disintegrating and it is not an easy task physically getting to them in the confined spaces. Parts are expensive. If a new CE isnâ€™t purchased, we will have to forgo instruction of this class of technology in the lab. Additional experiments with other operational instruments will have to be designed instead.

Impact(s) if this project is not funded:

No further laboratory hands-on instruction of capillary electrophoresis at CSUSB. Students will be directed to existing instrumentation for other experiments and measurements we can do here instead. This creates logjams and bottlenecks at the other instruments, increasing their usage, wear and tear. Some students donâ€™t get hands-on experience at all on some because too many others are performing their experiments requiring that one particular instrument. Instead of getting hands-on experience, they instead watch other students operate the equipment, which is an insufficient learning experience. Increased usage results in increased depreciation, maintenance and repair. Having a healthy and balanced suite of chemical instrumentation actually maximizes the lifetime of each!

Cost: $$ (One time or recurring)

One-time purchase for $71,898.39. This includes a trade-in credit of the old instrument worth $8,297 and a discount of $14,975. The department will cover recurring costs such as capillaries and chemicals.

What are your intended Process Outcomes and/or Student Learning Outcomes?

General process outcomes are: 1) Students are happier with new technology. They will be better motivated to learn (and graduate) it if they feel that it is current, something they might use in a job down the road. 2) Q2S transformation has provided curricular space at the upper-division level for students to spend more time on projects and research. Evidence-based teaching practices show that students learn more deeply with "discovery-based" laboratories than they do with "cook-book-based" laboratories.   Specific student learning outcomes will be to: 3) Learn different modes of CE with experimentation and method development skills that transfer to other technologies.   4) Obtain experience developing a method for a specific analysis as an important skill in the professional world.   5) The different chemistries involved in the various modes of CE further teach students chemical principles such as ionization, pI, buffers, charge, electrical fields, migration, liquid flow, UV-Vis detection and spectral analysis. Other types of instrumentation typically don't involve so many fundamental principles at once.   6) CE provides an excellent contrast to traditional electrophoresis currently practiced in the biochemistry laboratories. 7) The instrumentation will be required for students in CHEM 5200. It will also be available to students in the Biochemistry Concentration in their laboratories CHEM 4100L and 4200L. Q2S transformation created new project-based courses: CHEM 5700 for Biochemistry majors and CHEM 5850 and 5860 for Chemistry majors. Students potentially could elect a project that utilizes CE in addition to independent research students enrolled in CHEM 590x and 595x.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

1) Exit surveys of graduating students typically reference the departmentâ€™s equipment portfolio, and students list the equipment they were trained with on their resumes.   2) Additional laboratories and experiments utilizing CE in CHEM 5200; quality of lab reports and data obtained.   3,4) Lab reports and instructor observations will reveal student success at developing methods.   5) Student success in other learning outcomes in the course regarding principles central to CE as well as increased understanding of these principles in other courses that donâ€™t use CE. These may be measured on exams or by faculty reflections of student performance during the regular program assessment process.   6) Student reflections of the technology compared to the other technologies they have used. Most of the students in CHEM 5200 have to also take CHEM 4100L where traditional electrophoresis is practiced. 7) In addition to CHEM 5200, we will know what projects or experiments are being performed using CE in other classes or research. These can be easily documented.

| **Project Timeline** | **Start:** 7/1/2020 12:00:00AM | **End:** 5/30/2031 12:00:00AM | **First Quarter of Student Use** | Spring 2021 for certain. Research stud |

Statements of support by collaborating organization(s) or department(s) (if applicable)

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/144-d95198c765c940d262035dc7936ed35c_CE_letter_Hannah_Fejzic.docx

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/196-a1bba997dd8878fe4ba8c4867473220f_VETI_BUDGET_CE_Stanley.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

72

| **Division** | Information Technology Services | | | | 6488413 |
| | Campus Division | **Chris** | **Bradney** | cbradney@csusb.edu | 909-537-4462 |

Total Amount Requested for FY 2018 $118,000.00

Project Title: Open Parking Spaces

Project Abstract:

Parking & Transportation Services and the ITS Digital Transformation office have partnered to bring students a better parking experience by providing them real time information about the availability of parking spaces in the most in-demand parking lots on campus. Whether students are driving onto campus or using the CSUSB mobile app, our goal is to provide students the right information at the right time to make the right decision about where to park. Through a combination of sensors, signs, and a digital API, (Appendix I) we will display the real time information that students need, when they need it.

Challenge(s) this project will address:

Finding a parking space, especially in lots N, D and Parking Structure East can be challenging especially at the beginning or at the end of the school term. Over the last academic year, we have noticed a shift in the parking demand, with the East side of campus being highly impacted. This has been precipitated by new buildings and increased construction across the campus. We want to give students the information they need to park effectively on campus without having to spend their precious time circling the parking lots praying for a lucky break. The risk students take by giving up on their chances in a full lot in the hope that there is an available parking space in another lot can seem like too much of a gamble when they have limited time. By providing the students with accurate and real time information, prior to or as they make their way to campus, we eliminate that risk completely and improve the students' experience. We want parking to never get in the way of student success. This project will also make parking at CSUSB more sustainable. When people circle repeatedly looking for parking, they generate excess carbon emissions and use extra fuel. This guiding system will vastly reduce the need for this as drivers will know where to park prior to arriving on campus. This will also reduce the amount of traffic experienced on the parking lots.

Alternate solution(s) should this project not be funded:

Option 1) Seek alternate funding source. Option 2) Install additional static signs at strategic spots on campus marketing the availability and direction of alternative parking lots.

Impact(s) if this project is not funded:

A comprehensive solution for campus might not be financially feasible based on the availability and willingness of other departments on campus to help pay for the solution. The solution might need to be scaled back or scrapped altogether.

Cost: $$ (One time or recurring)

$119,000-$154,000 one time costs $9,500-$38,000 recurring costs Prices dependent on solution chosen

What are your intended Process Outcomes and/or Student Learning Outcomes?

1)   Reduced time students spend looking for a parking space 2)   Increased on time class attendance for students 3)   Increased student engagement with clubs and social groups 4)   Increased student satisfaction with their parking experience

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

1)   Increased occupancy of alternative parking lots/parking structures 2)   Increased student 4-year graduation rates in support of GI2025 3)   Total number of students attending student events as measured in Coyote Connection 4)   Parking Services Student Satisfaction survey

Project Timeline   **Start:** 1/2/2020 12:00:00AM   **End:** 9/25/2020 12:00:00AM   **First Quarter of Student Use**   Fall 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/195-4e97796409d71a82293a32f87569dd45_VETI_BUDGET_TEMPLATE.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

74

Division	Academic Affairs	Undergraduate Studies			108965
	Campus Division	**Evelyn**	**Knox**	eknox@csusb.edu	909-537-5959

Total Amount Requested for FY 2018 $31,000.00

Project Title: The Black-i: Pan-African Collegiate Scholars Program Vlog and Podcast Project (Leveraging Technology for Black Student Success)

Project Abstract:

The Pan-African/Black student population at CSUSB has experienced a steady decline of nearly 50% in the last 10 years. With declining enrollment and retention, the Pan-African Collegiate Scholars program (PACS) was established to promote sense of belonging, academic support, and Black excellence. The mission of the PACS is to retain and support Pan-African/Black students through advocacy, community building, academic success programs, personal growth and awareness opportunities. As PACS celebrates its first year of existence at CSUSB, our goal is to increase visibility of the program and the number of students served by developing an e-engagement program. The purpose of this proposal is to seek funding to purchase equipment to launch a podcast and peer led student vlog series from the Pan-African/Black student perspective. Using digital media, the podcast and vlog series will highlight academic and identity-based topics relevant to CSUSB's Pan-African/Black student population. In addition to reaching current students at CSUSB, the student vlog series will be public facing and reach prospective students, family members, and our local and distant communities.

Challenge(s) this project will address:

o   Pan-African/Black student recruitment and engagement o   Vlogging and podcasts are accessible beyond CSUSB so community members and prospective students will gain the ability to experience the Pan-African American campus community. Since the community is small, at present, visibility is minimal so this project will enhance programming by capturing a larger population and having a wider reach supports the enrichment of the existing campus community o   The charge for academic and personal engagement of the Black student population with limited staffing o   The rise in popularity of YouTube and vlogging shifts access of representation from commercial interests to consumers. As a result, YouTube vlogging communities have become safe spaces for people to come together around identity expression and are the highest viewed genre of YouTube videos o   PACS is an innovative program staffed by one program coordinator.. This endeavor will help build and bring visibility to the program as a viable resource for student success o   Student engagement will increase because vlogs are interactive; viewers can engage with the student vloggers by posting comments and/or asking questions and our peer vlogger and the program coordinator can respond. . o   Student engagement will increase through the creation of employment opportunities. The PACS program will create and staff a new Peer Vlogger, Content Editor, and a student Podcast Engineer position to help with the production of the podcast o   Podcast and VLOG content will focus on authentic academic and life experiences that students can identify and relate to Topics will be tied to campus and university culture (exams, registration, getting involved, choosing a major, college life after hours, struggles, successes â€" ie; Black Grad, etc) o   Community: Creating sacred space: redefining what â€˜spaceâ€™ means o   When we talk about space; Space means a visibly supportive/supported narrative and accessibility to the Black student experience o   Point of view of Black experiences in education o   Culture and identity expression as an extension of their educational journey o   Intersectionality is accepted and encouraged o   Representation and Identity o   Reducing symptoms of imposter syndrome o   Students will see themselves thriving in the realm of education; a space of historic marginalization for Pan-African/Black students o   Familial involvement o   Parents and family can see the Black student point of view and draw conclusions of how to best support their student

Alternate solution(s) should this project not be funded:

If this proposal is not approved, alternate solutions are as follows: 1.   Creative utilization of social media to its full potential 2.   Outreach will continue to happen through traditional methods; workshops and direct meetings with students, email outreach and visibility opportunities such as tabling across campus and intentional partnerships. 3.   Requesting and advocating for an independent budget 4.   Recruit for communication studies major students as a practicum site. The risk with this solution is sustainability and disruptions to productions term to term, as interns leave.

Impact(s) if this project is not funded:

 Funding would be an amazing opportunity to infuse new methods of outreach, however, the impact of not funding this endeavor will be minimal. PACS will continue to use traditional methods of engagement.

What are your intended Process Outcomes and/or Student Learning Outcomes?

1.   Increased inclusivity and equity on campus through sharing the Pan-African/Black student experience 2.   Promoting engagement and insight into the university structure for future CSUSB students and campus stakeholders 3.   Students will be able to identify key support and success resources

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

1.   Insights and Metrics â€" viewer and listener data collected from vlog and podcast host sites (ie.; YouTube and Soundcloud) a.   Count of views and steams, followers, comments, and â€˜likesâ€™ 2.   Poll data â€" viewers and listeners will respond to polls at the conclusion of each episode regarding content presented in that respective episode 3.   Survey for listeners at the end of each â€˜seasonâ€™ (academic term) regarding relevance of content presented

Project Timeline   **Start:** 7/31/2020 12:00:00AM   **End:**   8/30/2020 12:00:00AM   **First Quarter of Student Use**   Fall 2020

Statements of support by collaborating organization(s) or department(s) (if applicable)

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/162-d8c0bb8aff4acd762f5d5e910d1b55b9_SAAB_VETI_Letter.pdf

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/194-d2f013e2da7fd157e3b333314010c313_PACS_VETI_BUDGET_.xlsx

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

75

937754

Palm Desert Campus (PDC)	**Lacey**	**Kendall**	lacey@csusb.edu	(909)890-6960

Total Amount Requested for FY 2018 $250.19

Project Title: PDC HIXON LIBRARY

Project Abstract:

This past year, the Hixon Library was able to add various media tools to our resources, for students to check out and utilize within their academia. The equipment was graciously provided by SSI Vital Technology funding and for that, we are greatly appreciacive. In the months since, it has come to our attention that students would like the ability to use tri-pods with two of the new cameras and one camera should be carried in an impact-safe carrier. We are respectfully requesting funding to purchase these items exclusively.

Challenge(s) this project will address:

The opportunities our current GoPro cameras and Cannon Rebel provide students would be greatly enhanced by the ability to attach them to a tri-pod. The Hero 7 camera would be safer when transported in a solid case.

Alternate solution(s) should this project not be funded:

Should this funding not be available, we would seek assistance from Pfau Library funding to purchase such, or seek 2 useable hand-me-down tri-pods and a carrying case from either the Pfau Library or the TSC Technology Support Center on the San Bernardino campus.

Impact(s) if this project is not funded:

The inability to purchase these items using Vital Tech funding will not hamper us from our goal of serving our students with the equipment they need to increase their skill sets and learning. We do, however-appreciate all help provided, very much!

What are your intended Process Outcomes and/or Student Learning Outcomes?

Our intended outcome is merely to expand the abilities of existing equipment and secure the safety of one camera, with a solid, impact-preventive case.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

Assessment of value would be measured by the campus library data system(used by both campuses) that quantifies equipment checked out.

Project Timeline   **Start:** 7/1/2020 12:00:00AM   **End:** 7/1/2021 12:00:00AM   **First Quarter of Student Use**   Summer 2021

Statements of support by collaborating organization(s) or department(s) (if applicable)

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/111-bf9b2a332322fcf5b8e1ef0a74532947_VETI_BUDGET_TEMPLATE__Hixon_Library.xls

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/195-9173a8264a19800a6da4fa5f0c925333_VETI_BUDGET_TEMPLATE__Hixon_Library.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

76

Division	Information Technology Services				11140
	Campus Division	**James**	**Olinger**	jolinger@csusb.edu	909-537-5470

Total Amount Requested for FY 2018 $28,000.00

Project Title: Campuswide Collaboration Stations

Project Abstract:

The purpose of this project is to install 10 collaboration stations around the San Bernardino and Palm Desert campuses to allow students to work on team projects together and to collaborate on studying for class tests and papers. To ensure everyone is able to contribute to a problem-solving session, we want to provide combined Audio/Visual system design tools that foster easy collaboration, such as big-screen TVs, all-in-one video conferencing solutions, and whiteboards for impromptu writing, drawing and more. The collaboration stations will each have a 50" TV screen, electronic switcher, cables, and the appropriate combination of HDMI, DisplayPort, or VGA ports in order to control the operation of the TV monitor, tables, chairs and a TV stand. ITS has dedicated funding for the tables, chairs, and whiteboards as the VETI funding cannot provide this.   We would like to place these collaboration stations in areas in each college, PDC, the SMSU and other high traffic areas so that any student or group on campus can work together, whether at a scheduled time or on the fly, to accomplish a group goal. ITS will work with College Deans and departments on finding locations for these stations. We believe group collaboration is a vital part of student success.

Challenge(s) this project will address:

Students currently have difficulty finding group study areas in which they can share their laptop monitors on a large screen. This is important so that everyone can see what the others are talking about and looking at.

Alternate solution(s) should this project not be funded:

ITS feels that this is an important part of student success and we will continue to look for other funding sources should this project not be funded with VETI monies.

Impact(s) if this project is not funded:

 Students will have to continue to work in groups having to share their laptop monitor with other team members one-by-one

What are your intended Process Outcomes and/or Student Learning Outcomes?

These stations will allow students to better collaborate together in a more expedited and efficient manner, allowing for improved teamwork and improved study results.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

We will be monitoring the use of these collaboration stations and will be sending surveys to students asking for their feedback.

Project Timeline   **Start:** 7/6/2020 12:00:00AM   **End:**   6/30/2021 12:00:00AM   **First Quarter of Student Use**   Fall Semester, 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/216-0878f4ca2b9a954673679cf31d615aff_VETI_-_2020_-_Collab_Stations.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

| **Division** | Information Technology Services | | | | 4038254 |
| | Campus Division | **Alicia** | **Silva** | silva@csusb.edu | 909-537-7744 |

Total Amount Requested for FY 2018 $22,000.00

Project Title: The Cave Device Lending Program

Project Abstract:

The purpose of this project is to implement a device lending program in the PL-1109 open lab. The lending program will initially consist of 5 13-inch MacBook Air, 5 Dell laptops, and 5 iPads. A total of 15 devices in the PL-1109 open lab that will allow us to provide students the option to check out a device. These devices can be loaned out from 1-2 hours at a time, but can be rechecked out if there is no one waiting for the device. We have had several students ask if we offer any lending devices during our busiest times â€" midterms and finals. Our PL-1109 open lab is highly utilized during midterms and finals preventing other students to utilize the lab.

Challenge(s) this project will address:

At this time, we are not be able to provide the option of lending equipment to students that would like to access resources in the PL-1109 open lab.

Alternate solution(s) should this project not be funded:

None.

Impact(s) if this project is not funded:

 Students will be forced to locate a laptop or device at other campus locations, assuming they have any that are available to students, if those locations offer a lending program.

What are your intended Process Outcomes and/or Student Learning Outcomes?

Outcome: With the implementation of a lending program in the PL-1109, we expect to see an increase in student usage of our services, increased student satisfaction with our services, and more collaborative meetings in the PL-1109 open lab and 24/7 study space.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

We will be sending a student satisfaction survey to the student population asking for their feedback regarding their use of the PL-1109 open lab lending program. We will also be asking for any suggestions on how our services can be improved.

Project Timeline   **Start:** 7/1/2020 12:00:00AM   **End:** 6/30/2021 12:00:00AM   **First Quarter of Student Use**   FALL 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/182-a496e1ac5313e97390e840680a68affe_The_Cave_Device_Lending_Program.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

79

Division	Academic Affairs	Center for International Studies and Programs			111344
	Campus Division	**HyunKyoung**	**Oh**	hkoh@csusb.edu	909-537-7537

Total Amount Requested for FY 2018 $62,460.00

Project Title: Study Abroad at Home- Virtual Reality Enhanced Classroom

Project Abstract:

The Center for International Studies and Programs (CISP) leads CSUSB's internationalization by implementing CSUSB strategic goals for student, staff, and faculty success and developing programs, activities, and services. The purpose of this project is to create a "Study Abroad at Home" Virtual Reality (VR) Enhanced Classroom to serve all CSUSB student populations. Research has shown strong evidence of students' academic success and personal growth by participating in study abroad programs (Kug, 2008; Cisneros-Donahue, Krentler, Reinig, & Sabol, 2012). Moreover, study abroad experiences prepare a global citizen who has competent cross-cultural skills (Brux & Fry, 2010). Notwithstanding the greater benefit of study abroad experiences, still many students face challenges of participating in study abroad opportunities. For example, financial issues, safety concerns, language barriers, culture adjustment, and homesickness were typical challenges students face while studying abroad. Creating a "Study Abroad at Home" Virtual Reality (VR) Classroom will be the cornerstone of the fourth industrial revalidation era of study abroad. This project will incubate virtual firsthand study abroad experiences at home and further enable students explore more study abroad experiences. Further, with this project, CISP hopes to enrich every student's experiences at CSUSB by bringing them to the virtual world exchange while on campus, thus preparing them better for their role as global citizens, after their studies at CSUSB.

Challenge(s) this project will address:

1. CSUSB has never offered virtual study abroad classes, while other CSU campuses have already offered virtual study abroad classes. For example, CSU Northridge offers FLIT 234. Virtual Study Abroad Class (https://catalog.csun.edu/academics/mcll/courses/flit-234/) and CSU San Jose offers LIBR 298 Virtual Abroad Class (https://ischool.sjsu.edu/news/sjsu-slis-students-pilot-virtually-abroad-course-and-gain-global-work-experience) and two additional classes by using State University of New York, Collaborative Online International Learning (COIL) model offers. This classroom will enable CSUSB faculty to offer the virtual study abroad classes for the first time, which will help to broaden global perspctives of CSUSB students. 2. VR enhanced study abroad classroom will address the top five challenges (financial issues, safety concerns, language barriers, culture adjustment, and homesickness) of participating in study abroad courses. 3. Numerous studies have shown a significant positive relationship between study abroad experiences and higher student retention and success. This project will support CSUSB efforts in enhancing student engagement, retention, student success, and graduation rates. 4. This project will address challenges of physical mobility of studying abroad. The physical mobility has been constraint of students with disabilities, undocumented students who wish to participate in study abroad classes and unexpected environmental hazard. This project will provide the best experiences for students attending remotely.

Alternate solution(s) should this project not be funded:

There is no alternate solution to this project.

Impact(s) if this project is not funded:

With this project, CISP can provide more support for the CSUSB Strategic Plan and the CSU graduation initiative 2025. However, if the project is not funded, we will keep current physical mobility of study abroad format, which still does not cover the entire CSUSB student population. Moreover, study abroad classes are considered as High Impact Practices because students are engaged in active learning and utilize critical thinking skills, while they participate in study abroad classes. Thus, many CSUSB students will not be the beneficiaries of the traditional format (physical mobility) of study abroad programs.

Cost: $$ (One time or recurring)

$ 64,080 (one time)

What are your intended Process Outcomes and/or Student Learning Outcomes?

Process Outcome (PO) PO1. Instructors will be able to offer virtual study abroad and research classes without physical mobility limitations including countries that are high-risk travel. PO2. Instructors will be able to provide immersive VR study abroad experiences. Student Learning Outcome (SLO) SLO1. Students will be able to gain knowledge and skills of how to engage beyond borders and develop critical skills needed to be globally competent and marketable in the future. SLO2. Students will be able to engage in cooperative learning, which will increase significant engagement and interaction by utilizing VR tools. SLO3. Students will be able to gain valuable hands-on experience in VR technology and immerse themselves in a setting that would reflect their future careers.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

Process Outcome Key Performance Indicator (POKPI): POKPI 1. Number of new virtual study abroad and research classes POKPI 2. Number of new virtual reality enhance classes Student Learning Outcome (SLOKPI): SLOKPI 1. Number and types of students enrolled in the new virtual study abroad classes and conduct pre and post surveys for students' cross-cultural adaptability. SLOKPI 2. Students will be surveyed regarding their experience with the VR-Enhanced study abroad experience. SLOKPI 3. Students will be surveyed regarding their jab readiness in global markets.

Project Timeline   **Start:** 7/1/2020 12:00:00AM   **End:** 6/30/2021 12:00:00AM   **First Quarter of Student Use**   Fall 2020

Statements of support by collaborating organization(s) or department(s) (if applicable)

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/55-833b5098b372509bdbfb9524a8f136af_Fernandez_Support_Hyunkyoung_Oh.pdf

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/182-3520b68b2d2bb425f1bf034c139d04e9_Kalra_recco_HK-signed.pdf

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/144

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/209-a7704396c3398848cf4d3ab2276c7845_CISP_VETI_Grant_BUDGET_200313_HKO_RD.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

82

Division	Student Affairs				4479539
	Campus Division Services to Stud	**Marci**	**Daniels**	daniels@csusb.edu	909-537-5238
Total Amount Requested for FY 2018	$29,849.00				
Project Title:	Sign Glasses				

Project Abstract:

Students who are deaf or profoundly hard-of-hearing face communication challenges, which prevent them from fully engaging in the student experience. The Office of Services to Students with Disabilities (SSD) is requesting $29,849 to provide assistive technology for CSUSB's deaf/hard-of-hearing student community, which will enable them to have a more discreet and immersive academic experience. Through VETI funding, SSD proposes to purchase Sign Glasses technology, which will enable students who are deaf/profoundly hard-of-hearing to receive real-time sign language interpreting or captioning overlaid on top of smart glasses. Used in combination with Sign Glasses software, students can re-watch every lecture with interpreting or captioning overlaid, make their own timestamped lecture notes, and bookmark important parts of the lecture. These recordings are not publicly available, and only the enrolled student will have access to them. For students who already wear glasses or wearing glasses would not be feasible, they can use a tablet or laptop. All that is required is an internet connection, the student's laptop or tablet, and a table top mic for the professor. SSD proposes to purchase five smart glasses, five laptops, five keyboards, five web cams, five table top microphones, five protective cases, five privacy screens, and a subscription to Sign Glasses software to assist students who are deaf or profoundly hard-of-hearing with facilitating communication in the classroom, from remote locations, and for associated activities. Ultimately, this request will build the independence of students with hearing disabilities as well as their capacity to communicate.

