



Instructionally Related Activities Report Form

SPONSOR: NITIKA PARMAR
DEPARTMENT: BIOLOGY
ACTIVITY TITLE: UNIV 392-BIOTECHNOLOGY IN INDIA
DATE (S) OF ACTIVITY: DECEMBER 16, 2018- JANUARY 13, 2019

Please submit via email to the IRA Coordinator along with any supporting documentation at david.daniels@csuci.edu within 30 days after the activity. Thank you for your commitment to engaging our students!

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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 (2018-2019 ACADEMIC YEAR). I TAUGHT UNIV392-BIOTECHNOLOGY IN INDIA, IN FALL, 2018 AND THE KEY FEATURE OF THIS SHORT TERM STUDY ABROAD COURSE WAS AN INTERNATIONAL TRIP. I TOOK 13 UNDERGRADUATE STUDENTS TO INDIA TO EXPLORE AND UNDERSTAND BIOTECHNOLOGY IN THE ACADEMIC RESEARCH INSTITUTIONS AS WELL AS BIOTECH INDUSTRIES. THE INTENT WAS FOR STUDENTS TO OBSERVE HOW BIOTECH IS PRACTICED IN INDIA, LEARN CULTURE-SPECIFIC ASPECTS OF SCIENCE AND UNDERSTAND THE DIFFERENCES IN THE SCIENTIFIC TEMPER IN INDIA VERSUS USA. THE STUDENTS WERE ALSO PROVIDED INSIGHTS INTO INDIA'S CULTURE, TRADITIONS AND SOCIAL NORMS WHICH WAS A HUGE EDUCATION IN ITSELF.

(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, PARTICULARLY IN THE AREA F CLONING.

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**



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- **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?

THE STRENGTH OF THIS ACTIVITY LIES IN THE FACT THAT IT OFFERS STUDENTS AN AMAZING OPPORTUNITY TO TRAVEL TO A DIFFERENT COUNTRY AND EXPERIENCE IT WITH AN OPEN-MINDED APPROACH. SEVERAL STUDENTS HAD NEVER TRAVELLED OUT OF USA AND THIS EXPERIENCE WAS A LIFE-CHANGING ONE FOR THEM. IT OFFERED THEM APPRECIATION FOR SCIENCES IN THE ASIAN SUBCONTINENT AS WELL AS SENSITIVITY TO CULTURAL AND TRADITIONAL NORMS. OVERALL, IT PROVIDED CONFIDENCE AND A STRONG DRIVE TO MAKE A CHANGE IN THE SOCIETY-FOR THE BETTER. IN ADDITION, INDIA IS A VERY DIFFERENT COUNTRY AND STUDENTS WERE PLACED OUT OF THEIR COMFORT ZONE TO BE ABLE TO ABSORB ALL THE INTERESTING ASPECTS OF THE COUNTRY. UNLIKE VISITS TO WESTERN COUNTRIES WHERE THINGS COULD BE SIMILAR TO USA INDIA HAD TO OFFER A VASTLY DIFFERENT AND ENRICHING EXPERIENCE, SOMEWHAT OVERWHELMING AT TIMES! THE MEETINGS WITH THE SCIENTISTS AND THE INDIAN DIASPORA PROVIDED CONFIDENCE AND A STRONG DRIVE TO MAKE A CHANGE IN THE SOCIETY.

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

I DON'T SEE ANY IMMEDIATE WEAKNESSES THAT NEED ATTENTION BUT I COULD ELABORATE ON A FEW WHICH I FELT VERY CHALLENGES TO SOME STUDENTS:

- **STUDENTS WHO DID NOT HAVE A BIOLOGY BACKGROUND FOUND THE TECHNICAL JARGON USED IN THE RESEARCH INSTITUTIONS A BIT DIFFICULT TO UNDERSTAND. THIS COURSE IS OPEN TO STUDENTS OF ALL DISCIPLINES AND HENCE IT IS NATURAL THAT STUDENTS WHOSE MAJOR IS NOT BIOLOGY MAY FEEL SOMEWHAT OVERWHELMED. BUT THE CULTURAL TOURS MORE THAN MADE UP FOR THIS APPARENT SHORTCOMING.**
- **PERSONALITY ISSUES AROSE BETWEEN STUDENTS WHILE IN INDIA. I THINK IT WOULD BE PRUDENT FOR THE CLASS MEMBERS TO SPEND MORE TIME WITH EACH OTHER IN USA AND DO ACTIVITIES TOGETHER SO THAT THEY CAN UNDERSTAND EACH OTHER AND FORM AN AMICABLE RELATIONSHIP.**

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

- **WORK ON STUDENT GROUP DYNAMICS (SEE # 4 ABOVE) AND HAVE STUDENTS INTERACT WITH EACH OTHER MUCH MORE BEFORE THE TRIP**
- **HAVE STUDENTS INVESTIGATE CELL PHONE AND PLAN OPTIONS IN MORE DETAIL (WE HAD A FEW MINOR ISSUES IN INDIA WHICH WERE RESOLVED)**
- **ENSURE THAT STUDENTS EXPRESS CLEARLY TO ME WHEN AND IF THEY FEEL SICK (SOME STUDENTS DID NOT INDICATE THEIR ILLNESSES EARLY ON). STUDENTS WILL BE ENCOURAGED TO APPROACH ME MORE OPENLY.**



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(6) WHAT DID YOU LEARN FROM THE PROCESS?

I LEARNT SEVERAL THINGS-

- **STUDENT GROUP DYNAMICS ARE VERY IMPORTANT. ALTHOUGH I HAD A FANTASTIC GROUP OF 13 WHO WERE INDIVIDUALLY VERY FRIENDLY, THERE WERE GROUP FRICTIONS ON AND OFF.**
- **USE OF A TRAVEL AGENCY IS VERY USEFUL AS THEY HAVE THE SKILLS AND EXPERTISE TO HANDLE ALL CHALLENGES. WHEN STUDENTS FELL SICK, THE TRAVEL AGENCY REPRESENTATIVES TOOK EXCELLENT CARE AND ARRANGED EVERYTHING FOR US.**
- **STUDENTS CAN BE HIGHLY ADAPTIVE OR SLOW TO UNDERSTAND THE CULTURAL DIFFERENCES. GIVE THEM MORE TIME DESPITE GIVING THEM FULL INFORMATION AHEAD OF THE TRIP ON WHAT TO EXPECT**

(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. EVALUATIONS ARE ATTACHED.

8) GIVE A SUMMARY OF EXPENSES FOR THE ACTIVITY.

INTERNATIONAL AIRFARE (REWARDS TRAVEL)	\$22,264.62
TOURS/ACCOMMODATIONS (TAG BROS HOLIDAY)	\$32,349.00
DOMESTIC AIRFARES (TAG BROS HOLIDAY)	\$1332.00
EDUCATIONAL RETREAT (ECOVILLAGE)	\$4,800.00

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