

# Instructionally Related Activities Funds Request Fall 2018

## ▼ Submitter

### Submitter Name

Ahmed Awad

### Submitter Email

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## ▼ 1. Basic Details

### Activity Title

CHEM 494 Independent Research Course

### Activity/Event Date

Fall 2018

### Date Funding Needed By

8/27/2018

### Previously Funded?

- No  
 Yes

### Additional Proposers

### Academic Program(s)/Center Name(s)

Chemistry

### Estimated total Course Fee revenue

n/a

### Amount Requested from IRA

2500

## Estimated Number of Students Participating

9-12

## 2. Brief Activity Description

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

### Brief Activity Description

This activity allows students to participate in undergraduate research, enabling them to explore the process of science through hands-on experience. Students will involve in projects that increase engagement, and stimulate interest in research; projects that develop critical thinking, problem solving, creativity, self-confidence, and enhance professional communication skills. Students engaged in these activities will be better prepared for future independent research, will learn skills that allow them to become scientists, medical doctors, or pursue other science-related career paths.

## 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

This coming fall semester, I will teach the independent research course CHEM 494. In this course, undergraduate students explore the interface between chemistry and biology by studying and creating synthetic organic molecules capable of producing physiological changes in biological systems. Nucleoside analogues and nucleic acids will be studied and examined as effective therapeutics to control diseases such as cancer and bacterial infections. Students learning outcomes include:

- a. Describe the scientific method and how it is used to approach the scientific problems.
- b. Training in advanced chemical synthesis, perform multi-step synthesis reactions, biological assays, computational analysis.
- c. Write an articulate description of the research work and effectively utilize proofreading, editing, and revising.
- d. Perform scientific literature survey; write a research paper and clearly present research findings in the form of posters or oral conferences presentations.
- e. Stimulate the critical thinking and problem solving strategies so that students become eager and more interested to pursue a graduate degree.

The requested IRA funding will be used to purchase the necessary chemical reagents, anhydrous organic solvents, materials required to perform biological tests, and other reagents and materials needed to run the proposed experiments.

## 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

Each student participant will be asked to:

1. Write a final report: Students will be required to submit final reports that present their achievements.
2. Presentation: Students will present their findings from the project in internal (e.g SAGE) and external meetings (e.g.

CSUPERB and ACS) in the form of oral or poster presentations.

In addition, students who will perform an outstanding research and produce publishable data will be recognized and will be encouraged to write a scientific research paper to submit their work for publication in peer-reviewed journals.

## ▼ 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**

[Awad-ira-regular-budget-F18.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**

some support from the chemistry program, but no other sources of funding.

## ▼ 8. Promoting Participation

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

Chemistry and Biology students who enrolled in my CHEM 494 course in fall 2018. I will market this to my current students who are taking CHEM 311 (organic chemistry I course), as well as advertising on campus.

### 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

## ▼ 10. Approval and Acknowledgement

### Program Chair/Director

Aloisio, Simone

### 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

 Simone Aloisio \_\_\_\_\_ Mar 1 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

After conferring with the Dean, we both agree that this request is not a good fit for IRA, due to a) it being a highly specialized course that is likely not accessible to a broader range of students on campus, and b) the budget consists of funding for consumables/equipment, which is discouraged by IRA according to its guidelines. Recommend considering a course fee to support these costs and/or MSFT funding.

 Marion Adler \_\_\_\_\_ Mar 5 2018 \_\_\_\_\_