Challenge(s) this project will address:

According to the National Center for Education Statistics, in 2011-12, 11.1 percent of undergraduate students in postsecondary institutions reported having a disability (National Center for Education Statistics). Based upon current CSUSB undergraduate enrollment, one can estimate that there are approximately 2,000 students on campus with a disability. Though an estimated 60 percent of disabled young adults matriculate to college after high school, nearly two thirds are unable to complete their degrees within six years (Institute of Education Sciences-National Center for Special Education Research). In addition to the challenge of graduating college in a timely manner, students with disabilities take twice as long to secure a job after graduation as compared to their non-disabled counterparts (Valles, Frernstad, & Ekman, 2015). For instance, among people ages 25 and older in 2014, 16.4 percent of people with a disability had completed at least a bachelor's degree, in comparison to 34.6 percent of people with no disability (Bureau of Labor Statistics). However, of people with a disability who had completed at least a bachelor's degree, 26.1 percent were employed in 2014, compared to 75.9 percent of college graduates with no disability (Bureau of Labor Statistics). Students who are deaf or hard-of-hearing face significant sensory challenges impacting their ability to communicate, which prevents them from engaging in the student experience and affects their opportunities for competitive employment. The U.S. Census Bureau reports that the deaf and hard-of-hearing population is comprised of approximately 28 million people; of that, over 4 million are profoundly deaf. The vast majority of profoundly deaf students leave the U.S. public education system with less than a sixth grade reading level and suffer from lack of education or career opportunities (Mitchell E. Ross, 2011). Currently, CSUSB students who are deaf or profoundly hard-of-hearing must request an interpreter with 72 hours advance notice, and oftentimes local ASL interpreters lack the knowledge of vocabulary and signs specific to the student's major course of study. Moreover, students who are deaf/profoundly hard-of-hearing often have to look away from their interpreter to take notes, causing them to miss critical classroom communication or miss instruction in a lab setting, which can be distracting in a setting where safety is of upmost importance. According to Ahmad's article, Use of Assistive Technology in Inclusive Education: Making Room for Diverse Learning Needs, "Students with disabilities are found to be frequently trapped in a vicious cycle of exclusion from means for equal participation" (Ahmad, 2015). For individuals with disabilities, mastery of assistive technology (AT) can be vital to successfully completing a college degree and obtaining competitive employment because it helps to bridge the gap between people's physical/cognitive abilities and job duties by providing a mechanism that enables them to function more independently. This proposal addresses overcoming barriers to communication that students with hearing disabilities face by employing AT. Through Sign Glasses, SSD staff will be able to incorporate AT that provides a more discreet and immersive experience for students who are deaf or severely hard-of-hearing and does not impede their ability to receive instruction while in a laboratory setting. This AT facilitates real-time communication by combining technology that allows students to receive real-time sign language interpreting overlaid on top of the classroom environment through a pair of smart glasses. In addition, the device will help students capture all classroom communication as they can re-watch every lecture with interpreting or captioning overlaid. Moreover, Sign Glasses' expansive network of remote interpreters throughout the U.S. allows for better recruitment of interpreters that have knowledge and vocabulary in specific disciplines and to schedule interpreters for last minute assignments. Currently, students enrolled in courses through ZOOM have to view the interpreter in a small window on the right side of the screen. With more and more classes being offered remotely through ZOOM technology and the advent of COVID-19, Sign Glasses technology offers a more useable and reliable way for students who are deaf or profoundly hard-of-hearing and use ASL interpreting to receive classroom communication and communicate in a virtual environment.

Alternate solution(s) should this project not be funded:

Without funding from the VETI program, CSUSB students will follow existing processes to request SSD schedule ASL interpreters 72 hours in advance. SSD continue to rely on local ASL interpreters and work with faculty to assist them with increasing their knowledge and vocabulary specific to the student's major course of study. Students who are deaf/profoundly hard-of-hearing will be assigned peer notetakers to reduce the amount of critical information they miss when looking away from their interpreter (in person or virtual) to take notes. Students enrolled in courses through ZOOM will view ASL interpreters in a small window on the right side of the screen.

Impact(s) if this project is not funded:

Though an estimated 60 percent of disabled young adults matriculate to college after high school, nearly two thirds are unable to complete their degrees within six years (Institute of Education Sciences-National Center for Special Education Research). Moreover, students with disabilities take twice as long to secure a job after graduation as compared to their non-disabled counterparts (Valles, Frernstad, & Ekman, 2015). For instance, among people ages 25 and older in 2014, 16.4 percent of people with a disability had completed at least a bachelor's degree, in comparison to 34.6 percent of people with no disability (Bureau of Labor Statistics). Of people with a disability who had completed at least a bachelor's degree, 26.1 percent were employed in 2014, compared to 75.9 percent of college graduates with no disability (Bureau of Labor Statistics). For individuals with certain disabilities, mastery of AT devices is vital to academic success. Many challenges can be either overcome or ameliorated by using AT; however, SSD lacks the funding to purchase such technology.   Without funding from the VETI program, CSUSB students with disabilities will continue to remain at a significant disadvantage compared to their non-disabled peers in regards to degree completion and obtaining competitive employment. Moreover, students who are deaf or profoundly-of-hearing will continue to be impacted by communication challenges and be severely restricted on the activities that they can participate in because an ASL interpreter has to be scheduled 72 hours in advance or because they cannot hear. SSD will have to continue to rely on local ASL interpreters and work with faculty to assist them with increasing their knowledge and vocabulary specific to the student's major course of study. Students who are deaf/profoundly hard-of-hearing will continue to have to look away from their interpreter (in person or virtual) to take notes, causing them to miss critical classroom communication or miss instruction in a lab setting, which can be distracting in a setting where safety is of upmost importance. Students enrolled in courses through ZOOM will continue to view ASL interpreters in a small window on the right side of the screen.   With more and more classes being offered remotely through ZOOM technology and the advent of COVID-19, Sign Glasses technology offers a more useable and reliable way for students who are deaf or profoundly hard-of-hearing and use ASL interpreting to receive classroom communication and communicate in a virtual environment. The AT devices proposed under this program are critical to bridging this achievement gap.

Cost: $$ (One time or recurring)

$15,738 One time equipment cost $14,111 Recurring cost

What are your intended Process Outcomes and/or Student Learning Outcomes?

•By July 31, 2020, SSD staff will purchase five Sign Glasses, five laptops, five web cams, and five table top microphones to assist students with facilitating communication in the classroom, from remote locations, and for associated activities. •Students participating in the program will be able to apply and integrate assistive technologies into learning within the classroom. •The SSD Deaf Services Coordinator will create an online training module on best practices and strategies for using Sign Glasses by September 29, 2020. •At the end of each term, students participating in the program will complete a satisfaction survey.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

The assessment plan for student learning outcomes for Sign Glasses focuses on independence, multimodal learning, self-efficacy for taking effective notes, and engagement. Training pre- and post-assessments and a satisfaction survey will be administered, which will include qualitative and quantitative measures. SSD staff will provide Sign Glasses for students who are approved for this academic accommodation. Students will learn and demonstrate competence in Sign Glasses basics including: using Sign Glasses software; playing back lectures with interpreting or captioning overlaid; making timestamped lecture notes; and bookmarking important parts of the lecture. Students will take pre-and post-assessments that include quantitative and qualitative questions to evaluate their increase in knowledge. Staff will score the pre- and post-assessments and identify key themes in the qualitative responses. The results will be used to improve Sign Glasses training. Checkout logs will also be maintained for Sign Glasses, laptops, and accessories. The log will be used to determine the number of Sign Glasses and the courses or activities for which they were employed and for what purposes. At the end of each term, participants will complete a customer satisfaction survey and responses will be tabulated and used to improve the AT experience.

Project Timeline   Start: 7/1/2020 12:00:00AM   End: 6/30/2021 12:00:00AM   First Quarter of Student Use   Fall 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/110-2ec9ff2fa061dcd05f59d152382ac6fa_Sign_Glasses_VETI_BUDGET.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

84

Division	Academic Affairs	College of Social Behavioral Sciences		3376385
	Campus Division	**Kelly and Mark**	**Campbell and Agars**	kelly@csusb.edu	909-537-7687

Total Amount Requested for FY 2018 $72,695.00

Project Title: Improving the Graduation Rate through High Impact Virtual Reality Programming

Project Abstract:

Virtual reality (VR) and 360 video programming dramatically enhance learning by creating immersive environments for simulating real life events and experiences. VR and 360 tools are aligned with high-impact practices including experiential and project-based learning, which are known to augment the graduation rate. These tools can be especially useful when the simulated environments would be unethical or impossible to create in "real life." Such is the case with the current project, which seeks to develop a parenting program to simulate common but sensitive scenarios (e.g., stressful events eliciting corporal punishment) from both the parent and child's perspectives. The content would be used in courses with a parenting component (e.g., CD/PSYC 3303) as well as the online Science of Parenting program for CSUSB students. It would also be used by students who are parents and by students working with children (e.g., in the Infant Toddler Lab School; ITLS) to teach important skills that can be directly applied. A final, critically important purpose of this programming would be for data collection, which would facilitate and strengthen student research projects. Collectively, these VR and 360 applications will engage students in high impact practices, help manage family-academic and work-academic stress, enhance overall academic performance, and improve the graduation rate. An additional benefit of this project is that the proposed company for developing the VR and 360 videosâ€"Applied Learning Sciencesâ€"employs three graduate students from CSUSB's Industrial Organizational Psychology program who will be centrally involved in the design, development, and implementation.

Challenge(s) this project will address:

This project will address both direct and indirect challenges. In terms of direct remedies, the concepts covered in developmental courses do not translate well outside the classroom due to the aforementioned challenges (i.e., inability to ethically create environments for intervention). The VR and 360 programming would provide simulated environments for transferring these skills. Another direct benefit is that the programming will enhance skills for students who work with children such as the ITLS and Child Center educators. Students who are parents will similarly benefit from acquiring skills that can be immediately used in their own families. And the programming will enable research projects that would otherwise not be conducted. In terms of distal benefits, this project will facilitate high impact learning, reduce stress for student parents, enabling them to focus on their academics, and improve the graduation rate through these mechanisms (i.e., high impact learning, stress reduction).

Alternate solution(s) should this project not be funded:

If this project is not funded, the content will continue to be taught in traditional formats, without transferability outside the classroom. The administrative team at the Institute for Child Development and Family Relations (ICDFR) will continue to pursue external grant funding to support the development of VR and 360 video programming.

Impact(s) if this project is not funded:

The challenges would go unaddressed, which would adversely impact student learning as well the children who would otherwise benefit from the practical implementation of skills gained. Most parents receive little to no formal training on parenting and use developmentally inappropriate practices with their children such as corporal punishment (i.e., physical discipline). These practices have adverse, profound, long-term effects on children (Copple & Bredekamp, 2009). Interventions that teach positive child guidance are demonstrated to be successful, underscoring the need for this project. Most people eventually become parents, and many will work with children in some capacity (Brooks, 2012), therefore the impact of this program is expected to be immense. The indirect consequences of not funding this program include fewer high impact practices in parenting courses, more at-home stress for CSUSBâ€™s student parents, adverse child outcomes, and lower graduation rates. Brooks, J. B. (2012). The process of parenting. New York, NY: Mcgraw-Hill. Copple, C. & Bredekamp, S. (2009). Developmentally appropriate practice in early childhood programs. Washington, DC: NAEYC.

Cost: $$ (One time or recurring)
One time: $72,695

What are your intended Process Outcomes and/or Student Learning Outcomes?

The expected process and student learning outcomes of this project include: 1. Creating new ways of teaching and learning that would otherwise not be possible;   2. Increasing student involvement in high impact practices (i.e., experiential learning, project-based learning, research);   3. Applying classroom content to real life scenarios;   4. Developing skills (positive child guidance strategies) for use with children;   5. Reducing stress;   6. Improving academic outcomes;   7. Improving the graduation rate.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

The outcomes will be assessed in the following measurable ways: Outcome 1: Creating new ways of teaching and learning will be assessed by the creation and implementation of the VR and 360 video programming.   Outcome 2: Increased student involvement in high impact practices (i.e., experiential learning, project-based learning, research) will be assessed by the number of students who use the VR and/or 360 video programming as well as the number of courses implementing the tools.   Outcome 3: Transferability of classroom content to real life scenarios will be assessed by data gathering to identify whether the skills gained are being applied in real life contexts.   Outcome 4: Skill development (positive child guidance strategies) for use with children will be assessed by data gathering to enable a pre-post analysis of positive child guidance knowledge before and after using the VR and/or 360 video programs.   Outcome 5: Student stress reduction will be assessed by data gathering to enable a pre-post analysis of stress before and after using the VR and/or 360 video programs.   Outcome 6: Improved academic outcomes will be assessed by a comparison of studentsâ€™ grades in different sections of the same course that implement VR and/or 360 video programming versus those that do not.   Outcome 7: Improved graduation rate will be assessed by comparing the number of years to graduate for those participating in the VR and/or 360 video programming to the university student body as a whole.

Project Timeline   **Start:** 6/1/2020 12:00:00AM   **End:**   1/4/2021 12:00:00AM   **First Quarter of Student Use**   Spring 2021

Budget:
http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/57-c27002f5df59c6b52fdb99228dfb74e6_VETI_Budget_2020.xlsx

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

85

Division		Academic Affairs	College of Natural Sciences			5427483
		Campus Division	**Daniel**	**Nickerson**	daniel.nickerson@csusb.edu	(909)537-3671

Total Amount Requested for FY 2018 $16,913.00

Project Title: SnapGene: software to improve student understanding of DNA

Project Abstract:

Use of software for DNA analysis, visualization, and manipulation is universal among research professionals whose work includes DNA. Absence of such training and experience is a critical hole in our curricula to prepare students for science careers and professional programs. Many students struggle to learn the principles by which genetic information is organized in genes and how molecular biologists can manipulate genetic material for research, industrial, and clinical purposes. Struggles to grasp these central principles impede student progress in earning a degree in Biology or related disciplines. SnapGene software (industry standard) has arguably the best visual user interface and intuitive operation accessible to beginning students. Students can visualize and understand DNA structure, gene structure and organization, and techniques to construct recombinant DNA. We propose to purchase fifty-five (55) permanent licenses for SnapGene software ($16,913) to be installed in 1) student computers in the Biology and Biochemistry departments; 2) mobile laptop computers used throughout Biology dept curricula; and 3) computers used heavily by undergrad and grad students conducting independent research. Many faculty in Biology and Biochemistry plan to implement SnapGene exercises into their lab curricula, which we estimate will impact over 1000 students per year. Expected outcomes include improvement in student comprehension of gene structure and DNA manipulation, as well as greater student comfort and skill in using computers for DNA analysis and planning experiments. Outcomes will be assessed by student surveys and changes in lesson plans and lab exercises as reported by class instructors.

Challenge(s) this project will address:

This proposal supports the CSU Graduation Initiative 2025 by eliminating achievement gaps and improving time to graduation. SnapGene is educationally powerful for understanding DNA structure, gene structure and organization, and techniques for DNA manipulation. For example, this program can assist student understanding as it allows students to predict and simulate an entire molecular cloning exercise (that is, cutting and pasting bits of DNA together to construct recombinant DNA molecules). SnapGene helps students design appropriate primers, predict PCR amplification products, analyze DNA restriction digests, and construct recombinant DNA plasmids. Essentially the entire laboratory goal for a course such as Molecular Biology, from starting materials to finished product, can be completed alongside fully visualized quality control steps for each experimental technique to improve student understanding and participation. To be clear, this is not a substitute for a wet lab exercise, but is an important companion to maximize student understanding and familiarize students with the tools and process that would be expected in any future research, industrial, or professional setting.   In currently employed lecture and laboratory exercises focused on DNA across most of the Biology and Biochemistry curricula, students are provided textbook and chalkboard diagrams of DNA molecules (e.g. chromosomes & plasmids) containing annotations and conceptual simplifications. Even when provided excellent explanations and elaborations by the instructor, this traditional learning experience (unchanged in perhaps 30 years) is essentially passive, equivalent to watching a demonstration and having to imagine half of the invisible events. SnapGene will permit individual, participatory exercises to help students integrate the many moving parts of molecular biology and genetics into correct conceptual frameworks.   Independent research students in the Nickerson and Newcomb research labs already benefit from the instructional power of using SnapGene for planning their experiments and understanding key concepts in molecular biology. They agree SnapGene access and training in instructional labs would improve comprehension. This past Winter quarter (2020) Dr. Newcomb was able to briefly introduce SnapGene to students during Molecular Biology (BIO 400/BIOL 3120) with the help of a Peer Research Consultant, Cody Atkins, a graduate student with access to the full program through Dr. Nickerson's current license. He was able to generate the DNA files for the students to visualize with a free trial. Although the free trial was helpful this past quarter, obtaining the license and adding the ability for students to test primers, predict PCR, manipulate the DNA, and design recombinant DNA plasmid maps through the full version of the SnapGene program will greatly improve the understanding and retention of all concepts learned in the laboratory.   If the VETI proposal is funded, we will implement the SnapGene program as early as Summer 2020 when Dr. Newcomb teaches a last offering of BIO 400 on the quarter program. Although this still has only 10 labs, Dr. Newcomb will use SnapGene in half the lab sessions; with one session fully dedicated to activities with the SnapGene program.   Drs. Newcomb and Nickerson will improve and expand their SnapGene implementation in the semester equivalent of BIOL 400, BIOL 3120, in the Fall 2020 and Spring 2021 semesters, respectively.   We will build SnapGene workspaces to engage a broad cross section of students by installing SnapGene in multiple settings: 24 licenses for the Biology mobile computer lab that can be deployed to any instructional lab or classroom; 13 for the Chemistry & Biochemistry computer lab; 7 for the Biology computer lab; 8 for research labs in Biology and Biochemistry (Newcomb, Orwin, Dodsworth, Rhoads, Bournias, Burke, Chao, and Nickerson); and 3 remaining licenses for computers regularly accessible to students (e.g. Pfau library) and/or research labs of two newly recruited faculty members studying Genomics (both have signed hiring contracts as of this writing). Listed below are selected classes in which Biology and Biochemistry faculty have indicated they would incorporate SnapGene into their classroom and/or laboratory curricula. While most of these classes impact Biology and Biochemistry majors, we would note that students from other programs, particularly Health Sciences and pre-med students, also take these classes. BIOL 2010, Principles of Biology I, lecture/lab, ~384 students/year BIOL 3100, Cell Biology, lecture/lab, ~96 students/year BIOL 3120, Molecular Biology, lecture/lab, ~96 students/year BIOL 3200, Microbiology, lecture/lab, ~96 students/year BIOL 3300, Genetics, lecture/lab, ~96 students/year BIOL 4270, Functional Microbial Genomics, lecture/lab, ~24 students/year BIOL 4510, Plant Physiology, lecture/lab, ~48 students/year BIOL 5100, Experimental Cellular Analysis, lecture/lab, ~24 students/year BIOL 5260, Genomics, lecture/lab, ~24 students/year BIOL 5280, Adv Molecular Genetics, lecture/lab, ~24 students/year BIOL 5310, Adv Molecular Techniques, lecture/lab, ~24 students/year BIOL 5320, Virology, lecture/lab. ~24 students/year CHEM 4200L, Biochemistry II Lab, lab, ~30 students/year CHEM 5700, Biochemistry III Lab, laboratory, ~30 students/year Undergraduate and graduate student project researchers, 60+ students/year TOTAL ~1056 students/year To be clear, maximal implementation of SnapGene across the above classes will not occur all at once. However, faculty members teaching these classes have responded positively that they plan to implement SnapGene exercises, and would design and pilot lab experiences in the first year. Given the timing of the quarter-to-semester (Q2S) calendar conversion, most faculty respondents have indicated they are likely to incorporate SnapGene exercises into their curricula in the first year (AY 2020-2021), because they are already reassessing and redesigning lab curricula in anticipation of an additional 4 or 5 weeks of lab sessions. The Q2S conversion offers the ideal opportunity to deploy SnapGene across multiple Biology and Biochemistry classes with simultaneous buy-in from multiple faculty members (please see letters of support for a sampling).   The current proposal is also a logical extension of a previously funded VETI/SSI project implemented in the Biology Dept, Increasing computer use in Biology classes with 'instant computer labs.' Given the availability of mobile laptop computing labs that can be deployed in nearly any Biology laboratory room or classroom, we plan to further leverage the computing resource with transformative software that impacts most of the molecular/cellular/genomics curriculum.   Implementation and sustainability: SnapGene is compatible with most standard operating system formats, including MacOS and Windows. The CNS ITC, Ching Yi (Birdy) Wang, has previously installed SnapGene products on Biology Dept computers without trouble. Our ITC also maintains and services all CNS computing resources as needed. SnapGene permanent licenses do not expire, and licenses can be uninstalled from a particular computer and switched to another. In practical terms, this means that even if computers break or need replacement, the software license is recovered for reinstallation on a new machine. SnapGene is already a mature product with deep functionality, but should we wish to purchase SnapGene software upgrades in the future, CNS "lottery" funds can be used.   Implementing SnapGene exercises throughout the Biology curriculum will have numerous benefits: early exposure and repeated practice using a single DNA analysis software package will reduce the learning curve for students in each subsequent experience; standardization across classes will make it easier for faculty to exchange lesson plans and instructional materials, enhancing the likelihood of continued and expanded implementation. We have support from instructors in the early biology courses (BIOL 2010) throughout the upper division. This continuity will facilitate deeper learning and sustained skills competency.

Alternate solution(s) should this project not be funded:

Funds for a small number of SnapGene permanent licenses could also be requested through the annual "lottery funds" allocated to departments in College of Natural Sciences. However, the annual pool of lottery funds has shrunk considerably in recent years (reduced 80% or more). Lottery funds are often prioritized for replacement of absolutely essential equipment, and there is no way that enough licenses could be purchased to transform a single classroom, let alone several classrooms across the Biology and Biochemistry curricula. Please note an advantage of purchasing SnapGene licenses in bulk: the marginal cost of purchasing each individual SnapGene license falls considerably. For example, a single permanent SnapGene license costs $885, while each license purchased after the 10th license costs only $255. The attached quote from SnapGene includes an additional $1275 package discount. Implementing this project with the greater funding available through VETI is up to 70% more cost effective than piecemeal implementation.

