



Proposal # 626

Instructionally Related Activities Report Form

SPONSOR: NITIKA PARMAR

DEPARTMENT: BIOLOGY

ACTIVITY TITLE: UNIV 392-BIOTECHNOLOGY IN INDIA

DATE (S) OF ACTIVITY: DECEMBER 26, 2014- JANUARY 17, 2015

E-mail to the IRA Coordinator with supporting documentation at lisa.ayresmith@csuci.edu within 30 days after the activity.

Thank you for your commitment to engaging our students!!

A. ADDRESS THE FOLLOWING QUESTIONS:

(A) PROVIDE A DESCRIPTION OF THE ACTIVITY:

IRA FUNDS WERE UTILIZED TO FUND TRAVEL TO INDIA DURING THE WINTER BREAK. I TAUGHT UNIV392-BIOTECHNOLOGY IN INDIA, IN FALL, 2014 AND ONE KEY COMPONENT OF THIS COURSE WAS AN INTERNATIONAL TRIP. 14 UNDERGRADUATE STUDENTS WENT ON A TRIP TO INDIA FOR ABOUT 3 WEEKS TO UNDERSTAND BIOTECHNOLOGY IN THE ACADEMIC RESEARCH INSTITUTIONS AS WELL AS BIOTECH COMPANIES AND EXPLORE TYPES OF BIOTECH RESEARCH CURRENTLY UNDERTAKEN THERE.

(2) HOW DID THE ACTIVITY RELATE TO A COURSE(S) AND/OR LEARNING OBJECTIVES? **THE GOAL OF THIS COURSE WAS TO FAMILIARIZE STUDENTS WITH A BROAD ARRAY OF AREAS WITHIN THE FIELD OF BIOTECHNOLOGY (SUCH AS ANIMAL, PLANT, INDUSTRIAL, MICROBIAL AND ENVIRONMENTAL BIOTECHNOLOGY) IN INDIA. THE COURSE EXPLORED BIOLOGY IN THE CONTEXT OF APPLIED RESEARCH AND PROVIDED STUDENTS THE OPPORTUNITY TO OBSERVE RESEARCH PROJECTS ONGOING IN INDIA. THE COURSE ALSO OFFERED OPPORTUNITIES TO DISCUSS AND DEBATE SELECTED BIOETHICAL ISSUES PERTINENT TO THE FIELDS OF BIOTECHNOLOGY AND THE ENVIRONMENT.**

THE LEARNING OUTCOMES FOR THIS COURSE INCLUDED:

- **UNDERSTAND THE CONCEPTS OF BIOTECHNOLOGY AS PRACTICED IN INDIA**
- **EXPLAIN THE THEORY AND PRACTICE OF A VARIETY OF EXPERIMENTAL TECHNIQUES AS PRACTICED IN INDIA**
- **UNDERSTAND THE ROLE OF INDIA AS A BOOMING BIOTECHNOLOGY HUB**



- **DEMONSTRATE THEIR ABILITY TO EXPLORE AND APPRECIATE THE DIVERSE NATURE OF INDIA'S TRADITIONS**
- **UNDERSTAND THE VIBRANT HISTORY AND CULTURE OF INDIA**

BASED ON ALL THAT WE ACCOMPLISHED DURING THIS TRIP AND IN CLASS, I BELIEVE ALL LEARNING OUTCOMES WERE SATISFIED.

(3) WHAT DO YOU SEE AS THE STRENGTHS OF THE ACTIVITY?

STUDENTS RECEIVED AN AMAZING OPPORTUNITY TO EXPERIENCE A COUNTRY 10,000 MILES FROM USA! STUDENTS NOT ONLY GOT A FEEL FOR TOP-NOTCH SCIENCE BUT ALSO FOR THE CULTURE AND TRADITIONS OF INDIA. HALF OF THE CLASS HAD NEVER TRAVELED OUT OF USA AND THIS WAS TRULY AN EYE OPENER FOR THEM TO BE ABLE TO EXPERIENCE HOW DIVERSE THE WORLD IS. UNLIKE VISITS TO WESTERN COUNTRIES WHERE THINGS COULD BE SIMILAR TO USA INDIA HAD TO OFFER A VASTLY DIFFERENT AND ENRICHING EXPERIENCE. THE MEETINGS WITH THE SCIENTISTS AND THE INDIAN DIASPORA PROVIDED CONFIDENCE AND A STRONG DRIVE TO MAKE A CHANGE IN THE SOCIETY-FOR THE BETTER.

(4) WHAT WOULD YOU SAY ARE/WERE THE ACTIVITY'S WEAKNESSES?

THERE WERE NO WEAKNESSES AS SUCH SINCE I IMPROVED THE COURSE BASED ON THE EARLIER FEEDBACK (I.E. MADE THE TRIP LONGER AND GAVE REST DAYS TO STUDENTS BETWEEN HECTIC INTER-CITY VISITS. ONE ISSUE FOR A WINTER COURSE WOULD BE TO REVISIT THE TIMING- DUE TO INTENSE FOG IN INDIA IN JANUARY FLIGHTS TEND TO GET DELAYED AND OUR RETURN FLIGHT WAS ALSO DELAYED AND STUDENTS HAD TO BE REROUTED. ALTHOUGH THIS IS NOT A WEAKNESS OF THE COURSE IT STILL GIVES ME ROOM FOR THOUGHT TO RECONSIDER THE TIMING THE COURSE SHOULD BE OFFERED OR PLAN A TRIP TO SOUTH INDIA NEXT TIME WHICH DOES NOT EXPERIENCE WINTER CONDITIONS.

