

Instructionally Related Activities Funds Request Spring 2019

▼ Submitter

Submitter Name

Gregory Wood

Submitter Email

gregory.wood@csuci.edu

▼ 1. Basic Details

Activity Title

LittlePEP: a Demonstration of PEP/9

Activity/Event Date

Spring 2019

Date Funding Needed By

Mid-February 2019

Previously Funded?

- ☐ No
☒ Yes

▼ Previously Funded Proposal

Semester/Year

Spring 2018

Proposal # (if known)

934

Report submitted for previously Funded Activity?

- ☐ No
☒ Yes

Please upload a copy of the report

[ira-report-Wood_SPR2018.pdf](#)

Additional Report #1

Additional Report #2

Additional Report #3

Additional Proposers

Academic Program(s)/Center Name(s)

Physics

Estimated total Course Fee revenue

n/a

Amount Requested from IRA

500

Estimated Number of Students Participating

50

▼ 2. Brief Activity Description

Describe the activity and its relationships to the educational objectives of the students' program or major

Brief Activity Description

A simple demonstration computer, LittlePEP, will be built, by hand, with very simple components. This unit will accept all the assembly language commands of PEP/9. This unit will be used to make real the physics of computation in many courses, but specifically will be integrated into the PHYSICS 201 courses taught by Dr. Wood in Spring 2019. When not in use, this unit will operate in the glass case in Sierra Hall as a demonstration and brought out for use in various courses in physics, and I hope in future years by other programs as well, such as COMP 162 and 262: Computer Architecture and Assembly Language.

▼ 3. Learning Outcomes and Relation of IRA to Course Offerings

All IRAs must be integrally related to the formal instructional offerings of the University and must be associated with scheduled credit courses.

1. Please list all classes that directly relate to the proposed activity.
2. For each class listed, describe in detail how exactly the IRA activity will be integrated with the class's activities, how often/ on what expected date(s), and to what extent

Learning Outcomes and Relation of IRA to Course Offerings

PHYS 201 runs every semester, total annual enrollment is around 120 students. One of the topics of 201 is electronics and this is an excellent example of the usefulness of various components we study in physics 201 to produce a simple, useful computer.

▼ 4. Activity Assessment

Describe the assessment process and measures that the program will use to determine if it has attained its educational goals.

Please note that a report will be due at the end of the semester.

Description of Assessment Process

The quality of the computer will be assessed by its functionality by the PI. The impact of the demonstration of computing for the PHYS 201 students will also be assessed by the PI. The use of the LittlePEP unit by other faculty will assess its usefulness, as well as the popularity of the demo in the display cabinets in Sierra Hall. Physics has several interactive demo units in cabinets which are very popular with CI students and guests to campus.

▼ 5. Activity Budget

Please enclose a complete detailed budget of the entire activity. Indicate specific items that you are requesting IRA to fund.

You should use either the Regular Activity budget (for events on campus) or -- if your event involves any travel-- you MUST

use the IRA Travel Budget Form.

You can download both of the IRA Excel Budget sheets at <http://www.csuci.edu/ira/application.htm>.

Activity Budget

[IRA_budget_WOOD_computing.xlsx](#)

▼ 6. International Trips

If your event is an international trip submitted through the Center for International Affairs, you must include copies of:

1. Complete Center for International Affairs/ UNIV 392 proposal
2. The program budget as submitted to the Center for International Affairs (to ensure congruency between the two budgets)
3. as well as a copy of the course syllabus

Center for International Affairs Budget

Copy of Center for International Affairs Proposal

Course Syllabus

Certification

☐ I certify that students attending this trip are not previous or repeat attendees of a prior International UNIV 392 Trip

▼ 7. Sources of Activity Support

Please list the other sources of funding (including course fees), and exact expected amounts of additional support for the activity. Please indicate if there are no other sources of funding

Other Sources of Funding

The student producing this demonstration unit, Connor Osborn, has already purchased several hundred dollars worth of equipment required to build such units – at this point a relatively small additional cost would allow CI to “buy” a copy and store it on campus for demonstration purposes.