Impact(s) if this project is not funded:

Should the project not be funded, most of the planned classroom exercises and participatory experiences for students would be impractical/impossible, and classroom and laboratory experiences would revert to the status quo. Students could watch demonstrations of exercises by the instructor, but such passive learning is not effective for students' building conceptual understanding, nor will students learn to use the analytical tools that have become ubiquitous across industry, research and clinical settings.   Furthermore, timing is critical: the quarter-to-semester conversion is a unique opportunity to address a technical and instructional deficiency across the entire Biology and Biochemistry laboratory curricula. All course instructors are currently redesigning their labs to include up to five (5) additional weeks of lab exercises, we have support from numerous instructors to incorporate SnapGene experiences into their classes immediately (i.e. in the 2020-21 AY).

Cost: $$ (One time or recurring)

$15,660 before tax. $16,913 including taxes. One-time expense for permanent software licenses.

What are your intended Process Outcomes and/or Student Learning Outcomes?

The intended student outcomes for implementing SnapGene DNA analysis software into our biology core curriculum will be to: 1a) Process outcome: Increase active student learning and participation in project activities exploring the organization and manipulation of DNA molecules; 1b) Student learning outcome: Improve student learning, retention and skills, thereby improving time to graduation (i.e. students will be better able to understand DNA structure, gene organization, and DNA manipulation, and students will pass courses more often in their first attempts); and 2) Build student experience, comfort and interest working with DNA analysis software standard in the field.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

1a) Faculty surveys will be employed to determine how SnapGene exercises have been deployed in classes (i.e. nature of the exercise, skills targeted for development, how many students were impacted, how long did students work with DNA analysis software, depth of project involvement, etc).   1b) Course-based assessment will be used to gauge student learning and retention. For Molecular Biology (BIOL 400 / BIOL 3200), a Key Performance Indicator will be whether or not students are successful in constructing a recombinant DNA plasmid. Additional assessment will be â€œapplicationâ€ style questions on a multiple choices final exam â€“ students must interpret DNA manipulation events similar to that accomplished in the laboratory. The SnapGene program is expected to improve these scores. Dr. Newcomb will compare scores from Fall 2019, when no SnapGene program was utilized, with Winter 2020, when SnapGene free trial viewer was utilized, with the Summer 2020 session, where we will employ full use of SnapGene. Qualitative evidence of student learning can be accomplished by comparing student lab reports prepared pre- and post-SnapGene deployment.   2) Student surveys will be employed to assess differences in student experience, comfort and interest in DNA analysis.   Questions are anticipated to ask students their impressions of whether the software helped them to better visualize the organization of DNA and develop hypotheses for how structure would change during the course of an experiment; whether they would look forward to using DNA analysis software in future classes and projects; and whether their understanding of DNA and familiarity with tools for its study and manipulation has changed their view of what it is to be a molecular biologist (or related specialty), and whether they can imagine themselves in such a career.   After repeated deployment across multiple classes in the Biology program, we would also anticipate asking students whether they appreciate the repeated use of the same DNA analysis software across multiple classes, and whether they notice general operation and specific tasks becoming easier after repeated practice.

Project Timeline   **Start:**   7/1/2020 12:00:00AM   **End:**   6/30/2021 12:00:00AM   **First Quarter of Student Use**   Summer 2020, BIOL 400 (Molecular Bic

Statements of support by collaborating organization(s) or department(s) (if applicable)

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http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/226-d56c3e6a6d8acfffa433513ccd874d02_StudentOrgs_VETIsupport.pdf

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/182-0ce770a923bfe73498ee81f3abc8674b_VETI_BUDGET_Nickerson_2020_v1.xls

Division	Academic Affairs	College of Arts and Letters		3494880
	Campus Division	**Diego**	**Irigoyen**	irigoyed@csusb.edu	909-537-7783

Total Amount Requested for FY 2018 $35,054.00

Project Title: Virtual Reality Museum Project

Project Abstract:

The Robert and Frances Fullerton Museum of Art (RAFFMA) would like to create a virtual reality (VR) tour and foundation for the museum's permanent Ancient Egyptian exhibition and temporary exhibitions. There are two goals for the project. Primary goal: create an archive of exhibitions in VR for students/faculty/community to have access for educational and research projects. Secondary goal: In conjunction with Academic Technologies & Innovations (ATI), create a VR research room that would allow students and faculty the ability to research 3D objects, created through photogrammetry, in a VR space that would create a more personal and hands on experience. The VR tours would be hosted online allowing persons to visit the museum from any location, and allowing students from the Palm Desert Campus (PDC) access to the museum and its exhibitions – the goal is for access to be universal on devices, not just VR headsets. The museum hosts on average 12 temporary exhibitions annually, a majority are student exhibitions such as the Master in Fine Arts (MFA) thesis shows and the Annual Student Show featuring the work of undergraduates. All exhibitions would be included in the VR archiving project and be accessible for future use. This project is especially important with the upcoming 2021 re-roofing of the Visual Arts building where the museum will be closed for 1 year. A VR tour would allow students continued access to RAFFMA's Ancient Egyptian collection and faculty the ability to continue incorporating the collections into their classrooms.

Challenge(s) this project will address:

This project is intended to overcome three challenges. The first is the closure scheduled for Spring 2021 – Spring 2022. RAFFMA will be undergoing a large re-roofing project. This means that the objects in the museum will have to be moved to an offsite storage and will not be accessible for that academic year. There are several classes on campus in various subject matters that visit the museum on a quarterly basis as a required part of their curriculum, such as the History of Egypt, Creative Writing, Theatre and Dance, Community and Art, New Genres, Experimental Writing, Art History and many more offer extra credit for visiting and writing about the museum. The museum would like to create the VR accessible tour of exhibitions to offer an alternative to faculty and students to continue visiting and experiencing the artifacts unique at RAFFMA. This is the primary challenge this project aims to overcome, but it also creates new opportunities for RAFFMA outreach to PDC and Inland Empire community. The museum will use the VR tour at tabling events and build excitement for the museum through the VR project. The second challenge is the archiving of exhibitions shown at RAFFMA. Because the various areas of academia RAFFMA serves we cycle through as many as 12 temporary exhibitions annually. Many of these being student exhibitions, both undergraduate and graduate. It would greatly benefit the professional careers of the MFA students to have their work archived in VR. Many MFA students ambitiously take advantage of the Dutton Family Gallery at RAFFMA to create immersive and interactive installations. Archiving these works in VR would be the only way to justly capture the essence of these works. Additionally, RAFFMA hosts the Annual Student Exhibition which features undergraduate art students. For many undergraduate art students this is their first opportunity to have their work shown in the professional setting of a nationally accredited museum. Having the ability to archive this show in VR would be an excellent reference for art students graduating from the art department. The museum also hosts 2-3 temporary exhibitions for professional artists from around the world. The academic value of these exhibitions is tremendous and often traverses many different subject matters, such as the sciences, politics, and history. As an example, RAFFMA is currently exhibiting the work of Polish artist Jan Sawka, who grew up behind the Iron Curtain in communist Poland. The history of Sawka as an artist and the form of resolution he provides through his work is truly unique and remarkable. It is exhibitions like these that the museum works endlessly to provide for the campus and Inland Empire, however, can only be in the museum for short periods of time. The VR archiving project would allow students and faculty to access these types of exhibitions long after they are closed. The last challenge is providing access for students and faculty to research objects in RAFFMA's collection in a way that is more intimate and hands on. In conjunction with ATI, RAFFMA would work to create a VR research lab that would allow students and faculty the ability to look at objects that have been scanned through photogrammetry or structure form motion. Due to the sensitivity of many of the different artifacts that the museum has, such as mummified hands, cats and hawks, and other organic material, hands on interaction cannot be provided for students. The VR project, however, would allow to students to enter a virtual space to closely inspect and research objects on display and/or objects in RAFFMA's extensive collection. Additionally, VR equipment at the museum would assist with the presentation of research by professors at CSUSB, such as the Eastern Egyptian Expedition lead by CSUSB's Egyptologists Kate Liszka and Bryan Kraemer, where a VR mapping of the Wadi el-Hudi site in Egypt is being generated for research. This project in particular has taken many students abroad to help with research, however, VR equipment at the museum will increase accessibility for students to visit this site and participate in the project.

Alternate solution(s) should this project not be funded:

The museum has a confirmed closure beginning Spring 2021 for the re-roofing project and as a museum we have the duty to engage people in the museum and make history and the arts part of their lives. As an alternative to still serve the campus and community we will utilize our online Collectors System which showcases still images of artifacts and fine art objects, however, the museum Collectors System database is very limited in its public access and is primarily used internally for organization of RAFFMA's collection. Another alternate solution is using the current photo archive that consists of photographs of past exhibitions and the permanent Egyptian collection. For each exhibition, artwork is individually photographed as well as panorama images of the exhibition space. We will use these images to display on the museum website as a way for people to interact and view museum offerings. This solution lacks in capturing the museum experience and is a disservice to the interactive artworks but is viable with our current resources and assets. Last solution is the continued promotion of the museum's current audio tours. Some images accompany the audio tour, however, the audio tour is not a comprehensive look at an exhibition. It is a narrative driven and thematic experience. It at best covers approximately 30-40 % of the Ancient Egyptian exhibition – the collection that serves several classes at CSUSB and the community in the Inland Empire regularly.

Impact(s) if this project is not funded:

 Many students, faculty, and community members, such as the average two thousand K-12 students that visit the museum annually, will lose the ability to experience the museum and its collections during the scheduled closure beginning Spring 2021. RAFFMA will remain limited in its ability to allow for in depth object-based research, lacking the VR research room, and will be limited in its ability to showcase the work of faculty at CSUSB that is based on the VR technology. The archiving of RAFFMA's exhibitions will remain limited to their current standard of photography. The museum world abroad is moving in the direction of online cloud based content, and RAFFMA will be left significantly behind in this trend.

Cost: $$ (One time or recurring)

$35,054 - One time cost

What are your intended Process Outcomes and/or Student Learning Outcomes?

Process Outcomes 1.   Increase accessibility to museum (especially during museum closure) 2.   Increase student interaction with museum collections 3.   Improve outreach opportunities and experiences for students 4.   Build long term archives of RAFFMA exhibition 5.   Allow for more research to be done on RAFFMA's collection Student Learning Outcomes 1.   Students involved in VR production a.   Gain professional experience in VR production i.   VR editing ii.   Audio production iii.   Equipment handling b.   Learn the procedures for handling ancient artifacts and fine art objects 2.   Students experiencing VR Tours/research a.   Learn about Ancient Egyptian artifacts and history b.   Learn about various temporary exhibitions c.   Research and virtually handle artifacts

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

PO - Measures 1.   Tracking of each person that: â€¢   Accesses the 360 video of exhibitions â€¢   Experiences the VR tour at events and/or tabling 2.   Tracking each student that uses the VR headset and/or utilizes the Egyptian research room. 3.   We will collect the emails of participants in the Museum VR experience and send a survey to assess their overall experience. This information will be used to monitor the satisfaction of this form of museum experience in virtual reality. 4.   Upon approval of the VETI grant we will be able to begin archiving all exhibitions starting Fall 2020. From this point on the current Egyptian collection, rotating professional exhibitions and student exhibitions will all be archived in VR. 5.   The RAFFMA staff Egyptologist â€" Bryan Kraemer and Education and Collections Coordinator â€" Diego Irigoyen will report bi-annually the progress in Egyptian research that is integrated into the VR Egyptian research room.   SLO - Measures 1.   Participating students will be given a pre survey to track their knowledge, skills and abilities (KSA) before they begin working on the VR project. In this survey we will also have students identify what they hope to gain from this hands-on experience. A progress survey will be given during the middle of the project as a status update. This will indicate if some of the KSAâ€™s were achieved at this point in time. A conclusion survey will be given at the end of the student component of this project and around the same time the museum will officially be closed for the construction project. In this survey students will report what KSAâ€™s were obtained through working on the VR project. Students will also report how this experience has made an impact in their learning experience and/or assist them post-graduation and in career. All three surveys will be made public on the RAFFMA website. 2.   Surveys will be issued to participating CSUSB faculty on the utility of this project for their students. Students at the end of each VR experience will be asked to assess their satisfaction of their experience, the records of the experiences will be publicly available on RAFFMAâ€™s website.

Project Timeline   Start: 7/1/2020 12:00:00AM   End: 7/1/2021 12:00:00AM   First Quarter of Student Use   Earliest Winter 2021, Latest Spring 202

Statements of support by collaborating organization(s) or department(s) (if applicable)

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/226-fa7712ac26fc3d954120c581b7d042ea_Letter_of_Support_for_VETI_RAFFMA_VR_grant_2020.pdf

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/209-5a9b45af169064af9cd70ec4a7a2f30c_Dear_VETI_Committee.pdf

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/226

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/165-4a7f999456aecd95232a86ffc013ead0_VETI_BUDGET_2020.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

89

Division	Information Technology Services				
	Campus Division	**William Scott**	**Vance**	svance@csusb.edu	(951) 312-9748

20279

Total Amount Requested for FY 2018   **$24,149.00**

Project Title: Virtual Reality Headsets/360 Video Cameras for the classroom

Project Abstract:

During the last 4 years, major developments in Virtual Reality (VR) and 360 video have occurred. Academic Technologies and Innovation (ATI, a part of ITS) has been a leader in the original development of educational VR and 360 video resources amongst the CSU. ATI has one full-time staff member who oversees the work of 7 student programmers, a 3D motion graphics student artist/animator, and a full time instructional Technologist to assist in the creation of Immersive VR and 360 Video. The unit has created several simulations for academic courses including "Ambrosia" (an immersive environment to experience the archeological/anthropological environment of an island), a nursing simulation in which students interact with a virtual patient on how to cope with their COBD condition, as well as a simulation of a Cybersecurity Security Operations Center. These projects have had collateral development in such areas as AI (artificial intelligence) and Multi-Player Environments (multiple players can interact simultaneously within the same environment). Also, connections between academic departments and colleges have improved through working with these intrinsically multidisciplinary projects. Additionally, student driven work has been created outside of the classroom through such organizations as The VR Club where game development and entrepreneurial clusters are formed.   The need for more VR headsets and small 360 cameras are the main bottleneck for conveying these important emerging technologies to students and faculty. This proposal is for 50 Oculus Quest VR headsets and 10 small 360 video cameras for faculty, students, and the ATI development team.

Challenge(s) this project will address:

There is a need to have enough VR headsets for the following 3 areas: 1.   15 VR headsets for the development team. Currently, our developers are working with fewer headsets than they need and the headsets they have are not all the same type. It is critically important to standardize the headsets for development purposes. 2.   5 VR headsets are needed in the Center for Digital Media and the Humanities (UH 043) in order to maintain continuity with the developers). This space provides an important lab to introduce both our own VR projects as well as experience commercial offerings. 3.   30 VR headsets will allow classroom scale projects to be experienced by students and faculty.   The VR headsets that are proposed (Oculus Quest) have a unique feature in that they can be "tethered" to a computer with a high powered graphics card (best resolution, good for project development) or "untethered" (stand alone, the media can be loaded into the headset itself, no computer is needed to run it). The potential for using an "untethered" VR headset simplifies the process considerably. Users will have a easier and more portable experience. 360 video is a popular and inexpensive way to create media that can be played back through conventional 2D computer screens (and smart phones) as well as VR headsets (with minimal programing). The VR headsets give the viewer a realistic sense of an immersive environment (similar to VR). We have helped develop several well received faculty and student projects. It requires much less time to develop projects and edits along with post production can be accomplished with ease. ATi currently has 5 cameras and demand is outpacing its holdings.   This grant will enhance CSUSB holdings of VR Headsets and 360 cameras. Access will be granted to Faculty and students through a check out procedure (share well) with the following advantages: ATI has a proven relationship with faculty with regards to new technologies. They provide much needed expertise for training their clients in the operation of such technologies. Also, they provide auxiliary services such as video capture and editing. With their array of Instructional designers, they are well equipped to help faculty integrate these technologies into their classes. It is apparent that ATI is the most logical group for distribution of such emerging technologies to the campus. ATI is looking to provide these headsets at the classroom level (30 headsets). No such scale has been attempted on the CSUSB campus to date. With the adding of "technology zone" classrooms, there is a greater need to incorporate and use these technologies in an efficient way. An example of such a relationship is in the development of the Center for Digital Media and the Humanities (UH 043, an alternative learning space that was developed by a Title V grant ("from here to career") in cooperation with ATI and the Dean of the College of Arts and Letters. 4 stations of VR computers and headsets are available for students and faculty to experience the VR environment. The Nursing VR described within the above abstract was Beta tested by nursing students in the Fall of 2019. The center provided monitors to help the students as well as gathering observational data on the general ease of use (actual quantitative data was programmed into the VR itself).

Alternate solution(s) should this project not be funded:

Waiting for equipment allocations from the campus. Finding other grant opportunities. The forethought and benevolence of the administration The problem with the above is that the need is upon us. The demand by faculty and students should be met in an organized and centralized manner. for the upcoming (Q-S) semester. ATI has the neutrality, support expertise, and vision for this charge.

Impact(s) if this project is not funded:

 VR and 360 Video will continue to develop, but the faculty and students will have limited access to the actual tools needed to benefit from these technologies.

Cost: $$ (One time or recurring)

$24,149.50 Plus tax and shipping* one time *Due to the COVID-19 virus and trade interruption from China, we were unable to obtain actual quotes from our vendor. We believe that the pricing is accurate and that availability problems will be solved before

What are your intended Process Outcomes and/or Student Learning Outcomes?

The use of immersive technologies has increased the following outcomes: Empathy: in all fields, but especially the social justice area, it has been established that increased awareness is a direct result of the intimate connections found between the students and subject material. A sense of involvement that is not found through conventional media. This experience not only expands the student's knowledge, but they may find a profound understanding and emotional catharsis that may lead to action. Knowledge: The ability to view complex 3D models of structures such as the atomic make up of a molecule can increase understanding of their behavior. Many Stem fields are served by this technology. Any visual experience can be magnified and/or manipulated in the interactive 3D immersive environment. In language and culture, these technologies can bring the world into the classroom, museum artifacts can be examined and manipulated. These experiences will increase a student's interest and may inspire further inquiry. The Arts: Immersive technology has a deep impact on both the creator and consumer of arts. It can make unique contributions to perception of many different art forms. New worlds can be entered and reflected upon. The interdisciplinary nature of the immersive environment will interconnect different subject areas found within the arts (art, music, theater, videography…).

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

Since the equipment found within this proposal is to be used to enhance classes and student experiences in many different departments/colleges, the following KPI suggestions are made: 1.   Keeping logs of checkout and usage by these various functions. 2.   Instructors should keep statistics on KPI outcomes for their individual classes including general student assessment. 3.   A form for these observations should be created and distributed as part of the checkout/ usage procedure

Project Timeline   **Start:**   7/1/2020 12:00:00AM   **End:**   6/30/2021 12:00:00AM   **First Quarter of Student Use**   Fall 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/182-68ee0921b1a6d6e6a761788173f42a78_VETI_BUDGET_Virtual_Reality_Headsets_360_Video_Cameras_for_the_classroom.xlsx

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

92

3096742

| **Division** | Information Technology Services | | | |
| | Campus Division | **Kevin** | **Cleppe** | kevin.cleppe@csusb.edu (909) 537-4345 |

Total Amount Requested for FY 2018 $1,350.00

Project Title: 3D Printing for Accessibility and Inclusivity

Project Abstract:

With 3D printing, the Assistive Technology Center (ATC), seeks to accomplish four goals. First, increase the number of accessibility tools we can provide students, staff, and faculty. Second, create tactile learning tools for low vision students across a wide range of classes. Third, use our creations to increase awareness of accessibility issues. And fourth, increase our ability to collaborate with other departments.

Challenge(s) this project will address:

There are hundreds of minor and taken-for-granted tasks that one must complete if they wish to be successful in college. Tasks such as holding open a book, zipping a backpack, typing on a keyboard, and many more are tasks that those with physical limitations struggle with, but are essential to success in college. While tools to assist with these tasks are often either expensive, or nonexistent, with 3D printing, we can create tools at a fraction of the price and designed to meet the specific needs of the individual. Devices that can hold open books, larger zipper tags to make opening back packs easier, and devices to allow for easier keyboard typing with individuals with physical limitations are all possible with 3D printing.   In addition, low vision students are often left with few if any tools for engaging in classroom activities. Typical classroom materials and assignments are limited to 2D images and pages, or on power point presentations, that leave low-vision students with few options for properly engaging with and understanding class material. However, with 3D printing, what was once information that was only presented on a page of a book can be presented in a 3D format, complete with Braille Labels that can be felt and learn specific parts of a model, as well as QR codes that can be scanned to have information about the model read back to the student. 3D printed models such as a strand of DNA for a biology class, a topographical map of the United States for a geography or geography class, or muscle structures for kinesiology majors, can give low-vision students the opportunity to hold and feel the topic of discussion for a class, and therefore have a means of contextualizing subjects for their major. These 3D printed models would not only be good for increasing learning proficiency in a classroom and increasing proficiency performing physical tasks, they would also be fantastic tools to display at events to raise awareness about accessibility issues. Taking these models and devices to events the ATC participates in, as well as displaying them in our lab in PL 1109, will allow us to reach a wider audience of students who may not be aware of the issues related to accessibility.   Finally, with 3D printing, the ATC will increase its ability to collaborate and work with other departments and teams across CSUSB and PDC. We will be able to start immediately with the Innovation Lab in the library by learning lessons on 3D printing from their experts and applying those lessons to our own machines. Additionally, we can start to work with departments such as SSD on both campuses to start creating and distributing devices to their students to make basic tasks for them easier. We can also use these printers to collaborate and work with a variety of departments across the university, and work with them to create 3D printed models that can be used in their classrooms.   In all of this, one of the biggest benefits of 3D printing is the nature of open-source projects that already exist in the community. Free and effective web-based software can be used to design files for 3D printing, or modify already existing files. Additionally, there are dozens of sites already hosting thousands of free and high quality STL and OBJ files that are ready to be downloaded and printed. This includes dozens of tools that can be printed for those with physical limitations, and hundreds (if not thousands) of files that can be printed and modified to create tactile learning models.

Alternate solution(s) should this project not be funded:

We will work with the innovation lab team to design and print items. Because of the wait list that they have, these designs will have long wait periods, up to 4 weeks for a single print.

Impact(s) if this project is not funded:

Students, staff, and faculty who struggle with physical tasks will wait long periods to have devices made from the innovation lab. Low vision students will continue to have few options for engaging with complex subjects in a classroom. The ATC lab will have fewer resources for raising accessibility awareness. The ATC will have fewer tools for collaborating and reaching out to, and providing services to, other departments and teams across the campus.

What are your intended Process Outcomes and/or Student Learning Outcomes?

