

**CSHEMA**    **Innovation Award Application**  
**Title:**           **EH&S Professional workshop**  
**Category:**       **Process Improvement (Training Program)**

## Safety Problem

***Introduction.*** “That dude from EH&S is such a jerk.” Such was a statement shared by a very powerful Facility Safety Manager from an academic department at a University of California campus. On and on spewed the scathing complaints to a very attentive Vice Chancellor, whose own performance was based on the improved customer service of his departments. The complaints involved a Laboratory Safety Specialist from Environmental Health & Safety who, though highly competent in the field of chemical hygiene, was often rude to people. In a meeting, this person cut off and belittled the individual when they were asking a question about applicability of OSHA regulations. It didn’t help this was in front of academic peers and Assistant Deans. After the meeting, when the Facility Safety Manager called multiple times to meet and discuss the disagreement, the EH&S staff member replied with a link to the regulations, stating that if they had further questions please read.

This is a common tale of the average safety professional. They obtain higher education, pursue and achieve professional certifications, and are praised for their technical expertise as EH&S staff. But they are often thrown to the lion’s den at a University without training in people skills. Faculty, staff, and students overtly seek their professional opinions, while covertly are addicted to being treated with respect and dignity. The current state of our field involves a lack of professional development before these safety individuals are plopped in front of impatient university customers. While meager attempts at professional development exist, there is no standardization of what should be taught, a lack of mentors to provide guidance, and devaluation of soft skills as, “fluffy” and not as important in comparison to technical skills.

***Effect on institution.*** The lack of communication and influence skills presents a major reputational risk to the entire EH&S department, and forces safety culture initiatives into vulnerability and near-extinction. At one Southern California campus of the University of California (UC), faculty continued to avoid working with EH&S staff at all because they didn’t want to feel belittled. Such was the case in several physical science laboratories where they began hoarding chemicals and compressed gas cylinders, without regard for proper segregation or flammable storage requirements. This was simply because the EH&S Laboratory Safety

Specialist was seen as a nuisance rather than a resource. In another case, department representatives stopped attending Safety Committee meetings because they didn't want to be subjected to the rantings of the Campus Fire Marshal. This person notoriously abused the time in order to complain about how everyone was blocking emergency exits, hanging things from fire sprinklers, or not updating their fire extinguisher tags. Meanwhile newer EH&S staff were cringing in the corner, wishing they were not associated with the same department, or pretending not to hear because they were busy on their iPhones. The uneven distribution of soft skills further created silos between the EH&S departments of the UC. Like wolfpacks, these groups would form in clicks, and bond at the water cooler over stories of how ridiculous so-and-so looked because they were saying foolish things in meetings. On top of this, the department began noticing a couple of years ago that faculty and staff began taking advantage of this. In one example, the same faculty called up one individual and, when he didn't hear the answer he wanted, called up another person in the same EH&S department who was known for not getting along with the first one. Before long, people would be pitted up against each other. All the while the campus community was allowed to operate without firm guidance because of drama within EH&S.

## Scope

At the University of California Riverside a team of five training experts from Risk & Safety Training (R'STD) tackled the problem, using existing staff, supplies, and resources from other campuses. In 2016 the University of California created the EH&S Professional Education program. Initial attempts were focused on the spread of technical skills, which were achieved by development of online training courses known as the EH&S Generalist certification (see [Appendix A](#)). These later became pre-requisites for an in-person classroom course, code named "How not-to-be-a-jerk training." While searching for professional development standards, the University turned to CSHEMA. During the 2017 annual conference the concept of CSHEMA "Core Competencies" was proposed (see [Appendix B](#)). Thereafter, the University engaged the expertise of other universities to confirm that, yes, these skills were deeply needed and determined what they looked like. Instances of more horror stories in the UC resulted in the addition of leadership and teamwork to the set of skills. Armed with these six professional skills, the University's training team developed a curriculum that was packaged into a one-day event formally known as the EH&S Professional Education workshop (see [Appendix C](#)).