(5) HOW WOULD YOU IMPROVE THIS ACTIVITY FOR NEXT TIME?

SINCE I HAVE NOT HAD ACCESS TO STUDENT FEEDBACK FROM THIS TRIP IT IS DIFFICULT FOR ME TO IDENTIFY AREAS FOR IMPROVEMENT. HOWEVER, BASED ON MY PERCEPTIONS OF THE CURRENT TRIP I WOULD DO THE FOLLOWING FOR NEXT TIME:

- **SPEND MORE TIME AT THE SCIENTIFIC INSTITUTIONS (CURRENTLY WE SPEND ABOUT 3 HOURS AT EACH INSTITUTE BUT BASED ON THE HOST INSTITUTION RECOMMENDATIONS, THEY WANT THIS TO BE LONGER SO THAT STUDENTS CAN SEE ALL THE FACILITIES)**
- **ENGAGE STUDENTS IN A HANDS-ON WORKSHOP AT THE DAIRY INSTITUTE (THIS WAS A HUGE INSTITUTE AND WE DEFINITELY NEEDED AN ENTIRE DAY FOR THIS)**
- **GET AN UPFRONT COST FROM THE TRAVEL AGENT REGARDING TIPPING (IN THE CURRENT TRIP THE TIPPING COSTS INCREASED AS WE HAD TO TIP SEVERAL OTHER INDIVIDUALS BESIDES AND DRIVERS AND PORTERS SUCH AS THE TOUR GUIDE, CULTURAL ARTISTS, ETC.)**



(6) WHAT DID YOU LEARN FROM THE PROCESS?

I LEARNT A GREAT DEAL ACTUALLY. TO NAME A FEW-(1) STUDENT GROUP DYNAMICS ARE VERY IMPORTANT. ALTHOUGH I HAD A FANTASTIC GROUP OF 14 WHO WERE VERY COHESIVE AND FRIENDLY, SOME STUDENTS COULD HANDLE THE FAST PACE WHILE OTHERS NEEDED MORE TIME TO CATCH UP. (2)EARLY ORGANIZATION IS VERY IMPORTANT SINCE IT INVOLVES A HUGE AMOUNT PAPERWORK. (3) ALWAYS USE A TRAVEL AGENCY FOR MANAGING THE TRIP- EVERYTHING IS ARRANGED SMOOTHLY. I AVAILED OF AN EXCELLENT AGENCY AND WAS VERY PLEASED WITH THEIR SERVICE.

(7) WHAT ARE STUDENT RESPONSES TO THE ACTIVITY? ATTACH STUDENT EVALUATIONS OR ASSESSMENTS (IN ACCORDANCE WITH FERPA RESTRICTIONS YOU MUST REMOVE ALL PERSONALLY IDENTIFIABLE STUDENT INFORMATION)

STUDENTS HAVE BEEN GUIDED TO THE QUALTRICS ONLINE EVALUATION LINK AND HAVE BEEN GIVEN THE STUDENT EVALUATION FORM AS WELL. ONCE I RECEIVE ALL EVALUATIONS, I WILL FORWARD THE SAME TO IRA.

8) GIVE A SUMMARY OF EXPENSES FOR THE ACTIVITY.

- 1. PACKAGE (ACCOMMODATION, TRANSPORT FOR GROUP): \$24656**
- 2. TOURS, ENTRANCE FEES AND CULTURAL ACTIVITIES: \$2462**
- 3. ECOVILLAGE RETREAT: \$3000**
- 4. VISAS: \$1190**
- 5. FLIGHTS: \$16,815.45 (\$1121.03 PER PASSENGER)**
- 6. MISCELLANEOUS: (DUBAI AIRPORT OVERNIGHT STAY CHARGES FOR 6 ROOMS = \$1602.30); INCIDENTALS (TIPS, HOTEL INTERNET CHARGES, TOUR GUIDE ASSISTANCE~ \$775)**
- 7. ROADRUNNER SHUTTLE: \$605.70**
- 8. MEALS (FOR FACULTY ONLY): ~ \$680**
- 9. COMMUNICATION DEVICE CHARGES: \$65**

B. ATTENDEE LIST- SEPARATE SUPPORTING DOCUMENT:

In addition to the report form, *in a separate document*, attach to your email a list of attendees complete with each student major and grade level. This for IRA Committee reference only and will not be published on the IRA website. Include your name and the title of your IRA activity on the document.



ATTACHED

C.IMAGES FROM ACTIVITY:

Finally, include up to 6 images demonstrating student participation (under 2.5 MB total). You **MUST** include captions/titles for each photo. You may put these photos in a Word or PDF format, or attach these photos in JPEG format directly to email. Thank you!

ATTACHED



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Picture 1: Visit to Idmad-Ud-Daulah in Agra (Students having a lot of fun!)



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Picture 2: Visit to Institute of Microbial Biotechnology in Chandigarh



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Picture 3: Visit to National Dairy Research Institute in Karnal (Students learning the process of milk processing)



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Picture 4: Visit to Govardhan Ecovillage (Students learning how to make clay bricks)



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Picture 5: Traditional welcome in the hotel lobby in Mumbai (Students are welcomed warmly with flower garlands, vermilion on the foreheads and a drink)



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Picture 6: A boat ride to visit the Elephanta Caves



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Picture 7: Dinner at a restaurant



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Picture 8: Govardhan Ecovillage



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Picture 9: Inside a shopping mall



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Picture 10: And of course the Taj Mahal!