1.   (PO) Increased efficiency for users performing physical tasks with tools created by the printers. This will allow users to spend less time on minor tasks, and more studying. 2.   (SLO) Increased participation for low-vision students with tactile study tools. This will allow low-vision students to have better engagement with complex class material and retain more information. 3.   (PO) Increased awareness for accessibility by displaying tools and models at events. This will allow the ATC to have better effectiveness when engaging with the campus body about issues related to accessibility. 4.   (PO) Increased collaboration efforts by working with several departments across both campuses.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

1.   The ATC will keep a blog of all tools that are made for users through our site, and our social media. 2.   The ATC will keep a blog of all tactile learning tools that are made for users through our site, and our social media. Additionally, the ATC will keep a log of the number of different models we print per major, as well as how many of each model is printed 3.   The ATC will keep a blog of all events we participate at that allow us to demo our models through our site, and our social media. 4.   The ATC will keep a blog of all departments we work with and collaborate with

Project Timeline   **Start:** 6/1/2020 12:00:00AM   **End:** 6/2/2025 12:00:00AM   **First Quarter of Student Use**   Summer 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/55-3b0f7fbe2fb11347a7b4e171cd1cc2aa_3D_Printing_For_Accessibility_and_Inclusivity_VETI_Request.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

93

| **Division** | Academic Affairs | College of Arts and Letters | | | 5813167 |
| | Campus Division | **Edward** | **Gomez** | edward.gomez@csusb.edu | 909-537-5183 |

Total Amount Requested for FY 2018 $37,000.00

Project Title: Essential Digital Fabrication LAB equipment

Project Abstract:

Computer-controlled cutting and sculpting systems or CNCs are vital components to Digital Fabrication laboratories. These tools greatly enhance our students' ability to cut and carve a variety of materials while learning valuable manufacturing skillsets. knowing how to proficiently use CNC machines significantly enhances our students' marketability for employment. CNCs are commonly being used in universities and colleges that are progressively incorporating 21st-century tools that relate to current workforce demands. These workforce demands are seeking highly educated and multi-disciplinary candidates who are able to both create with computers use CNCs. The tools proposed will positively impact our students with much-needed technology and facilitating the experience needed to be competitive in our creative economy.   This proposal asks for the purchase of 2 small scale CNC router systems, one small CNC plasma table and a replacement saw for our Fabrication LAB. In the Fall of 2020 Laguna Tools graciously donated to our department a 4th axis attachment that allows for the sculpting and cutting of material in 4 directions. We do not have a CNC machine that can properly run this unit and we are asking the VETI committee for the funds to purchase a dedicated unit that can accommodate this piece of equipment. Also included is a replacement for a wood cutting bandsaw that is no longer functioning safely and is hazardous to use. The third component is a CNC operated plasma cutting machine, that will allow or students to cut thick metals for a variety of applications with computer accuracy.

Challenge(s) this project will address:

1.   The CNC routers and plasma cutting systems will provide students with powerful tools for fabricating two-dimensional and three-dimensional designs. Students will be able to cut, carve and sculpt a wide variety of materials for manufacturing and design applications with computer-controlled precision. This cutting precision along with the software system optimizes how materials are cut which in turn reduces the amount of waste often associated with a traditional studio, metal or woodcutting shops. 2.   We currently do not have a small tabletop CNC that can precisely create printing plates or small scale models. This need is address with a smaller CNC unit that is user-friendly and will be dedicated to smaller milling and cutting applications. 3.   Due to the wide range of uses these tools have students, they will be able to create functional works of art that will merge the gap between fine art and industrial design, sculpture, and furniture fabrication as well as studio arts and design. 4.   The department does not have a way to cut metal with computer precision. The proposed plasma cutting CNC will open the door to working with metal in ways we currently do not have the ability to do.   Computer produced vector files can easily be cut with a wide variety of metals both safely and accurately. 5.   Students currently are limited to small scale PLA or PVC plastic prints when producing computer designed 3D objects or large scale projects with our CNC. The proposed smaller-scale CNC router will give our students a much-needed ability to creatively explore their designs on an appropriately sized machine for the optimal results including creating small scale printing plates and design models.   6.   In the Fall of 2019 the Irvine based company, Laguna Tools graciously donated to CSUSB a 4th axis attachment that allows for milling and cutting wood for many art and design applications including the manufacturing of ornate and minimal chair legs in 4 directions.   The dedicated CNC system we are asking for will accommodate this new tool. This 4th axis tool attachment can be configured to cut various hard materials such as wood, composites, aluminum, plastics and foam and will give our campus the much-needed ability to cut and carve in 4 directions. 7.   The proposed CNC units are computer-based and operated and the operating files can be remotely sent to an instructional technician to mill. This will allow students to take digital fabrication courses online and complete their projects without being on campus to operate the units. This is particularly beneficial at this time when our campus is creating contingency plans to make on-ground courses online based or hybrid in order to comply with safety concerns with the Corona Virus.   8.   These machines will be a much-needed addition to the Digital Fabrication Lab that was started in 2018. These tools will also form the Fab Lab foundation for our new semester-based curriculum requiring computer-aided design and fabrication capabilities.

Alternate solution(s) should this project not be funded:

We currently do not have an additional way to fund these essential tools.

Impact(s) if this project is not funded:

 If this proposal is not funded it will severely limit our students' ability to safely cut metal and wood materials on a medium to small scale. It will limit our Digital Fabrication LAB to only producing large scale wood-based projects at a slow rate of production. We would also miss out on developing pedagogy that revolves around interdisciplinary workflows for many studio and commercial based courses.

Cost: $$ (One time or recurring)

One time cost is 37,000.00 for the two specialized CNC routers, one CNC metal Plasma cutter, and one-hand operated bandsaw for the development of our Digital Fabrication LAB. This would include shipping, setup and essential training.

What are your intended Process Outcomes and/or Student Learning Outcomes?

     New Digital Fabrication projects and courses are being added to the current curriculum and these tools will allow for a greater range of sculpting, carving and cutting capabilities.   Collaboration between Design and Studio based students to produce functional art and digital fabrication projects that merge the two disciplines.   Projects will be added to the 3D Foundation courses in order to produce unit based sculptures that explore the many possibilities of slot connections in various construction materials.   Students taking Ceramics will be able to carve and sculpt plaster molds that can be used for slip and ceramic casting.   The Glass courses will also be able to form 3D designed molds for glass casting.   The Sculpture courses will greatly benefit from the ability to cut and sculpt various materials with computer precision for fine art applications which includes metalworking.   The Design courses will be able to prototype point of purchase displays, product designs and typographic and imaged based signage for commercial applications in wood or metal.   The Wood and Furniture courses will be able to fully realize 3D designed furniture with great precision that results in a significant reduction of wasted wood materials. The students will also be learning a valuable skill set and experience using a contemporary industry-standard carpentry tool and digitally design table and chair legs and mill them with computer accuracy.   The Printmaking classes would also be able to use this tool to create small and large scale woodblocks for woodblock printing.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

Lab attendance and the hours of operation of the tool will be kept and recorded including the use and purpose of each project created with the tool.   Our Department will consult and monitor the use and effectiveness of these tools with the help of our Instructional Support Technitioans, Dept, Chair Matthew Poole and head of our Visual Resource Center.   Weekend and community-based workshops can be programmed allowing for the greater student body and community to learn about new technologies and the safe operation of the tool.   Faculty and students will be asked to submit their comments and recommendations on the use and effectiveness of these tools and the Department will make appropriate accommodations based on the surveys.   The Department will host public art exhibitions that will showcase the effectiveness of these tool and provide evidence of performance and use.

Project Timeline   **Start:** 9/16/2019 12:00:00AM   **End:**   12/15/2020 12:00:00AM   **First Quarter of Student Use**   Fall, 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/111-78b43489880232897bc3703963a5af3c_VETI_BUDGET_TEMPLATE.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

95

Division	Student Affairs				
	Campus Division Recreation and \	**Vilayat**	**Del Rossi**	Vilayat.DelRossi@csusb.edu	909-537-7142

6173956

Total Amount Requested for FY 2018 $70,000.00

Project Title: National Fitness Campaign (NFC): Developing a Holistic Outdoor Digital & Physical Ecosystem for Health & Well-Being

Project Abstract:

.On behalf of the Be Well Yotes Collaborative and the Division of Student Affairs, we are submitting a proposal to develop a holistic outdoor digital & physical ecosystem for health & well-being through NFC. The Be Well Collaborative is a partnership between campus partners dedicated to providing programs, services and outreach efforts that educate, support and inspire CSUSB students, faculty and staff to lead healthy and balanced lifestyles. This multidisciplinary collaborative consists of several DSA departments including DHRE, Basic Needs, Student Health Center, Recreation & Wellness, Athletics, CAPS, ASI, SMSU as well as the SAIL Program, Office of Financial Aid & Scholarships, Nutrition & Food Sciences, Kinesiology and the American College of Sports Medicine (ACSM) Exercise Is Medicine-On Campus (EIM-OC) Club. This proposed project directly supports the CSU's GI2025, specifically in the area of Student Engagement and Well-Being. It also meets several of IT's Strategic Plan Goals. This proposal is beyond just creating an outdoor fitness court. NFC's 21st Century campaign is a holistic health and wellness initiative for communities nationwide based around the innovative Fitness Court. Taking outdoor wellness beyond infrastructure, the program provides the integrated Fitness Court Mobile App., a toolkit of promotional resources, training and support services, fitness classes, programs, and events. The NFC campaign ecosystem is an integral component of every partnership and is designed to build healthy communities with time tested strategies and programs. Thousands of Fitness Courts and millions of users are connected to the world's largest outdoor fitness network in the world.

Challenge(s) this project will address:

This project reduces the barriers and improves access for our campus community to engage in physical activity and exercise. According to ACSM and the Center Disease Control and Prevention (CDC), physical inactivity is recognized as an important risk factor associated with morbidity and mortality in adults. Less than 5% of adults participate in the minimum physical activity requirements each day. Engaging in physical activity improves bone health, weight status, brain cognition, sleep and reduces chances of depression, anxiety, cancers, diabetes, hypertension and heart disease. By creating an outdoor ecosystem on the CSUSB campus, we would improve the participation in physical activity for our campus and community. Our campus has been an innovator and early adopter in several national and statewide initiatives including being recognized by the ACSM as a EIM-OC "Gold" Level Recognition, two years running now (2019,2020). We are only 1 of 2 CSU's that have been able to achieve this level of recognition. The Chancellor's Office is also using CSUSB as a pilot campus for their system wide Health & Well-Being portal, which will be available via SSO this Spring Quarter. Supporting this project will assist with CSUSB being at the forefront for the CSU system when addressing Health & Well-Being related resources provided to our campus community.

Alternate solution(s) should this project not be funded:

The total cost of this project is $130,000 of fixed costs (fitness court and campaign ecosystem) and another $15,000-25,000 of variable costs (Installation including concrete slab, fitness court assembly and graphics install). Currently NFC has awarded the campus a competitive $30,000 grant to support the project. The Recreation & Wellness Department has committed up to $30,000 (reserves and operating budget). The remaining amount of project costs, if not funded would be vetted through other campus partners, Chancellor's Office one-time grants and through development (potential donors).

Impact(s) if this project is not funded:

 If this project is not funded, it will most likely not be able to raise enough money to execute the project before the $30,000 NFC competitive grant expires (December 2020). This lowers the possibility of this project receiving the other sources of financial support and will lower the possibility for this project to ever get off the ground at CSUSB.

Cost: $$ (One time or recurring)

One-Time

What are your intended Process Outcomes and/or Student Learning Outcomes?

Process Outcomes – By lowering the barrier to activities that support health and well-being, we expect to see an increased participation of students, faculty/staff and community engaging in physical activity and exercise. By having it outside instead of an actual building lowers the physical barrier as well, which is one of the top reasons why people do not come into the SRWC. The SRWC can be perceived as intimidating. By improving outdoor access, we believe that there will be increased satisfaction with health & well-being related services. This in return will increase the over health and well-being of our campus community. Student Learning Outcomes – There are a variety of student learning outcomes from implementing this type of service and program. The students and staff that will be delivering this program will receive a significant amount of technical training with the NFC through the Certified Ambassador Training. Both digital training and hands-on Regional Training Camps will be provided to equip ambassadors with NFC's tools, teach them how to run classes, and build community. The Be Well Yotes Collaborative will be delivering this program to the campus community along with other secondary interested stakeholders. The other set of student learning outcomes will be related the participants that are engaging in the service that the Digital Outdoor Fitness Court Ecosystem will deliver to the campus community. This platform will be able to deliver very specific, measurable, attainable, realistic and time sensitive health and well-being related outcomes.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

The Division of Student Affairs would continue to use current assessment plans and KPI's that are utilized by the Division in concert with NFC and their measures that are in place as well. These measures will be put into place for the individuals that will be trained on how to deliver this platform as they are all transferable skills that will exist with current and future meaningful employment. For participation and use of the platform, the Division will have access to aggregate de-identified data on the use of the platform, specifically to the on-campus site (daily, weekly, monthly, etc.). The qualitative and quantitative measures/instruments that will be put in place will be periodically reviewed for appropriate adjustments to ensure that the platform is continuously improving to support the campus community.

Project Timeline   **Start:**   8/3/2020 12:00:00AM   **End:**   1/11/2021 12:00:00AM   **First Quarter of Student Use**   Spring 2021

Statements of support by collaborating organization(s) or department(s) (if applicable)

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/181-74669c505e004f7fa03758f872f8e78e_NFC_Support_Letter_Health_Education.pdf

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/221-3e9c9d6fe34488e08958e10918cc27de_NFC_Support_Letter_KINE.pdf

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/226-351729588571160c8917d4006c74862f_VETI-Budget_for_National_Fitness_Campaign_Proposal.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

96

| **Division** | Academic Affairs | College of Arts and Letters | | 2913338 |
| | Campus Division | **Cash** | **Tijerina** | Cash.Tijerina@csusb.edu | (909) 537-5867 |

Total Amount Requested for FY 2018 $19,913.00

Project Title: Music Technology Studio Upgrade to Music Industry Standards & Spatial Sound for Virtual Reality

Project Abstract:

The goal of this project is two-part: 1) firstly, to upgrade the Department of Music's Music Technology Studio so that our equipment and software meet music technology industry standards, and 2) to incorporate spatial sound technology for virtual reality into our existing music technology curriculum. Currently, the Music Technology Studio in the Department of Music is about nine years behind industry standards in terms of equipment, software, and plug-ins. This impedes our ability to be able to offer an education to our students that is current with industry standards, and also our ability to be on the forefront of innovative research, pedagogy, project-based learning, and interdisciplinary collaborations with other entities on campus, and professional organizations in the Inland Empire and greater Los Angeles area. Given that we 1) live in one of the largest epicenters in the world for music and media technology, 2) service the two largest counties in the United States (San Bernardino and Riverside), and 3) serve a diverse population of students, it is vital that we stay current so that we are able to offer an education that supports the goals of our Graduation Initiative 2025 to increase our graduation rates and eliminate the achievement gap. Through the incorporation of spatial sound technology for virtual reality into our existing curriculum, we will not only be meeting industry standards, but will also be on the cutting edge of educating students regarding pioneering technology, subsequently creating new inter-departmental pathways between music, virtual reality technology, and the computer sciences.

Challenge(s) this project will address:

#1. Studio equipment, software and plug-ins that do not meet music industry standards. As mentioned previously, we are nine years behind music technology industry standards (our last studio equipment and software upgrade was 2011). Specifically, the equipment that is out of date includes the following: Mac Pro Tower (2013) Avid Pro Tools System (2013) Software Plug-In Database Audio Interfaces   #2. Subsequently, the education our students are receiving is not up-to-date. Students, faculty, and staff who want to stay current with industry standards are having to pay money out of their own pockets to invest in equipment, software, and plug-ins for themselves given that we cannot provide this for them in our music technology studio at the moment. This also impacts our ability to recruit community college students as several of our area community colleges have more updated technology than we do.   #3. We are challenged with working with the latest technology in spatial sound in virtual reality without these upgrades. Without these upgrades we can only teach the basics of audio engineering and sound. We want to be able to teach real world music industry problems and issues with the software that is industry standard, and we'd like to be able to expand our curriculum to include spatial sound and immersive audio. #4. We are working to develop a Music Industry Studies degree, and we simply cannot create and offer it without upgrading our technology. Music Industry Studies degrees are the up-and-coming music and media technology degrees, and right now in the State of California, we only have two institutions with four-year degrees that are coded as Music Industry Studies degrees (Cal Poly Pomona and CSU Northridge). Loads of community college students are trying to get into them, and so we want to develop this degree so that we can recruit more students into our department and programs, and also be a hub in Southern California for music industry studies.

Alternate solution(s) should this project not be funded:

The only real alternate solution is to continue to make do with the current equipment and software that we have. We do our best to provide our students with a quality education that stays current with industry standards; however, that is a service we provide that is limited by our out-of-date equipment and software. Therefore, if this project is not funded, we will look outside the university for external grant funding.

Impact(s) if this project is not funded:

We will continue to be behind in all areas of music technology which include: 1) industry standard equipment, software, and plug-ins, 2) knowledge of binaural and immersive audio within the scope of virtual reality, 3) audio engineering, and 4) recording technology. Our transfer student rates will dip because we 1) are not current with industry standards, 2) will not have the ability to be on the forefront of cutting-edge industry technology, and 3) our capacity to collaborate with other entities on campus who are exploring these technologies will be limited.

Cost: $$ (One time or recurring)

One Time: 1) iMac Pro - 2.3 GHZ 18-core Intel Xeon W Processor, Turbo Boost up to 4.3GHz ($9,177.99), 2) Sonnet Echo Express SE IIIe Thunderbolt 3 Expansion Chassis for PCIe Card $490)s, 3) Sennheiser AMBEO VR Microphone ($1,295), 4) Blackmagic eGPU Pro (

What are your intended Process Outcomes and/or Student Learning Outcomes?

PLO's: 1. Bring music studio equipment, software, and plug-ins up to date with current industry standards 2. Pilot the implementation of new studio equipment, software, and plug-ins, and spatial sound for virtual reality in the following courses: MUS 2266 Creating Digital Media Using Personal Electronic Technology, MUS 2660 Electronic Music Production, MUS 2670 Sound Recording, MUS 3833 New Music Ensemble, MUS 4180 Film Soundtrack Recording, MUS 4290 Topics in Music Technology, MUS 4480 Applied Technology, MUS 4660 Advanced Electronic Music, MUS 4670 Advanced Studio Recording Techniques, MUS 5751 Internship in Music Technology I, MUS 5752 Internship in Music Technology II, MUS 5753 Internship in Music Technology III   3. Increase interdisciplinary collaborations both on campus with other programs on campus who are also experimenting with the latest innovations in cutting edge media technology, and in our Inland Empire and Los Angeles communities   SLO's: 1. Students will benefit from music studio equipment, software, and plug-ins being brought up to date with current industry standards, and have access to a pioneering education in spatial sound for virtual reality   2. Students will be exposed to innovative research in the field of music industry technology currently being pioneered by companies such as SONY, HDC, Facebook, etc. 3. Students will now have access to a broader range of "real world" experiences through project-based learning and interdisciplinary collaborations, and a diversity of career opportunities post-graduation 4. Students will experience increased support for our Graduation Initiative 2025 and specifically, increasing graduation rates and eliminating the achievement gap

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

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PLO's: 1. Studio equipment, software, and plug-ins will reflect the industry updates and new standards that were shared at the most recent NAMM (National Association for Music Merchants) Conference in Anaheim in January of 2020 2. 1) New curriculum and project-based learning assignments for spatial sound for virtual reality will be built into syllabi for our music technology coursework, 2) SOTEâ€™s and informal class surveys of students enrolled in music technology classes, the faculty teaching them, and our technical staff 3. Comparison of the number of research/creative/scholarly activities associated with our music technology faculty, staff, and students from 2018-2022 SLO's: 1. SOTEâ€™s, informal class surveys of students enrolled in music technology classes, 2) newly-designed syllabi that incorporate spatial sound for virtual reality project-based learning assignments such as 360 immersive videos, video games, etc. 2. 1) Field trips build into newly updated courses that takes students to local business headquarters that are pioneering spatial sound in virtual reality, 2) student/faculty/staff participation in virtual reality summits and technology conventions, 3) showcase of student/faculty/staff creative work in the CSUSB Music Departments Electronic Music Concert and Coyote Music Society Showcase 3. 1) Newly-designed curriculum and syllabi reflective of current industry standards which are interdisciplinary, and will include project-based learning assignments tied to career opportunities in media technology, 2) growth in CSUSB Student Virtual Reality Club, 3) increase in collaborations with other departments such as Communications and ATI, 4) data collection from survey of our graduates 4. Data-based comparison of our graduation rates from 2018-2022

Project Timeline   **Start:** 7/1/2020 12:00:00AM   **End:** 6/30/2021 12:00:00AM   **First Quarter of Student Use**   Fall Semester 2020

Statements of support by collaborating organization(s) or department(s) (if applicable)

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/111-717db27d5ce8b44a55d9ba0b357fbaa4_Dr._Stacey_Fraser_VETI_Grant_Letter_of_Support.pdf

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/25-323e8df309b6ebc9cce735238a35563f_James_Trotter_VETI_Grant_Letter_of_Support.pdf

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/57-d16cbada4864d3e6ad225e5a8b81f37f_VETI_Budget_for_Music_Technology_Studio_Upgrade_%26_Spatial_Sound_for_Virtual_Reality.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

97

<u>Division</u>	Academic Affairs	College of Social Behavioral Sciences		3886180
	Campus Division	**Brett**	**Goforth**	bgoforth@csusb.edu	909-537-5521

Brett **Goforth** bgoforth@csusb.edu 909-537-5521

Total Amount Requested for FY 2018 $61,151.00

Project Title: Deciphering secrets of soil: equipping student inquiry and career pathways in applications of soil technology.

Project Abstract:

What is soil technology? Firstly, soil is the ground we often take for granted, underfoot when walking along a trail or grassy lawn. Yet, soil is vastly more complex, providing diverse mediums for plant growth, spanning all land surfaces, to include loose soft substrates that humans dig-into and built upon from modern to ancient times. Because soil is an opaque and bulky material, it requires specialized technology to process for instrument analyses that measure diagnostic characteristics, many of which are not visible. For example, soils have different textures you can feel in hand, from fine to coarse grittiness, but their composition ultimately varies by amounts of mixed sand, silt, and microscopic clay particles. Measuring texture, and determining textural differences from one soil to another, uses specialized lab technology for procedures to separate the bulk of soil material into constituent fractions by particle sizes. Accurate and precise measurement of particle sizes by computer instrumentation and software promotes a quantitative classification of soil and fundamental characteristics used to describe, identify, and map soil types around the world. A textural analysis is key to numerous environmental and archaeological studies. This proposal outlines the technology vital to interdisciplinary instructional support to students in lower-division GE courses, upper-division levels, and graduate studies for the new semester curriculum that explores characteristics of soils in lab and field activities. The requested technology is critically needed to enhance instructional resources in Geography, Environmental Studies, and Anthropology, for experiential learning opportunities in career pathways of environmental assessment and archaeology.