**Method.** Implementing the program began with a discussion about the CSHEMA Core Competencies and University of California values. After identifying the six professional skills that composed an EH&S Professional (ranging from communication to technical skills), the training team solicited speakers to present.

The training team moved to obtain buy-in from the EH&S Directors of all the 10 campuses and 5 medical centers within the University of California. These directors were motivated by a desire to offer broad, cost-effective training to their staff. The EH&S Directors shared more embarrassing stories of how they had to fix the reputational damage inflicted by their own staff, who forgot to treat their constituents as customers. They were willing to serve as a host campus, contributing staff and paid costs, since it meant better staff performance.

The University's training team continued to work with each campus, identifying dates they could host, and provided instructions on the discipline-specific portion of the day. While the training team delivered the professional development session (e.g., "soft skills"), subject matter experts were enlisted at each campus to come up with a technical station for participants. The instructions were simple: Create an activity that lasts for 20 minutes, aimed at small rotating groups, and make sure it is hands-on (e.g., practice using a Geiger meter). In total there were at least four stations focused on Laboratory/Research, Emergency & Fire, Occupational and Industrial Hygiene, and Environmental. Emails and webconferences were used to coordinate planning meetings. Instructions included campus agreements, presentation guidelines, and what to expect (see [Appendix D](#)). Practices were scheduled to manage allotted times for the sessions, and provide feedback to speakers. Finally, the UC enlisted the help of Dr. Robert Emery from the University of Texas Health Science Center at Houston. Due to his previous work in furthering staff development through their EH&S Academy, he was asked to present on the CSHEMA Core Competencies as a foundation for the rest of the workshop, which operationalized them in the form of group activities (see [Appendix E](#)). To top it off, a roleplay was included in where participants observed customer complaints by faculty, staff, and students; and examples of what "good" and "bad" EH&S staff would say. Within a few months, the entire program was open for registration.

**Cost.** The tangible cost of the workshop was approximately **\$11,000**. This includes expenses for staffing, travel, catering, supplies & equipment, learning management system, registration fees, room reservations, webconferences, and hosting the website (see [Appendix F: Budget](#)). For many of these expenses, there was no

cost at all due to the free resources already available at the University. The costs of the event were shared between the facilitators (UC Riverside R'STD) and the host campus. Facilitator costs, although listed in the budget, are covered by UC Office of the President as part of an existing program (no additional costs were truly born). Host campuses at UC Irvine, Berkeley, Riverside, Davis, and Santa Barbara contributed to the workshop's on-site costs. In February 2018 these host campus costs were almost completely offset by the charge of registration fees from outside universities. The California State University system was invited to attend, provided that they pay for their seats. The registration fees were collected, then transferred to the host campus as an incentive to continue supporting the program.

***Cost effectiveness.*** For participants, the workshop was virtually free of charge. Because it was a one-day event, no longer were there costs of registration fees, hotel, or meals. Since it was offered at UC campuses throughout the State of California, transportation was the only cost born by a particular EH&S Director. In many cases groups carpooled, encouraged by their directors to attend. The intangible non-monetary cost savings include access to information, which is made available 24/7 anytime, anywhere via the online training modules, as well as the presentations and videos posted after the workshop. Additionally, practices and group activities provide for greater opportunity to change behavior from the learning experience. Furthermore, there is little to no financial cost to learners. Finally, at the University of California, cost effectiveness of training has been measured based on course evaluations provided at the end of each course. Training is evaluated in terms of participant's reaction, learning, and behavior. This is based on the Kirkpatrick Model of training evaluation. As of 03/31/18, 91% of participants indicate that courses are "Good" or "Very Good." Approximately 94% of reported changes in behavior were attributed to the workshop. Learning achievements, represented by pre-test and post-test comparisons, indicate that on average people walk away with 7 new concepts after participating (interpreted as an 35% increase in learning). The top most valued concepts include: leadership, communication, teamwork, influence & negotiation, and importance of the CSHEMA Core Competencies. For sample statistics from the workshop refer to the UC Berkeley Summary Report ([Appendix G](#): Evaluations).