The prior items Connor Osborn has purchased are: circuit boards, chips, components and a variety of test equipment and total a value in excess of \$500.

Additionally, physics will provide the use of oscilloscopes, meters, soldering stations and some small quantities of consumable equipment (solder) to supplement the project.

The PI will contribute additional funds to overcome unforeseen costs of the project if cost overruns occur.

▼ 8. Promoting Participation

What is your intended audience and how do you intend to market this to your students?

For physics 201, this unit will be used as an in-class demo illustrating the use of electronics in daily life, so attendance will benefit student’s physics knowledge. Dr. Wood and Connor Osborn will engage other faculty in various departments to also

use the unit in their courses.

If this is an event that is off campus, how do you plan to bring back the benefit of this event to campus?

▼ 9. Sustainability

If appropriate, indicate how the content or delivery of the project promotes sustainability at CI.

Sustainability

Generally not applicable, however, this is a very simple computer. To our knowledge, no physical implementation of PEP/9 has been produced, thus this could be a very low power computer. Computers collectively consume vast quantities of power in the US, so if there were simple, low cost machines to do some tasks, this could be used to lower costs of computation - however, we have to build the unit and test it to determine power consumption.

▼ 10. Approval and Acknowledgement

Program Chair/Director

Grzegorzcyk, Ivona

Dean

Adler, Mary

Conditions and Considerations

- ☐ **Artist/Performer/Speaker Fees & Honoraria:** On the Activity Budget, please indicate whether the vendor's price was set by you/CI Representative, or is a fee that was set by the vendor.
- ☐ **Large Event:** For a large event, consultation with the campus Event Coordinator's office at (805)437-8548 is required.
- ☐ **Field Trip:** Sponsor must comply with all policies found at:
<http://www.csuci.edu/rm/programs/academic-field-trip-guidelines-and-forms.htm>. If approved, Identified Risks of Participation and Release Agreement must be submitted for each student to the Program Office (Public Folders-HR Forms).
- ☐ **Involves Human Subject Data Collection for Public Dissemination -Requires IRB Approval :** If Project Sponsor proposes to conduct research with human participants, the proposal may be subject to Institutional Review Board for the Protection of Human Subjects (IRB) review. All research that involves any type of interaction with human subjects - from simple surveys to complex biomedical procedures - must be reviewed and approved by the IRB prior to starting the research. Data for "Public Dissemination" indicates interviews/surveys that result in a journal/poster session/newsletter, etc.
- ☐ **IT Requirements:** If your activity has IT requirements, coordination with and approval from IT Administration is required.
- ☐ **International Travel:** Requires International Travel application be submitted to Center for International Affairs. Include copy of CIA budget and course syllabus in your IRA application. Must utilize the University's Foreign Travel Insurance Program (FTIP) and follow all International Travel Guidelines listed at: <http://www.csuci.edu/rm/insurance/foreign-travel.htm>
- ☐ **Risk Management Consultation:** Events that involve or engage students directly with a performer or artist (i.e. in a workshop or other than as a passive audience member) will require consultation with Risk Management. Requires proof of correspondence with Risk Management.
- ☐ **Space/Facilities Services Requirements:** Consultation and coordination with Facilities Services is required.

Acknowledgement

- ☒ I acknowledge that I have reviewed and accepted the Conditions and Considerations herein. Please check off boxes as appropriate.

▼ Chair Review

Recommendation

- ☒ I recommend approval of the IRA Funds Request described on this page
- ☐ I DO NOT recommend approval of the IRA Funds Request described on this page

Comments

 Ivona Grzegorzcyk

Oct 2 2018

▼ Dean Review

Recommendation

- ☒ I recommend approval of the IRA Funds Request described on this page
- ☐ I DO NOT recommend approval of the IRA Funds Request described on this page

Comments

Highly cost-effective learning tool. Please add course learning objectives related to this project in item 3.

 Marion Adler

Oct 10 2018