Challenge(s) this project will address:

Students lack access to soil technology needed for new lab and field activities designed for the CSUSB campus change to semesters starting Fall 2020. Students in programs of Geography, Environmental Studies, and Anthropology want new lab and field activities equipped with soil technology (see student letters of support). We have developed a new interdisciplinary curriculum of courses that will provide expanded access to soil technology. The requested technology will most efficiently be deployed to a centralized lab room shared by the departments of Geography and Environmental Studies and Anthropology (SB-363). Our interdisciplinary project will enhance student access, experience, and success broadly across the institution and through courses serving students at the general education lower division level, upper-division level, and in graduate studies. This proposal solves multiple challenges, in articulation with five goals of the CSUSB Strategic Plan to support the CSU Graduation Initiative 2025 (Student Success, Faculty Success, Resource Sustainability, Community Engagement Partnerships, Campus Identity).   Goal 1 Student Success: The soil technology discussed in this proposal will empower student success by supporting new, experiential learning activities and student career pathway training using professional lab and field methods prescribed by the US Environmental Protection Agency (EPA), US Department of Agriculture (USDA), and best practices recognized by the Register of Professional Archaeologists (RPA). Therefore, this technology is critical to support planned high impact teaching practices through active student-centered learning (i.e., learning by doing). The proposed technology is needed for students to practice marketable technical skills in environmental assessment and cultural resources management (CRM) archaeology according to feedback provided by alumni of our programs and federal, state and local resource professionals now working in the public and private sectors. As such, we anticipate that this technology will also provide students with new connections to internship opportunities with environmental agencies and technical firms that ultimately seek to employ graduates trained in soil lab and field methods. In our experience with other lab and field-based courses, this approach to experiential learning has proven to increase the retention and graduation of students, a central goal of the CSU Graduation Initiative 2025, and enhancing these efforts with the requested soil technology will expand this scope of student success. For example, in GEOG 1030L Physical Geography Lab, a general education course that meets the area B physical science requirement, an expanded semester curriculum has been developed for students to learn about how soils form in natural landscapes. The proposed soil technology includes a polarizing microscope that will allow students to view under magnification the minerals of sand grains extracted from soils in their own neighborhoods, and make relationships to the different types of parent material that soils formed from. This microscope can be connected to a digital video-camera and computer program that we already use in the lab, allowing students to prepare and preview their own images of sand grain minerals, as well as to develop an archive of images from other soil samples. The digital images can be projected onto the room's front screen, to share observations during lab activity discussions, and also posted online using Blackboard and Zoom for 'virtual lab' learning by students off-campus. Such flexibility in use of the technology would support resilient online teaching strategies that we need to sustain instruction in response to campus emergency closures due to wind, fire, and the ongoing COVID-19 epidemic. For example, the images and other soil measurement data recorded by instruments in this proposal can be saved onto USB thumb drive, for faculty to then remotely incorporate into course sections offered at the Palm Desert campus utilizing existing Blackboard and Zoom interfaces. A digital microscope image can be saved as a microphotograph JPEG or PDF file using the existing video camera can computer in lab room SB-363. That image can be uploaded onto Blackboard by an instructor for an online assignment accessed by students at Palm Desert Campus and at home, and also be displayed during an online video lecture with students using the slide-share function of Zoom. In GEOG 4750 Ecosystem Assessment, a new upper-division semester course in the Environmental Studies major, a field activity will train students to describe soils exposed on a roadcut along the Observatory road at Badger Hill according to USDA standards of soil taxonomy. Students will collect soil samples at different depths from the roadcut and return to the lab to utilize soil technology to classify the soil type based on a textural analysis in comparison to soil survey maps. A challenge for both the instructor and students is confirming the soil texture. While texture can be crudely judged by feel, the requested soil technology is needed to measure particle size analysis for more accurate determination of percentages of sand, silt, and clay. In GEOG 4250 Hydrology and Watershed Management, soil and water interactions are studied to understand the role of soil erosion in water quality problems. The proposed soil technology will support new lab activities for students to collect soil samples in the San Bernardino Mountains that will be traced downstream to sediment contamination in water samples from drainages, to identify best management practices of conservation to protect both soil and water resources locally. This high impact teaching approach not only supports deep learning of concepts, but it also trains students in technical skills transferable to internships and subsequent employment and can provide land managers of the San Bernardino National Forest with real-world environmental data and conservation recommendations to improve local stream water quality. The applications of this proposed soil technology encompass not only environmental analyses but also archaeological methods and challenges addressed in Anthropology courses (e.g., ANTH 4021L Archaeology Laboratory Analysis and ANTH 6021L Advanced Archaeological Laboratory Analysis). For example, magnetic susceptibility of the clay particles in soils is an invisible property but provides a characteristic signature of iron oxides in the soil clay fraction. Magnetic susceptibility can be measured in the field using a handheld meter with a sensor loop to map present or past wetland soil conditions, as well as to locate other places exposed to heating by past fires that thermally altered iron oxides in the soil. Such thermal alteration not only occurs in places most severely burned by wildfire like beneath logs but is also found in buried soils and features excavated by archaeologists, such as hearths altered by ancient fire.   Magnetic signatures can also help archaeologists to identify subsurface disturbances such as walls, intrusions, and agricultural features. The measurement of magnetic susceptibility and these application-specific interpretations engage students through deep learning about how soils form, become altered, and develop contrasting characteristics in different places. For the MA in Applied Archeology program, the technology requested here would support numerous MA theses that will help graduate students prepare for careers in cultural resource management (CRM) archaeology with enhanced training using cutting-edge technology, methods, and expertise. Soil samples collected from the ground surface and different depths below ground will be processed for analysis of texture, soil minerals, and magnetic susceptibility in the lab using the list of soil technology instruments attached to this proposal. The lab results and processed soil materials can be saved for reuse, to build a soil material archive for teaching and a high rate of utilization for students served. Moreover, this approach provides enhanced instructional resources needed to make visualization and analysis of soil materials and buried artifacts accessible to all students indoors, at more flexible times of scheduling, which enables students to overcome potential inaccessibility challenges or barriers to being outdoors including students with special needs or disabilities.   Goal 2 Faculty Success: The proposed technology enhancement will support faculty success to align the new semester curriculum with co-curricular lab and field experiences, including student participation in scholarly research, including environmental concerns that are impacting local underserved communities, and enhancements to CRM archaeological training that can be practiced in our region. The project lead Dr. Brett Goforth and supporting faculty (letters attached) advocate a teacher-scholar model to connect high impact practices of learning with professional skills and scholarly research participation. The proposed soil technology is useful in many disciplines, allowing students to explore a spectrum of career pathways in environmental assessment and also archaeological methods of soil interpretation related to buried artifacts and features. Goal 3. Resource Sustainability: The proposed technology is a one-time enhancement with high-return on investment and long-functional lifespan of serviceability. While the most benefiting students will be in courses, the technology can also be leveraged to support senior honors and graduate student research projects with faculty mentors to pursue externally awarded grants, and contracts for technical assistance and monitoring of soil resource quality and cultural resource management archaeology. For example, Mandy Parkes, Director of the Inland Empire Resource Conservation District (IERCD) has endorsed this proposal because it would seamlessly connect our new lab and field activities with their regional program of outreach and community engagement efforts, positioning us to unlock future external award investments of support (see letter of support). In other words, the proposed technology would be transformative to enhance technology access to students of demonstrable need with returns on investment by community partners and prospective support of future grants and contracts served by the requested technology. This soil technology will be deployed in a dedicated existing lab room space (SB-363) that is connected by an interior door to classroom SB-361, to provide maximum accessibility for multiple courses, and sustainability of use over a projected multi-decade-long lifespan of the technology.   Goal 4. Community Engagement Partnerships: The proposed technology will benefit students and faculty currently serving and engaging communities through multiple internship partnering organizations, study abroad programs, ongoing field research projects, and outreach activities. The proposed technology will further these community connections by providing a new depth of service not only to teach soil analyses in courses but also for practical monitoring of soil resource quality in collaborations with public agencies like the IERCD. Furthermore, local state-designated disadvantaged

communities and tribal reservations have been historically underserved for soil and water quality testing, and this new technology would support partnerships for their technical assistance while enhancing opportunities for student recruitment into Science Technology Engineering and Math (STEM) applied-fields at CSUSB from these under-represented communities. For example, the technology would make for a modular connection into the existing high school water internship program collaboration with the Water Resources Institute and related outreach efforts lead by the CSUSB Office of Community Engagement and Office of Tribal Relations.   Goal 5. Identity: Providing students in general education courses, major courses, and graduate student courses with new soil technology needed for soil analysis will foster a new and unique campus identity of soil awareness through discovery and appreciation of soil resources taken for granted by most of the public. The outdoor field and indoor lab activities that will use this technology are more than just exercises, they are mentored spaces for experiential learning shared by groups of students, often who come from diverse communities that are under-represented STEM fields such as environmental science and archaeology. The mentoring, hands-on learning, comradery, and responsibility that come with experience in using the proposed technology in laboratory and field settings will be unique and produce longer-lasting benefits than some traditional classroom activities. The technology will support a hub of student involvement for efforts to improve environmental quality in local communities, providing students with the personal tangibility of the CSUSB motto, â€œwe define the future.â€ This soil technology will also be a reflection of the CSUSB identities of student success, faculty success, resourcefulness to engage the community, and commitment to serve community needs. This enhanced identity provided by soil technology feeds back into our efforts for CSUSB student recruitment and raising awareness of the Student Success Initiative (SSI) as further discussed in the publicity plan section of this proposal.   In summary, we are uniquely prepared to implement this proposal for the rapid deployment of soil technology into a dedicated interdisciplinary lab space that will enhance instructional resources for diverse student needs served by the new semester curriculum. The College of Social Behavioral Sciences has pledged $15,000 of one time matching support for this proposal (attached letter of support from Dean Rafik Mohamed). Our college ITS lead, Vincent Cornejo, has reviewed the technical specifications of the digital instrumentation/devices listed in the budget of this proposal, and determined this technology can be used offline, off-network, with non-programmable operational interfaces that appear to meet VETI guidance for accessibility. Digital images and measurement data can be downloaded from the devices onto USB thumb drives, to then be shared by instructors with students using Backboard and Zoom to support instruction to students at home and at the Palm Desert campus. An added benefit is that such enhancementsâ€™ will support faculty efforts to develop resilient online teaching strategies in preparation for emergency campus closures. Our proposalâ€™s ability to implement is also well supported by our expertise in the use of the technology for field-based projects aligned with new instructional needs for semester courses, and new opportunities for community service. For example, Dr. Goforth is the coordinator of the interdisciplinary Environmental Studies BA degree program and studies wildfire-effects to soil in California as well as patterns of soil development in landslide impacted areas of the San Bernardino Mountains. Dr. Jennifer Alford studies the movement of pollutants from soil into water resources in regional impaired watersheds of the San Bernardino National Forest and Santa Ana River with course field-trips for lab activities that engage student participation, and mentors graduate students in the interdisciplinary MS in Earth and Environmental Sciences program. Dr. Guy Hepp investigates early complex societies of Mesoamerica, including methods of archaeology focused on the study of the Early Formative period (2000â€"1000 BCE) village site of La Consentida in coastal Oaxaca, Mexico, and incorporates this expertise and collected materials into courses on archaeological methods for anthropology majors and graduate students in the MA in Applied Archaeology program.

Alternate solution(s) should this project not be funded:

Two alternate solutions are 1) to have students practice just qualitative and visual methods of soil observation, or 2) have soil samples sent off-campus to an external lab facility for analysis.   Alternative 1 does not meet modern industry standards for marketable skills in the targeted STEM disciplines. This alternative would not train students in methods of quantitative measurement which follow standard lab techniques of soil analysis defined by the EPA, USDA, and archaeological conventions. Furthermore, students would not be able to learn deeper concepts of soil development and morphology that are best conceptualized quantitatively and would have to rely on readings to learn about microscopic and non-visual diagnostic properties of soils. This status quo option would not enhance our ability to develop resilient online instructional strategies that are needed to teach students off-campus nor serve the Palm Desert campus. Alternative 2 is cost-prohibitive to send soil sample materials off-campus to an external lab facility. Moreover, outsourcing soil sample analysis would forgo the critical aspect of experiential learning (learn-by-doing) we have designed into new semester curriculum, and fail to provide the standard of training that our students need to practice applications of soil technology for career pathways aligned with the lab experiences and co-curricular internships we seek to equip.

Impact(s) if this project is not funded:

The possible alternate solutions do not conform to current industry standards of high precision and accuracy needed for quantitative analysis of soil, nor do they meet our goals for strengthening outreach in highly competitive STEM disciplines. We have been unable to obtain the requested funding from other sources, so rejection of this grant proposal would foreseeably result in inadequate student access to soil technology at a time of growing needs on campus and the community served. A lack of investment in soil technology would undermine years of preparations for the semester transformation of the instructional curriculum. In the short-term, this will inhibit our ability to provide rigorous student training in quantitative field and lab methods for new courses scheduled to include soil characteristics, moreover to connect online teaching opportunities with the Palm Desert Campus. The CSUSB Water Resources Institute and Office of Community Engagement would risk less exposure of underrepresented students to soil technology in STEM outreach efforts. Rejection would also jeopardize unique opportunities for CSUSB students to benefit from co-curricular internships and community service partnerships with the IERCD that hinge upon on enhancing student access to soil technology. In the longer term, we would depend upon qualitative methods of instruction that lag behind industry standards, which would put CSUSB students at disadvantage upon graduation in marketplace competition with nearby Universities (e.g., UC Riverside, University of Redlands).

Cost: $$ (One time or recurring)

$61,151 one time from VETI + $15,000 one time matching funds from College of Social Behavioral Sciences, for total cost of $76,151

What are your intended Process Outcomes and/or Student Learning Outcomes?

Some examples of "process outcomes" resulting from access to soil technology include: Process Outcome 1. New offering of field activities and lab activities (on campus and 'virtual' online) that include use of soil technology. Process Outcome 2. Increased student enrollment in courses that provide access to soil technology. Process Outcome 3. Growth of interdisciplinary soil technology curriculum at CSUSB. Process Outcome 4. Increased STEM outreach for soil technology training at CSUSB. Process Outcome 5. Efficient workflow for shared use of soil technology. Process Outcome 6. Expanded use of soil technology for research by students and faculty. Process Outcome 7. Greater student satisfaction with access to industry standards of soil technology in environmental assessment and archaeology curriculum and STEM outreach. Some examples of "student learning outcomes" for the incorporation of soil technology in courses include: Student Learning Outcome 1. Understanding of how soil forms from parent material in relation to environmental and human influences. Student Learning Outcome 2. Successful application of soil technology for discipline specific applications of soil analyses.   Student Learning Outcome 3. Proficiency in skills required for soil identification using the USDA soil taxonomy.   Student Learning Outcome 4. Training to perform quantitative measurements on sample materials for laboratory diagnostic indicators and soil condition metrics.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

An assessment plan will track multiple key performance indicators for student learning and process outcomes including the following: Process Outcomes 1-4. Use of the soil technology will be tracked by number of students, classes, curriculum activities (on campus and 'virtual' online), and dates of use, as well as student co-curricular research activities. Process Outcome 5. Efficient workflow for shared use of soil technology will be implemented by an interdepartmental user-group committee of faculty to schedule use of the equipment and lab space, and monitor status of technology accessibility and serviceability. Process Outcome 6. Student and faculty use of soil technology for research will be profiled by survey of users, references to conferences, and publications supported by the project, including preparation of a portfolio of student projects and faculty research to highlight how soil technology was applied. This will also provide feedback and publicity materials for our efforts to recruit students and raise awareness of the SSI program. Process Outcome 7. Student satisfaction with access to industry standards of soil technology deployed for use in new semester course curriculum will be measured by survey of student opinions conducted in self-study oriented Senior Seminar courses where a portfolio of completed course work is reviewed in response to questionnaire, for example, GEOG 5000 Senior Seminar and ANTH 5000 Senior Seminar. Student learning outcomes 1-4 will be assessed by integration with new developed programmatic learning outcomes (PLOs) aligned to the courses served by the soil technology as articulated in the department assessment plans. We will also prepare new course rubrics for culminating exercises utilizing soil technology applied to experiential skills gained throughout the semester in new curriculum. These assessment plans will include preparation of a portfolio of lesson plans showing how soil technology was utilized for instruction, and where applicable, by comparison of student grades/quality of work on related course activities before and after introduction of the technology.

Project Timeline   **Start:**   6/15/2020 12:00:00AM   **End:**   6/30/2021 12:00:00AM   **First Quarter of Student Use**   Fall 2020 Semester

Statements of support by collaborating organization(s) or department(s) (if applicable)

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/182-e0ae6e6218a4d9dae09077c949749740_Goforth_letters_of_support.pdf

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/216-c0ab9fb306d3edd94286bf305960819f_Goforth_VETI_BUDGET_AY2020-21.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

98

Division	Student Affairs				6173956
	Campus Division Recreation and \	**Vilayat**	**Del Rossi**	Vilayat.DelRossi@csusb.edu	909-537-7142

Total Amount Requested for FY 2018 $20,514.00

Project Title: Expanding Recreation & Wellness Offerings through Smart Room Technology at Student Recreation & Wellness Center

Project Abstract:

We are requesting funding for the Student Recreation & Wellness Center (SRWC) for smart classroom equipment to support and broaden the programs and services that are currently provided by the department and future offerings. This proposed project directly supports the CSU's GI2025 initiative, specifically in the area of Student Engagement and Well-Being. It also meets several goals in ITS's Strategic Plan. The SRWC will be able to reach a greater number of participants, improve the quality of offerings and bring the SRWC to users in a virtual environment, which is more important now than ever. A few of the current co-curricular programs, courses and trainings that will be delivered in this alternative format would include, but are not limited to the Certified Personal Trainer Preparation Workshop Series (approved KIN493 internship course), CPR/First Aid/AED training, Lifeguarding Certification Course, Adventure Leadership Program, Professional Development Webinars, and multiple committees with Zoom capabilities. It will also broaden our personal training and group exercise offerings by allowing participants to conduct personal training or take a class virtually, via Zoom, record and develop library of exercise classes for on demand use, deploy vetted on-demand fitness apps for individual and group settings. The effectiveness of the technology would be evaluated in multiple ways including increased overall participation, new ways to measure student engagement, reducing barriers to exercise and increased number of students becoming certified and trained through the delivery method. Recreation & Wellness will be providing all the funding for training and implementation of hardware by team.

Challenge(s) this project will address:

The Recreation & Wellness Center opened in 2007 and since then there has been no technology upgrades to the facility, besides routine desktop computer replacement. This type of technology enhancement would bring the cocurricular classroom up to speed with what the rest of the university. It would provide deployment mechanisms for programs and services that would enhance the campus overall health & well-being for people using the facility as well as people not able to make it to the facility. For example, imagine a student being able to take a Yoga class from one of our instructors, via Zoom, from their home, office or even from PDC. The SRWC would tremendously benefit from the grant by improving the access to technology and bridging the technology inequity gap. This type of tool for our department has now become a necessity, so that we can engage our students in other types of delivery methods.

Alternate solution(s) should this project not be funded:

Currently the department does not have the funds to dedicate to these technology upgrades at this time. Unfortunately, other deferred maintenance and equipment replacement projects are higher on the risk management scale and need to be addressed first with a limited budget.

Impact(s) if this project is not funded:

The inequity in access to current campus technology for the Recreation & Wellness Department will continue to worsen. The technologies that CSUSB already uses in and out of the classroom for students will still be unavailable to the SRWC.

Cost: $$ (One time or recurring)
One Time

What are your intended Process Outcomes and/or Student Learning Outcomes?

Increased student access to co-curricular training's and courses that the department already offers, as well as other programs and services, which all have established learning outcomes and are considered high impact practices. Increased student access to personal training and group exercise instruction with virtual participation as well as on demand deployment within the facilities. Improved literacy and training of technology solutions for not just the end user, but for the over 130 part-time student employees that work for the department.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

The Recreation & Wellness Department would continue to use current assessment plans and KPI's that are utilized by the department. Each co-curricular training and course offered has a theoretical and practical application tool that is utilized to evaluate participants on their hard and soft skill sets. Daily tracking of program participation is kept and is evaluated each quarter to make adjustments based on the current student needs and availability of class offerings and would be extended to personal training services as well.

Project Timeline   **Start:** 7/1/2020 12:00:00AM   **End:** 8/14/2020 12:00:00AM   **First Quarter of Student Use**   Fall 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/111-c51b7dc74c533c7bb540ef81c9ecb66e_VETI-Budget_for_Smart_Classroom_in_SRWC.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID: **101**

| **Division** | Academic Affairs | John M. Pfau Library | 3470 |
| | Campus Division | **Barbara** **Quarton** | bquarton@csusb.edu (909) 537-7553 |

Total Amount Requested for FY 2018 $37,260.00

Project Title: Pfau Library Study Rooms Smart Screens

Project Abstract:

Instructional use of collaborative assignments is one of CSUSB's High-Impact Practices aimed at improving deep learning by promoting student engagement. Collaborative assignments typically break students up into small working groups and emphasize teamwork, problem solving and communication. While Pfau Library provides many heavily used group study rooms, we can greatly enhance these spaces to make them better able to support student collaborative work. We seek funding for the installation of 15 large smart screens in most of our group study rooms. We have identified smart screen technology called AirServer that allows students to share their work by casting the displays from their laptops or mobile devices to a large monitor, regardless of device platform. In this way, students can share ideas, documents and materials to facilitate collaborative writing, editing and peer learning. These screens are also useful for practicing group presentations, thereby helping to eliminate students' anxiety and build confidence in public speaking. Having enhanced study rooms will provide much better spaces for students to interact in person while sharing work, which benefits the development of their interpersonal skills and contributes to a more fulfilling learning experience.

Challenge(s) this project will address:

We request funding for the installation of 15 smart screens in most of the group study rooms located in Pfau Library.   CSUSB encourages faculty to employ High-Impact Practices (HIPs), active learning practices that promote deep learning by promoting student engagement. HIPs include such practices as first year seminars, learning communities, writing intensive courses, collaborative assignments, study abroad, community based learning, internships, capstone courses, and undergraduate research. One area where the library can offer support is collaborative assignments, which typically break students up into small working groups and emphasize teamwork, problem solving and communication. The Pfau Library currently has 21 study rooms available for students to use in small groups. Most rooms accommodate four persons, while some will fit 6, 8 or even 12 at a time. These rooms are equipped with tables and chairs, a whiteboard and electrical outlets. Data ports are also available in many of the rooms, but these are largely unused due to the availability of wireless Internet access. To meet increasing demand for group workspace, the library added eight more study rooms in the PL-5005 suite just prior to the fall quarter in 2019.   We want to install smart screens in our study rooms, enhancing them to better support student collaborative work. Academic libraries across the country have built collaborative study rooms with great success, providing students with convenient and comfortable spaces to gather and work together on projects such as writing assignments and oral presentations. Increasingly these spaces are equipped with smart screen technology that allows students to share their work by casting from their laptops or other mobile devices. Having the means to share ideas, documents and materials in a group setting facilitates collaborative writing, editing and peer learning. While many tools exist online to support both synchronous and asynchronous collaboration, having in-person, face-to-face interactions with peers remains a valuable learning experience. Students benefit from meeting in person to help develop their interpersonal skills and emotional intelligence. Another important benefit of an enhanced group study room is it offers an alternative for students who lack the means to afford reliable Internet access or computer technology at home, which would prevent them from fully participating in an online-only environment. Taken together with the Library's highly successful laptop lending program, these students can utilize technology without concern for added financial burden. The library's study rooms are very popular. According to data from our room reservation system, students booked our group study rooms 10,826 times over the last calendar year (2019) for an average of 902 bookings per month. We recently took an informal poll of students working in small groups in the study rooms. We asked them "if the library provided a large monitor on the wall that you could cast your laptops or other mobile devices to for working collaboratively, would that be useful?" The response was a unanimous and enthusiastic "Yes!" In fact, a few respondents also anticipated another use for the monitors by saying that they would also be very useful for practicing presentations.   We aim to install large 65-inch flat screen monitors coupled to AirServer boxes to transform the screens into universal mirroring receivers. A large screen allows for better lines of sight as well as enough "screen real estate" to split the display between multiple contributors. With AirServer enabled, users can use their own devices such as a Mac, PC, iPhone, iPad, Android, Nexus or Chromebook to wirelessly mirror their display on the big screen. As an alternative to wireless transmission, we will also install a convenient wall fixture to provide a hard-wired HDMI port so users can connect directly to the screen via cable. Our goal is to install this equipment in every study room that already has a data port so we can capitalize on the existing infrastructure. We expect to catch up on the remaining port-less rooms sometime in the future under a separate project.