***Innovative method.*** This is the first time that a hybrid model was used to develop professional skills for EH&S staff. The EH&S Generalist online training courses were required before registering for the in-person

EH&S Professional workshop. During the class, participants were provided supplementary learning via group activities and technical stations, based on the online pre-requisites. To date a total of **374 attendees** have participated. This is great service to the approximately 500 staff in EH&S departments throughout the UC system (see [Appendix H](#)). Additionally, the program is experiencing increased participation by non-EH&S staff. Because this is free exposure to the EH&S programs, more academic departments began sending their own staff to attend. This includes a range of folks who assume a safety role from other departments (e.g., Safety Coordinators, Facility and/or Laboratory Managers). The program has now become an extension of EH&S. By reaching out to professionals outside of EH&S, it is now an avenue to transfer safety culture values.

## Applicability

The EH&S Professional Education program model is applicable at other higher education institutions interested in staff professional development. Learning how to grow a comprehensive safety culture, with little to no financial cost, is invaluable. Other Universities struggle with balancing staff knowledge in technical fields for which they are hired, against general soft skills needed to survive in an unforgiving and harsh University. Yet, no other resources are available to provide foundational professional development specific for the health and safety field.

The University has seen a high value placed upon the certificate that is awarded. Some staff hang it in frames over their cubicles, and others submit copies of it for their personnel file. Yet others may use these certificates to enhance their resume and professional profiles, as they get inspired to acquire upward mobility within a health and safety department. Finally, many staff include these certificates in their personnel files, for consideration during performance appraisals.

Furthermore this program seems to provide a partial solution to a recent post in the CSHEMA Café entitled [Value of certifications in EHS](#) (dated 01/09/18). A review of the highly emotional posts and rantings revealed that technical education and certificates are not enough to help us survive. One CSHEMA member eloquently said, “I think how we educate EH&S people needs to change...What people need to learn is how to interact with other people” (Randolph Shebby, Lehigh University 01/18/18).

# Appendices

Supporting documents

## Appendix A

# EH&S Professional Education program

### About the program

The EH&S Professional Education program cross-trains staff to expand their knowledge and skills in a variety of EH&S programs applicable to the university setting. Taught by UC subject matter experts, this blended learning experience (consisting of online modules and an in-person workshop) offers an opportunity to earn three certifications:

1. EH&S Generalist
2. EH&S Professional
3. EH&S Specialist

Participants complete online modules, and attend classroom workshops, that develop skills and abilities applicable to the University setting. The time spent completing this cross-training is rewarded with certifications and contact hours that can be applied to continuing education units (CEUs). Some of the participants already had existing professional certifications and simply needed a reason to learn about other EH&S professions.

### Recognition

Winner of the CSHEMA 2017 Innovation Award of Honor, the program is an affordable solution that bridged silos within the health and safety field by developing knowledge of all EH&S programs leveraging an eLearning delivery method. For more information please visit <http://ehsProfessional.education>.



**Innovation Award  
of Honor 2017**  
CSHEMA

## EH&S Generalist certification

### Description

The course consists of 14 foundational courses all of which must be completed to obtain a certificate. These modules are also required prerequisites to register for other certifications.



*EH&S Generalist certification is an online program consisting of 14 foundational courses covering traditional programs found at universities.*

### Courses

The lessons include:

1. Introduction
2. Biosafety
3. Emergency Management
4. Environmental Health
5. Environmental Protection
6. Ergonomics
7. Fire Safety
8. Hazardous Waste
9. Industrial Hygiene
10. Laboratory/Chemical
11. Occupational Safety
12. Radiation
13. Universities (how they work)
14. Elective

Before taking the courses, participants completed a pre-test, which was later compared against their final post-test assessment.

## Appendix B

# CSHEMA Core Competencies

The CSHEMA 64<sup>th</sup> Annual Conference in Tucson, AZ on July 13-17, 2017 introduced its proposal for “Core Competencies” for the profession. This included an emphasis on influence & negotiation, communication, communication, program management, and discipline specific conceptual knowledge (“technical skills”). Description of each competencies was described in the concept program included below.

