

Instructionally Related Activities Funds Request Fall 2016

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IRA Funds Request for Air Quality at CSUCI and Santa Rosa Research Station

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Instructionally Related Activities Funds Request Summary

Project Sponsor	Gregory Wood
Activity Title	Air Quality at CSUCI and Santa Rosa Research Station
Activity/Event Date	One trip to Santa Rosa Island in Fall 2016 semester, near the end of term.
Date Funding Needed By	September 16 2015
Previously Funded?	No
Semester/Year	—
Proposal #	—
Report submitted for previously Funded Activity?	—
Report submitted for previously Funded Activity	—
Additional Report #1	—
Additional Report #2	—
Additional Report #3	—
Additional Proposers	—
Academic Program(s) / Center Name(s)	UNIV
Estimated total Course Fee revenue	n/a
Amount Requested from IRA	900.30
Estimated Number of Students Participating	5
Conditions and Considerations	Field Trip
Brief Activity Description	<p>The purpose of the activity is to design and integrate a portable toolkit of air quality sensors to move around the CI campus, and install a twin pair at the Santa Rosa Islands Research Station (SRIRS) to compare with. These are very small, low cost sensors which integrate with a Raspberry Pi cell-phone sized computer – which we already have here on campus and at the station. Students will evaluate a variety of oxygen, carbon dioxide, dust, and other gas sensors (these use low power and vary in size from a large coin to the size of a cell phone). Students and the PI will carry the bundle to classes and around campus recording levels in classrooms (primarily – other places are possible – beside parking lots, etc). Readings will be reported back to Facilities Services who can adjust air flow as needed.</p> <p>The sensors would be re-used in UNIV 492 in future years and potentially expanded. As our campus grows around us, this Fall 2017 data would provide a baseline for future.</p> <p>Is this global or local to CI? By placing a copy of the sensors in a “clean” environment, we can tell. Students will travel to the Santa Rosa Island Research Station (SRIRS) during the Fall 2016 semester to install a copy of all sensors and integrate to the existing system the author installed with students last Fall. The trip will last three days, spending two nights in the station house.</p>
Learning Outcomes and Relation to IRA to Course Offerings	<ol style="list-style-type: none"> 1. Course is UNIV 492 – Sustainability in Campus Infrastructure 2. Students will learn about key air quality measures on the CI campus and the specifics of the research station over the first half of the course. Next, specific hardware is ordered which may work best as a mobile platform on campus and on the island environment. Students will then install and test the hardware on campus and carry the sensors to classes to measure air quality in class and around campus. A trip, near the end of term, in which the hardware is installed and tested on the island.
Description of Assessment Process	The proposed projects will be assessed by the functionality of the sensor arrays on the island and on campus by the PI. Student understanding of the work will be assessed by written and oral presentations of the students detailing how the sensors work and what their capabilities are. This includes the economics of building and running such devices.
Activity Budget	travelbudgetuniv492_IRA_fall2016.xlsx
CIA Budget	—
CIA Proposal	—
Course Syllabus	—
CIA Certification	—
Other Sources of Funding	Students will contribute a small amount to the cost of the trip to the island, about \$45, and the Physics program will lend some materials needed to test and integrate the sensors, such as meters, power supplies, breadboards, function generators, and consumables such as wire and solder. The PI is providing the Raspberry Pi on campus as well as helping with any cost overages on sensors such as from shipping and handling and anything else, as such unexpected expenses naturally arise, needed to facilitate the project.
Target Audience/Student	A broad range of junior/senior level students will be recruited for this course via: email and word of mouth by contact with clubs such as the Green Generation Club, the Physics Club, CI Computer Girls Club, faculty, and program chairs.

Marketing	
Bring Benefit to Campus	Faculty and students will present a poster at the annual student-faculty research conference (Sage Conference) and program specific colloquium.
Sustainability	This proposal centers on sustainability and improving both: (1) student understanding of sustainability and (2) the sustainability of the research station, a part of our campus.
Program Chair/Director	cynthia.wyels
Dean	karen.carey
Acknowledgement	I acknowledge that I have reviewed and accepted the Conditions and Considerations herein. Please check off boxes as appropriate.

Program Chair/Director Review

Recommendation	—
Name	—
Date/Time	—
Validation	—
Comments	—

Dean Review

Recommendation	—
Name	—
Date/Time	—
Validation	—
Comments	—

IRA Committee Decision

Decision	—
Comments	—

Current Tasks

Task	Time Assigned	Assigned To
Review from cynthia.wyels, Program Chair/Director	3/1/2016 5:16:27 PM	Cynthia Wyels
Edit Request	3/1/2016 5:16:27 PM	Gregory Wood

Completed Tasks

Task	Time Assigned	Time Completed	Completed By
Fill out Request	3/1/2016 4:56:33 PM	3/1/2016 5:16:27 PM	Gregory Wood

Actions

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