Alternate solution(s) should this project not be funded:

The Library would have to seek supplemental funds to install such technology in a much smaller number of rooms.

Impact(s) if this project is not funded:

The Library does not currently have sufficient funding to cover the cost of this project, so if unfunded we would at best only be able to install smart screens in only a small handful of study rooms, if any. Dean Caballero has agreed to contribute up to $10,000 towards this effort if necessary, but full funding would be preferred.

What are your intended Process Outcomes and/or Student Learning Outcomes?

Process outcomes include increased use of the Library's group study rooms and increased student satisfaction with the study rooms. Student learning outcomes are more difficult to assess, but could include increased student engagement and improved interpersonal skills and confidence.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

Focusing on the more readily measurable process outcomes, key performance indicators can be derived from room booking data, presumably showing an uptick in room usage statistics in terms of frequency and duration of room reservations. Since we will also have several rooms that would not be outfitted with smart screens, that offers a possible control group against which we might compare usage. We can supplement the information we gather with a focused survey of students who use the rooms to gauge their satisfaction with the enhanced spaces.

Project Timeline   **Start:** 7/15/2020 12:00:00AM   **End:** 12/31/2020 12:00:00AM   **First Quarter of Student Use**   Fall 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/181-b70458d6ec98f5f11c6bfa68713d8fb9_VETI_Budget_Pfau_Study_Rooms.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

102

Division	Student Affairs				3366102
	Campus Division	**morg**	**walker**	mwalker@csusb.edu	(909) 537-5020
	Athletics				

Total Amount Requested for FY 2018 $70,000.00

Project Title: Coussoulis Arena Multipurpose Room Conversion

Project Abstract:

With the conversion of an underutilized multi-purpose room, on the main floor of Coussoulis Arena, to an academic space, the university lost a space for use for university programming (student events, graduation etc.) and events. As it currently stands, the university doesn't have a dedicated space, and has had to stage and coordinate in locations that were not conducive for organizing an event in the arena. This makes the operations of university sponsored events inefficient.   This room would will have several uses; it will be a /meeting/gathering/medical examination room. The Athletics Department will use it on a daily basis for many activities it currently cannot perform. This includes, team meetings, education training, video review, department-wide meetings, sports medicine examinations that are required to be done in private, and special events held in the Coussoulis, such NCAA and CCA volleyball and basketball tournaments. Specifically, the Athletics Department needs the room for private examinations for student-athlete physicals and injury diagnosis, as well as a learning space for athletic trainers, student assistants, interns, and kinesiology students.   Having a dedicated space for these events that is in vicinity of the event and arena would be very helpful for CSUSB in attracting events as we as attracting talent in support of the students' interests, student lifestyle and student retention.

Challenge(s) this project will address:

1. This space would provide a close, private meeting space for Coussoulis Arena. Currently, make-shift temporary space is designed to accommodate this need. 2. The space would provide a private space for physicians to conduct medical services for student-athletes. Currently there isn't a private space, and appointments are made physicians at their place of employment (which are usually in Fontana). 3. Staging area for faculty and staff for special university events (Graduation, Convocation, etc.). There currently isn't a staging area and faculty/staff stage in the hallways of Coussoulis Arena. 4. Staging area official and special guest for NCAA championship events in the sports of basketball and volleyball. Currently classrooms are converted when available. If a classroom cannot be found, Coussoulis Arena hallways become the staging/meeting area for official and official guest. 5. Classroom space for kinesiology students learning about athletic training. 6. Meeting space for sport team and department-wide meetings. There is not a space that currently exists for these meetings.

Alternate solution(s) should this project not be funded:

1. There is no alternative for many of the needs this space will resolve. Teams are forced to forego necessary video education without a space to conduct the meetings. Coaches of large teams are forced to conduct multiple team meetings when there are no spaces to hold the meetings at one time. Athletics department meetings are forced to be conducted in Jack Brown or Education Building. 2. Medical examinations are done offsite in Fontana because there is no space on campus for team doctors to conduct the examinations. 3. Without this project, CSUSB will continue to use currently available university spaces as staging areas for CSUSB events.   4. If spaces are not available, Coussoulis Arena hallways and will be used as a staging area. This type of arrangement make it difficult for an event to operate efficiently. 5. Kinesiology students would continue to crowd into the current athletic training room, where there is not enough space.

Impact(s) if this project is not funded:

 Our students will continue to not receive the necessary resources on campus that meets the standards set by our peer institutions in the CSU. This includes, no on campus medical examinations and no adequate meeting space in HPE. Coaches will continue to have to search for meeting space in the HP building and the Athletic Training Room would have to continue to schedule medical exams at the doctor's place of employment. Performers for student events will continue to lack a staging and meeting space for events held in Coussoulis Arena. Graduation set-up will continue to be a difficult operation, but will continue. In other words, the University, Athletics Department and Event scheduling would continue to operate with inadequate resources.

Cost: $$ (One time or recurring)

$70,000, One time.

What are your intended Process Outcomes and/or Student Learning Outcomes?

 Process Outcomes are as follow: 1.	Services to students will expand with a dedicated space that does not currently exist. 2.	Increased number of education sport team education sessions providing better learning outcomes for student-athletes, 3.	increased number of team meetings providing better and more efficient communication with student-athletes. 4.	Student-athletes will be provided on campus sports medicine examinations that are not currently being offered on campus 5.	Special Events will be able to more efficiently and better manage events with a dedicated space. 6.	Athletics will be more efficient with a large meeting space in HPE. 7.	Services to students will expand with a dedicated space that does not currently exist. 8.	Increased number of education sport team education sessions providing better learning outcomes for student-athletes, 9.	increased number of team meetings providing better and more efficient communication with student-athletes.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

Survey will be given to students who have used HPE before and after the completion of the multi-purpose room. Also surveys will be given to students, staff and guest who use the space to judge its efficiencies and accommodations.

Project Timeline   **Start:** 8/3/2020 12:00:00AM   **End:** 10/2/2020 12:00:00AM   **First Quarter of Student Use**   Fall 2020

Statements of support by collaborating organization(s) or department(s) (if applicable)

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/181-78beb3795d916bc68dbe3f5463cced51_recomendation-support_letter_Burroughs.pdf

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/220-db49223a7313642055541592905458ca8_MEMO_VETI_3.19_Stewart.pdf

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/216-8166b4b71a0c55cd7f907936a4eedf60_Copy_of_VETI_BUDGET_TEMPLATE.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

103

937754

Palm Desert Campus (PDC)   **Lacey**   **Kendall**   lacey@csusb.edu   (909)890-6960

Total Amount Requested for FY 2018 $21,534.00

Project Title:

PDC PAWS Radio and Media

Project Abstract:

This past year, PDC's campus radio station further evolved as the student-run radio station to include the campus's only multi-media learning center. Together; the radio studio, production booth, lab, and the "Media Office" have become the outlet where students can come to request training to broadcast, record, create journalistic programming, use Adobe Audition applications: Premier and Audition for multitrack mixing of audio and video. Due to the generous assistance of Vital Technology funding, it is additionally; the learning lab for digital field recording, digital photography, 360 video, and remote off-campus broadcasting. Currently the lab serves over 100 students from the Radio Practicum and Digital Production courses, internships, volunteers and student assistants. Students are learning to use these tools to integrate relevant media into their projects and academia. In this request, we seek funding for ancillary tools and services that supplement the offering of what we already have.

Challenge(s) this project will address:

The greatest daily challenges faced by the Paws Radio & Media Lab is transporting equipment, saving projects, and finding support for our software. • Our remote broadcast and amplification equipment is transported across campus in a short-cart, improperly small and without AC outlets, borrowed from the SB campus. • Our equipment is kept in cloth shopping bags with no padding to protect the technology. • Cameras and digital recorders cannot all be used at the same time because we do not have enough micro cards and SD cards to properly utilize all equipment. • We do not have resources to fund the annual technical support for the AudioVault broadcast programming software. • Our facility is not currently open on Monday or Friday, when our staff advisor is not on this campus. A trained student tech would allow us to make the lab available every weekday as is seriously needed, and they could assist during the summer when studio modifications, installs, and testing are conducted.

Alternate solution(s) should this project not be funded:

We will be seeking financial assistance from the Instructionally Related Activities Board funds later this year, and other outlets as they present themselves.

Impact(s) if this project is not funded:

Should we find ourselves not funded by VETI this year, we will continue to operate as we are, and seek whatever opportunities that might present themselves, such as; Instructionally Related Activities Grant funding, on-air messages that promote tax-deductible donations to our program from member of our community.

What are your intended Process Outcomes and/or Student Learning Outcomes?

The addition of these products and services will help us to transport and maintain the technology tools we already offer in a manner that is safe for the equipment. It will allow more students to utilize our equipment for training each day; meeting the demand level. It too; will allow us to offer services on two more weekdays and keep our broadcast software functioning more efficiently. Ultimately these outcomes will allow our Paws Radio and Media staff to maximize the student technology learning experience and their acumen of state-of-the-art technologies. We believe this is paramount to their success; not just as a student, but as a properly prepared member of our media-focused work environments after graduation.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

All students utilizing the facility will continue to be required to sign in and out, and check off services utilized. Going into 2021, we will additionally ask what type of project they were engaged in while in the lab. This will allow us to gather and analyze the impact and influence on students, as well as to collect data on facility usage, project and class needs.

Project Timeline   **Start:** 7/1/2020 12:00:00AM   **End:** 7/1/2021 12:00:00AM   **First Quarter of Student Use**   Summer 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/195-f819576b43f061ebcbbf0e7fb7e815c1_VETI_BUDGET_PAWS_RADIO.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

108

Division					
	Information Technology Services				38401
	Campus Division	**Gerardo**	**Garcia-Sotelo**	gsotelo@csusb.edu	909-537-7729

Total Amount Requested for FY 2018 $110,000.00

Project Title: Get Coussoulis Arena Connected --Wi-Fi Infrastructure Expansion

Project Abstract:

The ITS division is requesting funding to expand the campus wireless network infrastructure to the Coussoulis Arena athletic venue. If the proposal is awarded, the student body, faculty, staff and the community members attending events will benefit from this infrastructure in the following ways: â€¢   Will allow them to connect to the Wi-Fi service during sport events, commencement ceremonies and concerts hosted at this venue. â€¢   Will enjoy a more robust game experience and engagement, as they could follow live stats, social media and post updates using the Athletics' engagement tool. â€¢   Will provide the capacity to communicate and stream in real time while attending on campus events satisfying the student and general public expectations. Wi-Fi is an amenity that our customers expect to have anywhere they go. â€¢   Will allow physical education (PE) professors and coaches to access online resources to enhance the student athletes experience as this venue is also used as a classroom. â€¢   Will allow vendors to offer amenities or products to the event attendees. â€¢   Will increase community engagement by expanding the reach of the CSUSB brand and identity to larger audiences.This benefit directly aligns with our University Strategic-Plan 2015-2020 Goal#4-"Community Engagement and Partnerships" and Goal#5-"Identity"(https://www.csusb.edu/strategic-plan) The benefits of expanding the Wi Fi infrastructure to the Coussoulis Arena are multifaceted. They range from providing quality, high-speed wireless connectivity that translates into a better fan experience to more quantifiable advantages like highly effective advertising and identify new avenues for growth such as mobile points of sale.

Challenge(s) this project will address:

Currently our University does not have the Wi-Fi infrastructure in place to provide wireless service to students and general public attending games or events such as commencement ceremonies and concerts to mention some. Families that are not able to attend a commencement ceremony or they are physically apart will be able to enjoy those special moments with their graduates.

Alternate solution(s) should this project not be funded:

We do not have an alternate plan to address the campus and student needs other than to rely on cell phone carrierâ€™s service to be connected. If this project is not funded, we will continue to look for ways to fund this project to expand the network infrastructure to better serve our student body and support their academic success.

Impact(s) if this project is not funded:

 If this project is not funded, the campus wireless network will not be available for the student body /attendees at any athletic events or commencement ceremonies hosted at the Coussoulis Arena. Students and community members will have to continue to rely on cellphone coverage to be connected, which is not always the best.

Cost: $$ (One time or recurring)

The expected cost of this project is $110,547.00, which includes a $20,000 contingency fund. Due to the size and complexity of this project, a contingency fund was allocated. If the contingency fund is not used, it will be returned in full. There are no r

What are your intended Process Outcomes and/or Student Learning Outcomes?

â€¢ Students and members of the community in attendance to the Arena events will enjoy a more robust game experience and engagement, as they will be able to follow live stats, access social media and post their own updates using the Athletics' electronic engagement tool. â€¢   Fulfill the student's expectation to have the ability to communicate and stream in real time when attending on campus sport events or commencement ceremonies, which consequently will increase student satisfaction with the campus network services. â€¢   Increased attendance to the University athletic events by allowing students to connect to the university wireless infrastructure. â€¢   Allow the athletic department to expand the reach of CSUSB brand and awareness to larger audiences through athletic and campus events. â€¢   Create an atmosphere of unity, energy, and collaboration among the students because of having the ability to stream video and social media.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

This project has many moving parts, and it is critical to measure the timeliness, budget, quality, and effectiveness of the project along the way.   Timeliness: By ensuring that the project is completed on time. If the project seems to fail to complete on a certain date, tracking is still needed in order to anticipate such occurrence and find a way to turn it around. Budget: Accurately measuring the budget and closely tracking the quotes and cost estimates that were obtained when putting this proposal together. By following this, I will be in a position to stay on target or address anomalies well ahead of over-spending. The scope of work will be monitored to ensure scope creep does not occur.   Quality: The quality of this project will be evaluated by having the appropriate campus subject matter experts inspect the completed work and create punch lists if necessary to prevent or correct any nonstandard work.   Effectiveness: The effectiveness of this project will be measured by following the "iron triangle" which includes scope, schedule, and budget. ITS will ensure that this project is completed in a timely and effective manner, completing the scope of work following CSUSB quality standards and stipulated budget. Once this project is completed, ITS will maintain and monitor this infrastructure. Infrastructure monitoring covers adding and removing devices, performance and health monitoring, network and data traffic monitoring, reporting/logs, and an alert system should an issue arise.

Project Timeline   **Start:** 9/7/2020 12:00:00AM   **End:** 2/26/2021 12:00:00AM   **First Quarter of Student Use**   Spring 2021

Statements of support by collaborating organization(s) or department(s) (if applicable)

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/80-85568f36a65234031e3fb4b574d925bf_VETI_2020-2021_Statement_of_support_--Athletics.docx

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/250-86c9824b2e749795d15170c4d1b8a273_VETI_BUDGET_TEMPLATE-Arena-Wi-Fi-Final.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

111

| **Division** | Academic Affairs | College of Arts and Letters | 4062057 |
| | Campus Division | **Daiana** **Rodriguez** | daiana.rodriguez@csusb.edu 909-537-3858 |

Total Amount Requested for FY 2018 $66,845.00

Project Title: PALS Studio, Innovation Lab, and Student Lounge

Project Abstract:

In support of GI 2025, we aim to create new opportunities for students to approach academic preparation and expanding financial support opportunities while supporting student engagement and well-being. The PALS Studio, Innovation Lab, and Student Lounge provides a dedicated intellectual space for all CSUSB students seeking to develop their technological literacy and collaborative learning practices. In order to increase student exposure to and implementation of technology that promotes such learning practices we require ample hardware to expand the offerings of our space. We also want to offer professional development opportunities for our CSUSB students to mentor their peers through the familiarization of new modalities and monitor the use and proper maintenance of the technological implementations. While part of our vision is a working space where students can gather to share their accumulated knowledge, we also want to provide faculty the increased opportunity to bring technology into their classrooms. The availability of a laptop cart would allow for an increased number of courses to offer dedicated time for students to access resources, platforms, and research databases that are housed online.

Challenge(s) this project will address:

1. Increased access to technology and increase practice of software implementation for the general student body. (GI 2025 â€" Financial Support Initiative: â€œInvesting in the expansion of financial support structures beyond traditional financial aid to ensure economic status does not stall studentsâ€™ success.â€ calstate.edu) 2. Increase access to technology in the classroom for the general student body taking classes in the College of Education building. (GI 2025 â€" Academic Preparation Initiative: â€œCreating a new approach to academic preparation through a series of academic and student support programs.â€ calstate.edu) 3. Increase capacity for faculty to offer online resources and access to technology in the classroom. (GI 2025 â€" Academic Preparation Initiative: â€œCreating a new approach to academic preparation through a series of academic and student support programs.â€ calstate.edu) 4. Provide professional development opportunities through on-campus employment to at least two students literate in operating technology. (GI 2025 â€" Financial Support Initiative: â€œInvesting in the expansion of financial support structures beyond traditional financial aid to ensure economic status does not stall studentsâ€™ success.â€ calstate.edu; GI 2025 â€" Student Engagement & Well Being Initiative: â€œSupport for CSU Campuses in the development of wrap-around services to address studentsâ€™ comprehensive care needs.â€ calstate.edu)

Alternate solution(s) should this project not be funded:

The Liberal Studies Program will continue to offer student workshops that are aimed to develop technological literacy and collaborative learning practices. We will also provide professional opportunities through the partnerships we have established with trusted community partners off-campus as they come up. Continued efforts to fund the necessary technological updates will continue, but will delay access to the technology by at least 3-5 years.

Impact(s) if this project is not funded:

1. The collaborative space will be limited to analog-based forms of interaction and knowledge development. Studentsâ€™ technology literacy will remain stagnant and the availability of a safe, low-risk environment in which they can continuously develop such skills before graduating into a professional atmosphere will be lost.   2. Stagnant access to technology in the classroom for the general student body taking classes in the College of Education building.   3. Stretched demand for computer labs or continued lack of whole class accommodations in the College od Education building.   4. Limited accessibility to developing technology for students without the financial means to supply their own tech.   5. Decreased professional development opportunities through on-campus employment.

Cost: $$ (One time or recurring)

Hardware: $41,645 SA I Personnel: $25,200 ($2100 per month)   TOTAL: $66,845 (All one-time only)

What are your intended Process Outcomes and/or Student Learning Outcomes?

Outcome 1. As future educators, advocates, and community leaders CSUSB students must have a safe space to practice their understanding of developing technologies. Our aim is to increase student exposure to virtual spaces under the guidance of a peer mentor with high technology literacy. We hope that this will extend the impact of our student's community outreach and professional development practices.   Outcome 2. Increase opportunity for faculty who teach in the COE building to bring technology into their classrooms. Currently, 12 of 42 teaching spaces (29%) in the building can reserve a computer room for the entire classroom. A rechargeable laptop cart with a minimum of 30 laptops covers 32 of 42 teaching spaces (76%), increasing access to online research platforms and virtual resources. Outcome 3. Two screens (already funded by CAL) will function to create adaptable study spaces, virtual learning environments, and collaborative presentation practices by extending telecommunication, wireless live screening, and presentation venues. In order to make these fully functional we require wireless adapters compatible with multiple platforms. We also want to provide students access to technology they can reserve.   Outcome 4. Increase professional development opportunities for CSUSB students to mentor their peers through the familiarization of vital technology and monitor use and proper maintenance of technological implementations. They will assist with skill development through one-on-one sessions and develop larger specialized workshops to develop skills and knowledge. We requested 40 weekly hours of SA work to offer 2-3 employment opportunities to our CSUSB students (range based on availability).

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

Measure 1   a. We will track student use through our login system which monitors individual visits, repeat visits, use by major, and specific resource access.   b. Virtual surveys will be sent out to students every quarter to track student satisfaction and skill implementation. A raffle incentive will be included to encourage participation. Measure 2   a. Instructor reservations will be tracked through the reservation calendar which will request course number and department association.   b. We will also request that a brief survey be completed by the faculty to track student use by majors and on-the-day attendance. Measure 3   a. We will track student use through our login system which monitors individual visits, repeat visits, use by major, and specific resource access.   b. Virtual surveys will be sent out to students every quarter to track student satisfaction and skill implementation. A raffle incentive will be included to encourage participation. Measure 4   a. The student assistants will serve as mentors for the space and they will log their activities through our appointment system which tracks individual visits, repeat visits, use by major, resource access, and mentoring topics covered by visit.   b. Virtual surveys will be sent out to students every quarter to track student satisfaction and skill implementation. A raffle incentive will be included to encourage participation.   c. An anonymous feedback questionnaire will be physically and digitally implemented to receive feedback on mentoring services in the space.

| **Project Timeline** | **Start:** | 8/17/2020 12:00:00AM | **End:** | 8/13/2080 12:00:00AM | **First Quarter of Student Use** | Fall 2020 |

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/47-892b8150fa4bc3c38f61f0c200f0ec24_AY20%3A21_VETI_PROPOSAL_LIBERAL_STUDIES.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:
112

Division	Academic Affairs	College of Natural Sciences		6495069
	Campus Division	**Lisa**	**Guzman**	Lisa.Guzman@csusb.edu	(909) 537-4560

Total Amount Requested for FY 2018 $46,800.00

Project Title: Establishing a Flexible Computer Lab: Group and One-on-One Academic and Career Advising for the College of Natural Sciences

Project Abstract:

Use of a portable, flexible computer lab for academic and career advising will support over 6,000 students in the College of Natural Sciences. The purpose of the 30 laptops and charging, storage cabinet is to provide enhanced group workshops and one-on-one advising sessions. Hands on experience will help educate students on how to navigate career exploration online tools, as well as develop and maintain academic plans utilizing myCAP. Students will be empowered with a working knowledge alongside professional and faculty advisors to revise academic plans, prepare for course registration, and work toward a timely graduation.

