

Instructionally Related Activities Funds Request Fall 2019

▼ Submitter

Submitter Name

Ahmed Awad

Submitter Email

ahmed.awad@csuci.edu

▼ 1. Basic Details

Activity Title

Medicinal Chemistry of Therapeutics Nucleic Acids Field Trip

Activity/Event Date

November 2019

Date Funding Needed By

November 2019

Previously Funded?

- ☒ No
☐ Yes

Additional Proposers

Academic Program(s)/Center Name(s)

Chemistry

Estimated total Course Fee revenue

n/a

Amount Requested from IRA

\$3600

Estimated Number of Students Participating

12 – 15

▼ 2. Brief Activity Description

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

Brief Activity Description

This coming fall semester, I will teach the special topics in chemistry course (Bio-organic chemistry). In this course, junior and senior students will 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 regulate gene expression and control diseases such as cancer and bacterial infections. I would like to invite students that enrolled in the course to visit DNA and RNA therapy companies that committed to lead the drug development in the field. Dynavax Technologies in San Francisco area are leaders in drug design and development to attack the challenges of infectious and inflammatory diseases and cancer. Audentes Therapeutics is another company in San Francisco that develop and commercialize innovative nucleic acid therapy products to transform the lives of patients living with serious, life-threatening rare diseases with limited or no treatment options. Lypro Biosciences in San Francisco is a therapeutic development company which provide a novel drug delivery nanotechnology that increases the bioavailability of drugs and facilitates targeting to specific receptors. I would like to choose up to two from these three companies to visit with students enrolled in the Bio-organic chemistry course.

▼ 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

Bio-organic chemistry course (CHEM 490) is offered to senior and junior undergraduate chemistry students as an upper division one-semester lecture elective. Topics that are not generally treated in other courses in the current chemistry curriculum will be introduced such as automated chemical synthesis of peptides and oligonucleotides, nucleic acid drugs, forms of DNA, nucleoside drugs and prodrugs, apply a variety of statistical, chemical and biological tools for drug analysis, chemical control of signal transduction, and other aspects of medicinal chemistry. The requested field trip will be highly beneficial as it will expose students to the latest cutting-edge topics and real-world techniques in biological chemistry and drug development as well as the related computer science algorithms as a starting point to design effective drugs. Students will have the opportunity to be engaged in meaningful scientific research problems and acquire necessary scientific skills for academic and industrial pursuits. The course along with the proposed field trip will offer tools to think critically, design experiments and analyze data.

▼ 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 will be asked to write a report about their visit to the drug development company, including the different type of drugs that the company produce and for which purpose does each drug has been used, the mechanism of action and the

target for each drug, instruments and techniques they have learned, as well as the challenges and the ongoing research to enhance the effectiveness of the drug. The students' comments and feedback and the number of students who will be interested in biotechnology programs will be considered for the assessment process.

▼ 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-travel-budget-2019.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

There are no other sources of funding.

▼ 8. Promoting Participation

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

Senior and junior chemistry and biology students who enrolled in my CHEM 490 and CHEM 494 (independent research) courses in fall 2019. I will market this to my current students who are taking CHEM 311 (organic chemistry I course) and students who will be in my CHEM 494 in the fall, 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?

This trip will open opportunities to connect students with industry and create internship opportunities for students.

▼ **9. Approval and Acknowledgement**

Program Chair/Director

Aloisio, Simone

Dean

Wyels, Cynthia (Arts & Sciences)

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. I acknowledge that the activity sponsor will be responsible for managing purchases, travel arrangements, and all transactions related to approved activities. 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 14 2019

▼ 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

Kudos to the faculty member for creating this opportunity for his students!



Cynthia Wyels

Mar 23 2019