Challenge(s) this project will address:

The College of Natural Sciences has nine very diverse departments: Biological Sciences, Chemistry & Biochemistry, Computer Science & Engineering, Geological Sciences, Health & Human Ecology, Kinesiology, Mathematics, Nursing, and Physics. Students in the College aspire to become health professionals, engineers, scientists, researchers, teachers, and public health community partners. Each term, professional and faculty advisors meet with students to provide a wide range of academic and career support leveraging the resources that currently exist. However, with such a large number of students needing and requesting support, it is imperative that more opportunities are in place to meet with students that wish to do so. With this intent, the College has provided the advising center a space to meet a larger volume of students seeking academic and career advising. This additional, group advising room will be available for advising and meetings with students throughout the academic year. Multi-purpose furniture is available so that the room can be arranged into different shapes and structures as needed. Further, an additional set-up allows for groups to meet with guest speakers virtually, as the room is outfitted with videoconferencing capabilities. Individual laptops will enhance the experience of students by allowing them to work on their own term-to-term academic plans while in designated group advising sessions for students of any major. By providing this hands-on feature to academic advising, students are better equipped to work independently in the future. Empowering students to utilize the platform and tools available will prepare them to take ownership of their future and increase their self-efficacy. Further, meeting more students for group advising sessions will free time for professional and faculty advisors to meet additional students within the College for one-on-one advising sessions. With multiple means of supporting students for academic and career advice, a variety of opportunities are available for students to take ownership of their academic and professional journey.

Alternate solution(s) should this project not be funded:

Without laptops for students to gain hands-on experience, advisors will continue to meet with students. However, fewer students will be seen throughout the academic year for both academic planning and career exploration. The College may provide a limited number of laptops for advising use.

Impact(s) if this project is not funded:

If this project is not funded, advisors will be limited in the number of students they are able to support throughout the academic year. Further, students will not have enhanced opportunities to fully participate in the development of their academic plans and career exploration advising sessions. With funding, more students will be able to schedule advising appointments and receive hands-on experience learning the advising tools that will help them efficiently register for courses in order to meet a timely graduation.

Cost: $$ (One time or recurring)

One-time funding of $46,800 is requested. This will include thirty laptops ($1500/each) and one charging, storage cart ($1800).

What are your intended Process Outcomes and/or Student Learning Outcomes?

Process Outcomes: By introducing group advising sessions, more students will be reached and able to be seen. Conducting more group advising sessions for students will allow for students that require additional support to see advisors for one-on-one advising appointments. Students will see an improvement in the length of time they wait to be seen for an appointment. With an improved understanding of how to navigate advising, registration, and career exploration tools, student satisfaction should also improve. Student Learning Outcomes: Students will learn how to navigate tools that are made available by the university and used by advisors to help students during the advising process. Under the direction of professional or faculty advisors, hands-on experience will help students develop academic plans using myCAP and register for classes each term.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

Process Outcomes 1. Advising staff will measure frequency of use by tracking the number of workshops held each term and attendance will be kept. Further, the number of one-on-one appointments will be monitored. 2. Advising staff will collect appointment scheduling data. 3. Advising will measure student satisfaction with advising services. Student Learning Outcomes 1. Pre- and Post-tests will be given to students who take part in group advising sessions to determine if they have an improved understanding of academic advising and career exploration tools.

Project Timeline   **Start:** 8/3/2020 12:00:00AM   **End:** 8/3/2025 12:00:00AM   **First Quarter of Student Use**   Fall 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/127-7e476895f75c10527f3830a7351755ff_VETI_2020_Budget.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

113

Division	Academic Affairs	Jack H. Brown College of Business and Public Administration	6488816
	Campus Division	**Jesus** **Canelon** jesus.canelon@csusb.edu 909-719-2274	

Total Amount Requested for FY 2018 $50,000.00

Project Title: CPEER II - Cyberlab Project for Enhanced Education and Research

Project Abstract:

With the unexpected advent of the Coronavirus, the ability to do hands-on lab exercises remotely is now essential. Cyberlab is a remotely accessible environment that gives students 24/7 access to virtual machines. Professors can create custom environments tailored to the needs of the students. Cyberlab allows access to software only available on campus. Students can access an essential learning environment without having to be on campus.   With Cyberlab, when students work on lab assignments, students' machines can be seen and operated by worked on by professors and teaching assistants. Students can pause their machine and come back to it later without the worry of losing their work. Cyberlab makes it possible for students and faculty to conduct research and gather data. Multiple computers machines that would usually take up large spaces in a room can now be done remotely, and the data easily accessed and analyzed.   This project requests funding to bolster the capacity of the Cyberlab to allow for a higher number of classes and students to use the platform on both the main and the Palm Desert campus. This lab environment currently provides the equivalent of 250 Windows 10 machines. If awarded this grant, it would more than triple the number we can host and allow for more robust machines with less lag and high performance. It would significantly improve the student experience on the platform as well as serve as a backup platform for the rest of the campus (as it already is) in times of need.

Challenge(s) this project will address:
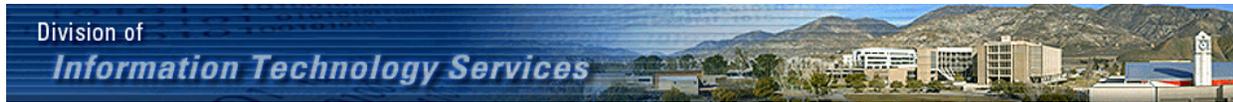
First and foremost, this project will be essential in supporting classes that require the use of software that is unavailable or impractical for students to have on their computers. It will also make much of the software that normally is only accessed in the lab rooms, available online so that students can do coursework, study, and research without the risk present in commuting to work in labs on campus.   Classes that benefited already from the use of Cyberlab over the past several years are: 215 â€" Cybersecurity 475 â€" Advanced Networking 490 â€" Information Systems Planning and Policy 511 â€" Cyber-defense and Ethical Hacking 525 â€" Computer Forensics 590 â€" Special Topics â€" Competition Preparation   Note the courses and activities Cyberlab can support is not limited to the above list. It is just a list of the courses that have been supported thus far. Any course, club, or student activity that requires computers and specialized software can make use of the Cyberlab platform.   It has also been used by the Cyber Intelligence Security Organization (formerly the Infosec Club). The organization has over 170 paid members. The members of the club use cyber lab for projects, research, peer tutoring, and competitions. Last year the club placed first in the ITC forensics competition, in part due to the availability and use of Cyberlab. The team is again competing this year and using the platform to great advantage.   Cyberlab has been used during the Gencyber Girlscout camp, where over 200 girls, mostly from Title I schools, attend. The platform was used to teach several of the classes the girls had to go through during the camp and to enhance their learning. Support for the Graduation Initiatives of 2025 in Several Ways   1. Support for Online Classes Classes are increasingly being taught online. Classes that require a hands-on component are at a significant disadvantage. The way that some software is licensed makes it expensive and/or impractical for the software to be installed on a student's machine. If the software is installed on virtual machines in Cyberlab, students can now access the resource from home.   Thus, Cyberlab can be used to support online courses that require hands-on element, making more classes able to be taught online.   2. Enhanced Instructional Technology Resource for Students and Faculty The Cyberlab enhances the faculty's ability to work with students doing lab work. Faculty can have instant access to all student lab machines while the work to assisting or correcting the student as needed. Students can easily work in teams. The labs' machines have a saved state capability, much like video games. You can work on a lab and save the "game" and come back to it later. Or use the saved state before trying something that may ruin the work done to that point.   3. Improved Learning Outcomes (Closing Achievement Gap) The more time students have access to technology, the higher the chance of retention and mastery. Student time on task will be increase with the increased access. Since students can access CPEER 24/7 from anywhere, if they have a computer, a browser, and an internet connection, they can work on labs, assignments, and research at any time and for long periods of time.   4. Enhancing Student Access Across Institution Currently, Cyberlab is used by classes in the College of Business and Public Administration (CBPA), and programs such as National Security Studies, Criminal Justice, Computer Science, and Engineering. Cyberlab can be made available to any college or program that will find the platform useful to the capacity available. The increase in capacity provided by the equipment listed in this proposal will triple the current capacity.   5. Bottleneck Classes To reduce the load on bottleneck classes, multiple sections need to be run each quarter. If the course has a hands-on component, there may not be room on campus to have the class. It also makes it difficult or impossible to do it online. CPEER can help reduce bottleneck classes by making more courses available online. Cyberlab will be an instrumental piece on getting students through their last quarter (before semesters). To get as many people to complete their quarter requirements for graduation, more classes are being offered. All of those classes will be online, and some of those classes will need to use the Cyberlab. 6. PDC Access Students and faculty will have equal access to the platform at the Palm Desert Campus. This will help students and faculty have access to software and networks that they would otherwise not have. It will also allow students to do research and study, otherwise difficult to experience.   7. Reduced Cost to Students - Lab Fees There will be a reduced cost to the students. Access to CPEER will be free, and students can avoid the cost of paying for publisher labs (for example, in a computer forensics course, just the publisher's lab cost is $120). Publisher's labs are virtual environments where students complete course assignments. For the forensics class alone, this is a total saving to students of $3600 per class. In a single year, 3 to 5 sections of the class are offered for a total of up to $18,000/year. Other classes may have similar savings as well. Lab environments used in   8. Reduced Stress on Commuting and Working Students Students that have to work on projects on computers tied to a lab room currently must commute to get to the campus lab and do the assignments when not in class. For the student that has work or family obligations, coming into campus to do their work can be challenging. This will allow students to do their assignments without having to leave work or get a babysitter. Cyberlab will reduce the need to commute to work in a lab.   9. Student Research Cyberlab can be a platform for conducting research. Teams of students can work on the same machine with a professor or graduate student assistant even if members of the team are in different locations. It would also make it easier to collaborate with other institutions by granting access to machines.   10. Valuable for Student with Special Needs The interface for working with Cyberlab is Web-based and is special needs friendly. Most access utilities for the web will work with Cyberlab - for the visually impaired, the magnifier can be used. For mobility-challenged students, labs can be done from home or even from a wheelchair and a laptop, and it does not require the student to go to a particular lab on campus.   11. Enhanced Training for Student Use of Technology Cyberlab is based on the use of virtual machines. It is essentially one use of "the cloud." Many technologies of today and the future will be cloud-based. All students working on Cyberlab, regardless of the type of lab they are working on, will be simultaneously getting hands-on experience with using the cloud to perform tasks. Training for faculty and students will also be provided by a student worker for new faculty and classes when requested.   12. Return on Investment Cyberlab on average, can support about 11 classes of 25 students per quarter, which is 275 students per quarter or 1100 students per year. We can reasonably expect the hardware to last about five years, brining the number of students potentially impacted to 5500. Should we get the requested funds for this project, the result would be a tripling of our current capacity. We would be able to accommodate as much as between 750 and 1000 virtual machines. This would easily support, conservatively, 30 classes of 25 students each concurrently. This has the potential to impact thousands of students per year. The expected life expectancy of the equipment is about five years. Easily over 10,000 students will have been served by the platform. Again, these numbers are conservative, and we expect it is much larger.   As mentioned earlier, lab environments that students would have to pay for in forensics can cost as much at $120 per student. If there are five classes of 30 students using Cyberlab instead of the publisher provided labs, the cost savings a year to students is about $18,000. Similar can be done for other classes that may require lab resources and have a similar return. The money saved by the students will far exceed what is being spent for the upgrade over the next few years. Also, because this is "our" lab and not the publishers, students can have access to the environments even after the course is over at no extra cost.   Lastly, this platform serves as a backup for other courses and can serve as a kind of "hot site" for supporting classes, clubs, activities, and other functions as needed. As is currently the case, Cyberlab is being used to assist and enhance the campus need to provide virtual resources campus-wide. Hopefully, by fall, all classes will go back to normal. However, should a new pandemic happen again in the future, investment in Cyberlab will pay dividends when it needs to be called into service to assist the greater campus needs.   13. Ability to Implement Cyberlab has been running for the last three years with great success. The interface and connectivity have worked well and have been used in many classes successfully. The equipment requested will scale the current infrastructure. We have both the technical ability for the upgrade and the staffing for seven days a week technical support. Experienced, technically proficient student workers are provided by the Cybersecurity Center and the NICE Challenge Project to maintain Cyberlab and provide world-class support.   14. Community Outreach Cyberlab can be used to work with community colleges and high schools. For example, one way Cyberlab has been used is in support of the Cyber Patriot programs. Cyber Patriot is a national competition where students must compete in hardening and enhancing computer security. High schools often lack the infrastructure to adequately prepare for the competition putting students in our region at a disadvantage. CPEER could be used by a small team preparing for the competition and pairing them up with experienced university students to act as coaches.   Cyberlab has also been used to support the annual GenCyber program, where CSUSB hosts 200 Girl Scouts, many from Title I schools. The program helps young women become familiar with and interested in cybersecurity as a potential future study and career option. Cyberlab provided computing resources for teaching forensics, database, and cyber patriot during the Gencyber camp.

Alternate solution(s) should this project not be funded:

We will continue to seek out recycled hardware and donations where and when possible to develop and enhance CPEER.

Impact(s) if this project is not funded:

The impact is on potential. Student success is often tied to the amount of hands-on training they get. Giving students 24/7 access to machines that they can practice will help them be more competitive in the workforce.   The potential for more research opportunities will be lost.   Lab fees may continue to rise for some classes.

What are your intended Process Outcomes and/or Student Learning Outcomes?

The Expected Process Outcomes are: 1.   Increased student satisfaction 2.   Increased number of students getting hands-on experience/lab experience   Student learning outcomes 3.   Increased knowledge, skills, and abilities acquired by students   4.   New research projects engaged in by students and faculty

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

When resources are requested for the lab, a survey will be given that collects data on the number of students using the CPEER (process outcomes 1 and 2), and if the use is for research and what kind of research (learning outcome 4).   For all classes, students, and faculty using CPEER, a survey will be requested at the end of each quarter. The survey will ask questions related to student satisfaction (process outcome 1) and what types of KSAs (Knowledge, Skills, and Abilities) are the students engaged in (learning outcome 3).   A report with the results of both surveys will be completed each quarter.

Project Timeline   **Start:** 7/1/2020 12:00:00AM   **End:**   6/30/2021 12:00:00AM   **First Quarter of Student Use**   Fall 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/114-04816fe2016722d9b14bf1b4a24e4424_VETI_BUDGET.xls

Division	Academic Affairs	College of Social Behavioral Sciences		5427067
	Campus Division	**Kate**	**Liszka**	kate.liszka@csusb.edu	909-537-5437

Total Amount Requested for FY 2018 $8,778.00

Project Title: Teaching About Distant or Lost Places with Immersive Virtual Reality

Project Abstract:

Using Virtual Reality Technology, History and Archaeology can be brought to life for nearly 300 students a year in General Education and Upper Division classes at both the San Bernardino and Palm Desert campuses. Traditionally, these classes are taught with books, maps, drawings, and Powerpoint, i.e. two-dimensional media that are abstract representations of places and things from history. Now with the growth of Virtual Reality, more and more VR models of museums, archaeological sites, and other historical places are readily available. With the help of ATI, Kate Liszka is also building a VR model of her archaeological site of Wadi el-Hudi in Egypt. Even though more VR models of history and archaeology are becoming available month by month, without the proper equipment being easily available, it is difficult to include these VR models routinely in the classroom. This cost-effective proposal would like to purchase a portable VR system and six headsets and cables so that students can truly be immersed in their learning in any classroom setup at CSUSB. Using this technology, we can engage with the places of history on the human scale that they were first created for. It would affect students in a way similar to a study-abroad experience, but in using technology, it would be more readily available and able to take student to more places. Students will gain a much more intimate and awe-inspired appreciation for historical places, akin to being there in person, but possible to all students in a classroom.

Challenge(s) this project will address:

The unrequited dream of any history or archaeology teacher would probably be to take his or her class in a time machine directly to a specific place and time so that students can experience it for themselves. But this kind of hands-on experience with the past is sadly outside of the realm of possibility. Those teachers can only communicate their complicated subjects abstractly. In teaching classes about archaeology, the hardest part is to help students understand the physical structure of what they are looking at. Most archaeological data consist of maps, photos, drawings, paper or scanned 2D representations. But these flat representations are of real 3D structures that have spatial relationships which are essential to understanding them. Until now, teachers have had to rely on the imagination of their students without having much chance to correct them on missteps in understanding. Using Virtual Reality of archaeological sites in a classroom could significantly enhance and speed up students' understanding so that more class and home time can be spent focused on critically analyzing it. Virtual Reality is the way of the future for archaeology, history and other subjects. Numerous 3D models of historical places already exist or are being developed. More models are being created regularly by archaeologists or even tourists travelling to ancient places around the world. And more are being created regularly. Teaching with VR is the way of the future, not just at the university, but also at elementary, middle and high schools. Lesson Plans are being created for teachers to bring VR into their younger classrooms (https://www.classvr.com/lesson-plans-visit-ancient-egypt-with-vr/). Using this technology now will allow nearly 200 of the History majors who are working on a Teaching Credential to be comfortable with using VR in their future classrooms. Additionally, dozens of Public History majors will be better trained for the growing market of Virtual Reality in all history. This grant will set our students apart from the crowd and add to CSUSB's mission of being a leader in Teaching with Immersive technology (https://www.csusb.edu/academic-technology-innovation/innovation/immersive-learning-technologies). I am personally vested in creating three dimensional archaeological models for use in any classroom, at both the San Bernardino and Palm Desert campuses. I direct an archaeological expedition to Egypt at a set of remote archaeological sites in Wadi el-Hudi. At the moment, I have been working with ATI and several other CSUSB staff and students here to turn the raw data from this project into a Virtual Experience. The models are underway and will be completed in the coming months. I want to integrate my teaching and research by using this model in classrooms.   This application to the VETI is to purchase a portable Virtual Reality (VR) laptop and 6 VR glasses and cords so that small groups of students (1/4 of an upper division class) can interact in a model at the same time. Universities around the country are building expensive VR-capable classrooms to tap into this emerging format for education. As of Sept 2019, CSUSB has built one Virtual Reality enabled classroom. In the near future, its use will be in high demand from several different departments. This VETI application is addressing the need to incorporate Virtual Reality into more classrooms to impact more students in a cheaper and more portable way. This is a highly cost-effective grant to expand 3D immersive technology on campus. This technology will affect the education of nearly 300 students in both upper and lower division classes at both the San Bernardino campus and the Palm Desert Campus. With this technology we could more successfully "flip the classroom" and bring in high impact practices. This helps professionalize and internationalize students at a much more effective pace.

Alternate solution(s) should this project not be funded:

We do not have a plan if this is not funded, although we will continue to look for funding elsewhere or use Professional Development funds for the next 4 years to cobble together the equipment. To the best of our knowledge, no other office on campus has a portable VR system. In order to use VR in the classroom, especially at Palm Desert, we need to bring it there.

Impact(s) if this project is not funded:

 We will continue to teach with antiquated books, maps, and drawings. We will not be able reallocate classroom time for analysis because the time will continue to be used to understand the three-dimensional space. We will not be able to support CSUSB's goal of being a leader in Virtual Reality. We will not be preparing future History teachers for a Virtual Reality classroom. We would try to book one or two sessions a term in the Main Campus' VR classroom, but that would be an activity for one or two days over course of the term, not enough to make a difference in student education.

Cost: $$ (One time or recurring)

One-time cost of $8778. This cost includes one Virtual Reality Capable laptop, a Dell Alienware Area-51m Laptop. See full specs in the attached documents. The Virtual Reality laptop is necessary to be portable in order to bring the system to students.

What are your intended Process Outcomes and/or Student Learning Outcomes?

By using Virtual Reality in the classroom, students will quickly be able to understand three-dimensional monuments at a human scale which will   1.   improve student engagement and transform a traditional class into active learning and participative discussions, 2.   allow the teacher to reallocate class time for critical thinking and analysis, thereby facilitating an interactive "flipped classroom," 3.   allow the students to conduct a deeper analysis because of a faster comprehension of the 3D space, 4.   increase student critical technological literacies to prepare History and Anthropology students for using VR in their future classrooms, 5.   increase student Integrative Learning by incorporating innovative technology and learning experiences into the disciplines of History and Anthropology, 6.   increase collaboration between students as they discuss the archaeology as a group from within the model, 7.   facilitate CSUSB students to use cutting edge technology making their professional degrees more valuable, 8.   increase student internationalization by taking them virtually to places around the world, and 9.   prepare Study Abroad students for their international experiences. Altogether, this will produce more engaged students who write and create better work, have higher grades, and are excited by education.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

We are defining success by more students engaged in the material, thinking more critically about the past, and producing higher quality work.   We are measuring this success by 1)   Counting the number of students who use VR in the classroom and the number of hours that they work with the models, 2)   Measuring student engagement with class surveys, 3)   Measuring the number of students who choose to research and write about learning modules that included a VR model as opposed to students who choose to write about modules that just use traditional 2D materials, 4)   Calculating if student grades increase because they are more engaged their research and producing better quality research, 5)   Calculating how many revised research projects using VR are submitted to the History Departmentâ€™s journal, History in the Making, and CSUSBâ€™s Meeting of the Minds, and comparing that number to how many other traditional Upper Division courses produce.

Project Timeline   **Start:**   7/1/2020 12:00:00AM   **End:**   6/30/2021 12:00:00AM   **First Quarter of Student Use**   Spring 2021

Statements of support by collaborating organization(s) or department(s) (if applicable)

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/233-62a16b2e9d6e0d7ed11233ac61c2dc4a_Five_Dean_and_Faculty_Letters_of_Support.pdf

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/114-017eea94eca3de62c73930f2a0681271_Five_Student_Letters_of_Support.pdf

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/40-031036bf2185e891d39b45cc50ac1a92_VETI_BUDGET_TEMPLATE_Liszka.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

117

Division	Academic Affairs	Graduate Studies	88529
	Campus Division	**Caroline**	**Vickers**	cvickers@csusb.edu	909-537-4338

Total Amount Requested for FY 2018　　$28,813.24

Project Title:　　Mobile Mac Lab for Professional Resource and Engagement Programs (PREP)

Project Abstract:

Mission: The mission of PREP is to provide a resource and system of support for the academic, professional, and personal development of prospective and current CSUSB graduate students as well as CSUSB graduate alumni through the implementation of workshops, learning communities, and e-portfolios. Objective: The Graduate Resource Center in CE 356A and the Graduate Studies workshop space in CE 354 are now open. We also have a mobile mac lab, which we purchased with VETI funding in 2019-2020. With these resources in place, The Office of Graduate Studies (OGS) in collaboration with the Office of Student Research (OSR) has implemented PREP for prospective and current CSUSB graduate students as well as CSUSB graduate alumni. For prospective students, programs include graduate program information sessions, application workshops, and personal statement workshops. Programs for current students include a graduate student learning community to network, learn about campus resources, and develop professional portfolios through Portfolium in the areas of 1. Communication and Writing 2. Innovation, 3. Financial Well-Being, 4. Leadership & Career Development, 5. Research, 6. Teaching & Mentorship, and 7. Wellness (https://www.csusb.edu/graduate-studies/prep-program). The Council of Graduate School recognizes the intentional articulation of the relationship between academic development and professional development as best practice. Through PREP, OGS implements this best practice. We seek to expand the number of students that we can serve in our PREP workshops by increasing the number of laptops in our mobile mac lab to expand capacity in each workshop and allow for remote workshop participation particularly for PDC students.

Challenge(s) this project will address:

The Council of Graduate School attests to the impact of graduate education on people's professionalization as well as the need for graduate programs to intentionally develop graduate students' professionalization once they enter graduate education. OGS's successful PREP program has filled a need for professionalization for CSUSB graduate students, but we can do more. So far in 2019-2020 through March 2020, PREP has sponsored 39 workshops with facilitators serving 491 prospective and current graduate students. Survey feedback that we have collected indicates that students rate our events and workshops 65% excellent, 29% good, and 6% fair or poor. Feedback indicates that students want increased access to workshops that fit their schedules, particularly the ability to attend remotely. Students reported that they found Portfolium to be useful in their professional development, though we can improve engagement with Portfolium and increase student use of Portfolium by expanding Portfolium workshop opportunities and marketing to students. Our Portfolium workshop in fall 2019 only included six participants. We will hold another Portfolium workshop in spring 2020 to monitor the quality of student e-portfolios. The laptop lending program proposed here will be helpful in expanding opportunities for students to engage with Portfolium. Cal State Apply workshop survey feedback indicates that 100% of those who completed feedback surveys found the workshops to be helpful. We currently have to cap workshops held in our workshop space in CE 354 to 23 due to limited availability of laptops, and we have no capacity to lend laptops for students who cannot be on campus and can only attend workshops remotely. Laptops are a crucial component to our workshops because we intend for workshop participants to work in Portfolium to build their e-portfolio during the workshop time. This inability to lend laptops especially affects students who live in the vicinity of the PDC campus. An OGS staff member travels to PDC monthly and could lend laptops to graduate students who need them to attend workshops if we had the capacity. OGS currently has a mobile mac laptop cart with the capacity to hold 40 mac laptops. However, we currently have only 23 mac laptops in the mobile mac lab to serve prospective and current graduate students as well as alumni in PREP workshops. The more laptops we have, the more students we can serve in each workshop. With 40 laptops available, PREP could expand its services to lend laptops to students allowing them to attend workshops remotely, particularly focused on students who live in the vicinity of the PDC campus. 17 additional laptops would fill all 40 slots that we have in our mobile mac lab, and give us the capacity to ensure that we have the resources to serve a larger number of participants. The mobile mac lab is also available for the Office of Student Research (OSR) for the numerous workshops that they conduct. The expansion of the mobile mac lab will make it possible for PREP and OSR to have consistent access to the necessary technology to serve more students both in face-to-face workshops and remotely through laptop lending.

Alternate solution(s) should this project not be funded:

If this project is not funded, students will have to secure their own equipment when our capacity to provide equipment for workshop participation has been filled, and we will not be able to serve students who live in the vicinity of the PDC campus.

Impact(s) if this project is not funded:

 If the project is not funded, PREP and OSR will have to limit the number of participants it can serve and will have limited capacity to serve PDC.

Cost: $$ (One time or recurring)

One time: $28,813.24

What are your intended Process Outcomes and/or Student Learning Outcomes?

PLO 1: Increased graduate student use of services as the PREP will encourage utilization of the Graduate Resource Center. SLO 1: Prospective graduate students will improve the quality of the content of their graduate applications, including their personal statements. SLO 2: Current graduate students will better understand the interrelationship between their academic, professional, and personal development. SLO 3: Current graduate students and graduate alumni will become better prepared professionals.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

Participants will complete surveys after each workshop to evaluate the quality of the workshop presentation and usefulness of the content.   PLO1: We will monitor numbers of attendance of PREP workshops and utilization of the Graduate Resource Center. SLO 1: We will assess the quality of applications and personal statement submitted by those who attend our workshops. SLO 2: Through survey data, we will ask students to self-report how workshops contributed to their academic, professional, and personal development. SLO 3: We will survey workshop participants to ask about how the workshop contributed to their professional development.

Project Timeline　　**Start:** 8/31/2020 12:00:00AM　　**End:** 6/1/2020 12:00:00AM　　**First Quarter of Student Use**　　Fall 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/169-a311f6a47f4bd42bd547b5f9e11e4cf8_VETI_Budget_Proposal_Request_for_FY_2021_%281%29.xlsx

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

119

8735

Division	Academic Affairs	College of Natural Sciences		
	Campus Division	**Wallace Britt**	**Leatham**	bleatham@csusb.edu	(909) 537-5322

Total Amount Requested for FY 2018 $73,140.00

Project Title: Seeing, measuring, and modeling the "unseeable": Development of digital, high-resolution, 3-D photomicrographs for off-campus/on-campus Earth Science laboratory activities

Project Abstract:

Advances in high-resolution digital microscopy have provided the ability to merge image acquisition, measurement, analysis, and even modeling of microscopic 3-D objects into a single instrumental platform. This platform, the Keyence VHX-7000, enhances, and essentially replaces dissecting reflectance microscopes, standard transmission microscopes, polarizing microscopes, and stage-orienting devices, with the highest resolution 3-D depth of field in the industry (see examples of photomicrographs in the attached brochure). The 3-D image-mapping is achieved through precision image-stacking and digital processing. The digitally produced 3-D images can then be rotated, measured, and modeled at resolutions that exceed what we normally would find from those other platforms. Furthermore, the platform even provides unlimited software licenses for "analysis and measurement at any PC at [students'] desks, ..."and is "...networkable to have instant access to images and measurements" which is critical for specimen analysis required in the sciences.

Challenge(s) this project will address:

There is currently no system like this available at CSUSB--however technical corporations, commercial laboratories, government laboratories, research labs at graduate institutions, and museums have used this technology for over 10 years. Consequently, acquisition and utilization of this cutting-edge system will bring our students in-line with a professional standard as well as supply a competitive advantage for CSUSB graduates in the laboratory workforce. CSUSB's Academic Technology and Innovation (ATI() has has two ArtecTM 3-D scanners for larger items, usually with resolution down to about 1mm and limited color recognition, but none of them are even half capable of what the VHX-7000 can do. The high-resolution depth achieved through incremental image-stacking provides an almost instantaneous 3D model (see the attached brochure that includes a page of test images generated by me during an onsite "test drive" a couple of months ago).

Alternate solution(s) should this project not be funded:

With the current adoption of online laboratories in the sciences, microscopy essentials will be difficult to teach without a platform like this for providing realistic analytical images. Images produced will provide a semblance of using a cutting-edge instrument, but at the same time the analysis can occur offsite while students are effectively "banned" from campus and "face-to-face" laboratories.

Impact(s) if this project is not funded:

Severely impacts development of virtual/online laboratory activities for microscopy analysis, as well as for using state-of-the art equipment, especially for 3d imaging and analysis. Courses affected include almost all laboratories in GEOLOGY (e.g. GEOL 2000 (Earth System History), GEOL 3200 (Mineralogy), GEOL 3240 (Igneous and Metamorphic Petrology), GEOL 3300 (Sedimentary Geology: Princ. & App.), GEOL 3400 (Sed. Geol: Environmental Systems Analysis). Furthermore, the use of advanced analytical techniques and 3d- visualization/measuring systems is critical to many of the required research projects required for both bachelors and the MS programs in the Earth Sciences. Additionally, the need for 3d-characterization of biological specimens in some of the biology research projects and courses will not be met with current light microscopy workstations on campus.

Cost: $$ (One time or recurring)

$ 68,201.75   (see attached quote)

What are your intended Process Outcomes and/or Student Learning Outcomes?

Acquisition of the VHX-7000 system will complement efforts to utilize cutting-edge high resolution image collection and mapping systems (LIDAR), including drones, acquired through grants to the Department of Geological Sciences. This type of instrumentation is vital for our students and for visualizing, measuring, and interpreting at both the macro- and micro-scales. The VHX-7000 will ensure that students increase their ability to use cutting-edge high resolution visualization to solve geological problems. Furthermore, the addition of the VHX-7000 to the array of departmental instrumentation will ensure that students will become conversant/knowledgeable of the total range of observations (micro to macro) necessary for educating an image-reliant profession, and help our students to really "do" cutting-edge science.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

1. Design laboratory materials that compare interpretation of regular mega- and microscopic imagery with those obtained from standard techniques. This will allow students to identify why/how high-resolution imaging/measurement affects interpretation and the development of theory and interpretation. An example follows below: a. See the attached brochure with several images I produced during evaluation of the VHX-7000). The brochure has a photomicrograph of the snail, Helisoma carinifex newberryi, from an ice-age beach of Bear Lake, Idaho, which probably just became extinct. Determining climatic change, requires that we have a record, which is encoded in growth lines of molluscs (e.g. clams and snails). Those growth lines are NOT easily distinguished in photos produced with standard microscopy. Counting and measuring the lines and comparing the photos produced on the two platforms, as well as the ease in producing the images, gives a completely different interpretation of ice-age climate change.

Project Timeline   **Start:** 4/3/2020 12:00:00AM   **End:** 5/27/2022 12:00:00AM   **First Quarter of Student Use**   As soon as the instrument is purchased

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/40-01ba09670ea3fea028bd994140438614_WBL_VHX-7000%2C_VETI_BUDGET_TEMPLATE.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

120

88178

Division	Student Affairs			
	Campus Division Veterans Succes	**Agustin**	**Ramirez**	aramirez@csusb.edu	909-537-5196

Total Amount Requested for FY 2018 $40,162.00

Project Title: Operation P-NOLA (Printing & Needed On-Line Assistance)

Project Abstract:

Since opening in 2012, the CSUSB Veterans Success Center (VSC) has been critically vital to students. As the sole dedicated space to our 1,400 military-affiliated student population, there has been a 30% increase of students utilizing department resources since 2014. These are resources that support student success at CSUSB. The department focuses on student veterans, military-affiliated students, and engages the regular student population with its academic and cultural programing. With this in mind, in 2018 the VSC created a multipurpose quiet area to study, navigate the web, and receive unique tutoring services. Through a generous VETI grant, this smart classroom was equipped with computer stations and other technology. However, the designated study area is in need of a printer and a paraprofessional technician. Additionally the VSC needs to replace two existing student printers. Having a paraprofessional technician will promote peer-to-peer learning, and will facilitate technical skill building among our students. A paraprofessional technician will assist students with Microsoft Suite, Adobe, and other platforms, as well as make technological recommendations, and provide other technical needs. In addition, a paraprofessional technician will be able to provide technical assistance to students when software, computers, and printers malfunction. Securing two replacement printers and installing an additional printer will allow students to have access to quality resources, better learning outcomes, and more productivity. The VSC is requesting $40,162.00 to obtain: a paraprofessional technician; toner for the printers; and three printers: two black and white, and one in color.

Challenge(s) this project will address:

CSUSB campus is a growing institution, every year there is an increase of students who are affiliated with the military and are eligible to use the Veterans Success Center at Palm Desert and San Bernardino locations. Installing three new printers will increase student success as the current ones are over three years old and are becoming outdated. Per our IT technician, the average recommended print volume for the VSC printer 1 (HP LaserJet MFP M527dn, located in the front room) is 2,000 to 7,500 per month. The volume of printer 1 has been increasingly high with 136 prints per day, resulting in a range of 4,080-7,500 prints per month, and a number of 124,159 prints total. Similarly, the VSC printer 2 (HP LaserJet 500 color MFP M570dn) has also been increasingly high with about 144 to 173 prints per day, resulting in a range of 4,320 – 5,190 prints per month, and a total of 157,704 prints. The recommended print for this is 1,500-4,000. As can be seen, the printers are exceeding their recommended print volume. Insisting that these printers perform beyond their print capacity has led to ongoing technical challenges, such as lost print jobs or unreadable printed script, all of which ultimately inhibit student success. Therefore, to overcome this challenge, the Veterans Success Center is requesting three new printers. In order to take proactive measures to mitigate future technical challenges, as well as provide on-site technical assistance, the VSC seeks to employ a paraprofessional technician that can help when technology malfunctions occur, and who can assist students with technical questions. In light of the COVID-19 response, and the global move to social-distancing, a paraprofessional technician capable of delivering real-time troubleshooting advice, and able to deliver solutions and recommendations for students new to online learning, is in demand now more than ever. This paraprofessional technician will be able to assist numerous students virtually at San Bernardino and Palm Desert Campus simultaneously. Acquiring a sufficient amount of up-to-date tools is important to the VSC due to the large number of student veterans and dependents who use resources. Recently, because of printer malfunctions, and lack of technical expertise, students can leave frustrated, without immediate solutions to their technical questions, or having to locate printing services in an alternative campus location, and/or being tardy to class.

Alternate solution(s) should this project not be funded:

If this project does not become funded, then the Veterans Success Center will be obligated to look for other funding sources to help acquire the resources needed to guide students to success here at California State University, San Bernardino. The Veterans Success Center will be forced to campaign for donations during events so that we can become equipped to help any student that comes into our department looking for resources that will help them become one step closer to achieving their academic goal.

Impact(s) if this project is not funded:

If this project is not funded it will impact students tremendously primarily because the printers in operation now malfunction constantly, and students are not able to print assignments or materials necessary for school, work, or career prospects. Students who utilize these resources will be required to look for alternative resources. As a collateral impact, it is important to mention that students with ADA needs can be disproportionately affected because of the lack of adequate printer access on campus. Although maintaining ADA compliance would be a priority for the VSC in any case, it is doubly important to us as many of our students are registered with SSD. Maintaining ADA-compliant access for students is a priority because we want to help students receive the best educational experiences possible.

Cost: $$ (One time or recurring)

One time for $40,162.

What are your intended Process Outcomes and/or Student Learning Outcomes?

Process Outcomes: There will be numerous improvements to department resources by updating the printing services, and by employing an IT paraprofessional. Two main outcomes will be to add IT services to the VSC's service offerings, and to improve the printing services already in place. Student Learning Outcomes: Increase in peer-to-peer instruction for IT issues, and an increase in campus engagement by students who seek these resources. Students who utilize department resources will stay on campus, which is a path for engagement and inclusivity, both of which are paths to student success. Students will have the resources necessary to accomplish their assignments. It will also increase student learning services because students will have readily accessible technical assistance that will guide them on assignments and technical needs, which will facilitate learning and growth, while promoting academic success.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

Measure 1: Paraprofessional experiences will be measured using Coyote Grows, which assesses personal and professional growth, and transferability of skills from workplace to classroom and vice-versa; Student experiences and assessments of their interactions with paraprofessional staff will be measured as part of an exit survey after 1:1 consultations, and as part of our annual Satisfaction Survey. Measure 2: Veterans Success Center will mass-produce information on Q2S, VA Benefits, services and programs for regular distribution and for New Student Veteran Orientation; Student usage of computers and printing services will be measured using Qualtrics sign-in and reported at the end of the year. Measure 3: Professional and paraprofessional experiences will be measured using Coyote Grows, which also assesses workplace functionality and support. Measure 4: Student experiences will be assessed as part of our annual Satisfaction Survey. Outcome 1: Paraprofessional staff and students will report valuable interactions that support professional growth, and personal development, and career-readiness skills. Outcome 2: Veterans Success Center will produce educational and promotional materials for distribution, and student use of computer printing services and IT consultation will increase. Outcome 3: Paraprofessional and professional staff will report an improved working environment and morale, improved flow of student traffic, and more orderly services. Outcome 4: Students will report improved morale, and improved learning/social environments.

Project Timeline   **Start:**   7/1/2020 12:00:00AM   **End:**   6/30/2021 12:00:00AM   **First Quarter of Student Use**   Summer 2020

Statements of support by collaborating organization(s) or department(s) (if applicable)

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/194-f86e950b8b3ebba631e3aa1192f7a512_VSC_Letter_of_Suport.pdf

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/42-b66effdafd44a340d23ce6a9f024c5b1_VETI_BUDGET_TEMPLATE_VSC_2021.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:
121

Division	Student Affairs				3293900
	Campus Division	**Valentina**	**Felix**	vfelix@csusb.edu	(909) 537-3247
	Career Center				
Total Amount Requested for FY 2018	**$36,407.00**				
Project Title:	Virtual Career Education Technology for Student Success				

Project Abstract:

The Career Center (Main and PDC campus) facilitates career services for all CSUSB Students and Alumni. In 2014, the Center was awarded the VETI Grant which enabled the purchase of laptops and iPads. With this new resource, the delivery of career services was exponentially improved. This includes career fairs, employer and students check in, ZOOM webinars, employer and students check in, workshops, mock interviews, resumÃ© building, job/internship search, counseling appointments, drop-ins, class presentations, hybrid workshops, LinkedIn, Big Interview, tabling, and working remotely. Using this technology, we are able to capture vital data which improved the quality of our services. According to Apple's Support Website page, "Vintage (obsolete) products are those that have not been manufactured for more than 5 and less than 7 years ago". Our current models purchased in 2014 are now more than 6 years old. For some time now our laptops/iPads have been experiencing issues such as the following: a) trouble running latest version of macOS b) frequent software issues c) slow speed and frequently frozen issues d) bugs and viruses. We are advancing our technology capabilities to allow increased access to students virtually. These include Virtual Career Fairs, a career Chat Bot, virtual drop-in/counseling appointments, mock interviews, the Big Interview platform and Handshake. Equally important, students will be equipped and develop technology skills to be competitive in this ever-changing technology labor market. Providing students access to laptop and smart tablet technology will facilitate the application of the information students learn at the Career Center.

Challenge(s) this project will address:

The Career Center has adjusted to the new hybrid (in-person / virtual) model of the delivery of services. We are challenged with connecting to our students, both at Main Campus and PDC, if they should not have the correct technology to take advantage of the virtual services. Without updated and current technology, the Career Centerâ€™s delivery of vital career services will be negatively impacted. This would ultimately lower career readiness of our students at the Main Campus and PDC.

Alternate solution(s) should this project not be funded:

The Career Center will submit a funding request to the Division of Student Affairs and possibly ITS Division.

Impact(s) if this project is not funded:

Since 2014 the Career Center has seen an increase in student engagement at both Main Campus and PDC, by the access of MacBooks and iPads. If this technology is not replaced with new equipment, the delivery of career services will be lowered and a marked decrease in student engagement.

Cost: $$ (One time or recurring)

One-Time

What are your intended Process Outcomes and/or Student Learning Outcomes?

Student Learning Outcomes (both Main Campus and PDC) 1. Students will engage with Career Counselors for counseling appointments using the Career Center MacBooks and iPads for the following: career exploration and assessment, resume building, job / internship search, interview prep, and grad school preparation. 2. Students will engage with Peer Career Educators for virtual drop-in appointments using the Career Center MacBooks and iPads for resume building and cover letters. 3. Students will engage with local and national employers during virtual career fairs and career talk webinars using the Career Center MacBooks and iPads. 4. Students will learn career related information for their chosen field by attending the Career Readiness workshops (+30 workshops per year) virtually using the Career Center MacBooks and iPads. 5. Students will learn how to successfully prepare for job/internship/graduate school interviews through the Big Interview platform and Mock Interviews using the Career Center MacBooks and iPads.

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

Key Performance Indicators (both Main Camus and PDC) 1. Increase usage of MacBooks and iPads for students to attend Career Counseling appointments. 2. Increase usage of MacBooks and iPads for students to attend virtual drop-in appointments with Peer Career Educators. 3. Increase usage of MacBooks and iPads for students to engage with local and national employers during virtual career fairs and career talk webinars. 4. Increase usage of MacBooks and iPads for students to attend Career Readiness workshops virtually. 5. Increase usage of MacBooks and iPads for students to learn interview skills through the Big Interview platform and Mock Interviews

Project Timeline **Start:** 8/3/2020 12:00:00AM **End:** 5/31/2024 12:00:00AM **First Quarter of Student Use** Fall 2020

Statements of support by collaborating organization(s) or department(s) (if applicable)

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Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/233-e2667d944d0d336ff06d7d1f8548b913_VETI_BUDGET_Career_Center.xls

VITAL/EXPANDED TECHNOLOGIES INITIATIVE FY 2020-2021 PROPOSALS

Proposal ID:

124

3350385

Division	Information Technology Services				
	Campus Division	**James**	**Trotter**	jamest@csusb.edu	909-537-5063

Total Amount Requested for FY 2018 $64,316.00

Project Title: Mobile Extended Reality Lab

Project Abstract:

The school closure due to the COVID-19 pandemic requires that the production of virtual reality and augmented reality instructional assets, previously done in the campus's physical VR lab, is done remotely. The campus VR lab can become a critical resource to assist faculty and students who no longer have access to STEM physical labs and who can no longer do live training (e.g., Nursing) or field trips (e.g., Archeology). We need to transform our work from lab-based, face-to-face interaction to a remote/mobile modality so that all members of the VR lab team (10 student assistants, 3 ITS staff, 3 faculty) can continue producing much-needed extended reality (XR)-enhanced instructional materials for all courses taught in alternate modalities. We seek support to build this mobile infrastructure while we locate grants or other means of funding to become a self-supported unit. If supported, the lab could greatly increase its capacity to assist faculty and students. For example, the VR lab could provide 3D scans of rocks to replace physical artifacts and the students would be able to visualize them using their mobile phones or special websites. The VR Lab could produce immersive tours of sites of interest. Finally, the VR lab is the main industry pipeline for campus students working with immersive reality, namely the lab student assistants and the students in the campus VR Club. If the VR lab closes, these students would be deprived of critical skills that would allow them to stay competitive on the market.

Challenge(s) this project will address:

Producing immersive learning assets for online instruction such as 3D scans, virtual reality simulations, virtual tours, augmented reality apps, etc. while working remotely Ensuring that the students trained in the VR lab and the student VR club continue to have an industry pipeline after graduation

Alternate solution(s) should this project not be funded:

The lab will continue to operate at reduce capacity to complete existing projects, but some student assistants will have to be let go due to lack of work

Impact(s) if this project is not funded:

If the project is not funded, building virtual lab applications for several STEM courses will cease. Faculty will have to acquire expensive off-the-shelves products to replace the content we offer free-of-charge. Many off-the-shelves XR applications pass on these costs to students by charging per number of users. Thus, the cost for students will go up.

Cost: $$ (One time or recurring)
$64316 (the Lab is asking for support until it transitions to a self-support model)

What are your intended Process Outcomes and/or Student Learning Outcomes?

Process Outcome 1: Greatly scale the production of immersive learning components for newly developed online courses Process Outcome 2: Ensure that the campus VR Lab continues to operate at full capacity SLO1: Enhance or create virtual labs for STEM courses SLO2: Add realistic training components to courses delivered in alternate modalities SLO3: Improve student involvement in online courses SLO4: Train students with critical skills for the job market

Assessment Plan and Key Performance Indicators (KPI) (Measurable/Verifiable)

- Number of courses using XR assets such as 360-degree video, augmented reality, 3D scanning - Number of students employed by the lab - Number of industry partners working with the lab (potential employers for students) - Number of community partners working with the lab (potential employers for students)

Project Timeline   **Start:** 6/15/2020 12:00:00AM   **End:** 6/1/2021 12:00:00AM   **First Quarter of Student Use**   Summer 2020

Budget:

http://surveygizmoresponseuploads.s3.amazonaws.com/fileuploads/173283/5390222/114-453bb6e1d9aaf3701b0c8cbf1373bd63_VR_Budget_for_Mobile_VR_Lab.xlsx