## CSHEMA’S PROPOSED CORE COMPETENCIES FOR THE PROFESSION

CSHEMA has identified these core competencies for the environmental health and safety profession. Regardless of job responsibilities or position level, these competencies permeate all work in the profession, though prioritization may differ. Core competency refers to a set of composite skills, knowledge, and behaviors that provides the basis and forms the foundation for successful professional practice in environmental health and safety work. In the future, CSHEMA be assigning core competencies to educational sessions and other professional development opportunities to provide members with another way to diversify and round out their educational experiences.

During this conference, CSHEMA is seeking feedback about these proposed competencies. They will be reviewed at the CSHEMA 101 session on July 14 at 2 p.m. Comments also will be collected at the Member Services Center or via email at [info@cshema.org](mailto:info@cshema.org).

### INFLUENCE AND NEGOTIATION

- Problem Solving: Ability to obtain information and identify key issues and implications to make informed and objective decisions.
- Leading Others: Ability to organize and motivate people to get things accomplished in a way that everyone feels a sense of order and direction.
- Performance Management: Ability to proactively investigate new perspectives, attitudes, and behaviors and takes steps to evaluate and improve performance.
- Conflict Resolution: Ability to listen and to manage conflicts and achieve compromise while meeting meaningful goals and respecting other parties' perspectives.
- Systems Thinking: Ability to employ a sense of vision to create new innovative concepts, products, and solutions.
- Partnerships/Collaboration: Ability to work with and help others to accomplish objectives; identify areas of person expertise and seeks out opportunities to lend expertise to working groups to maximize outcomes.

### COMMUNICATION

- Technology Adaptation/Adoption: Ability to seek out ways to employ technology to optimize organizational and individual performance; demonstrate proficiency in using tools and application packages; employ technology to assist in work activities.
- Public Speaking and Training: Ability to deliver clear, effective communication and takes responsibility for understanding others.
- Continual Learning and Development: Ability to seek feedback from others and use other sources of information to identify appropriate areas for learning.
- Message Delivery: Ability to use writing skills and editorial judgement to develop messages for various audiences; and deliver them by evaluating the most appropriate channel for the needs of the target audience.
- Conveying Role Value: Ability to draw upon a variety of capacities to instill in an employee a sense of value for the task at hand.

### PROGRAM MANAGEMENT

- Decision Making: Ability to recognize and analyze problems and make difficult choices under uncertain conditions; use benchmarking to compare appropriate data; show good judgement.
- Strategic Planning: Ability to employ a sense of vision to create new innovative concepts and solutions.
- Risk Management and Mitigation: Ability to plan and implement measures that will avoid, overcome, or compensate for elements of risk.
- Compliance: Ability to evaluate compliance with appropriate laws, regulations, industrial codes, control systems, and social responsibilities.
- Critical Incident Analysis: Ability to evaluate an incident investigation system; analyze root causes of an incident.
- Sustainability Literacy: Ability to understand how environmental, economical, and social sustainable factors impact the organization and in turn, how the organization impacts sustainability.

### DISCIPLINE SPECIFIC CONCEPTUAL KNOWLEDGE

- The ability to demonstrate a broad base of established and evolving knowledge within their discipline and detailed knowledge of their area(s) of expertise.

## Appendix C

# EH&S Professional workshop

### Description

This 1-day, in-person workshop (held at various UC campuses) provides an overview of advanced topics in Environmental Health & Safety (EH&S). Participants review concepts from the EH&S Generalist online modules, and transform this knowledge into practical skills through hands-on exercises. In addition, they network with colleagues from other UC campuses and dialogue about EH&S core competencies such as: communication, influence & negotiation, program management, technical skills, leadership, and teamwork. Participants are welcome from across the UC system, and do not need to be affiliated with the campus at which the workshop is held.



### Core Competencies

The program emphasized skills based on the CSHEMA Core Competencies: Communication, Program Management, Influence & Negotiation, and Technical knowledge. Additionally, the University of California added Leadership and Teamwork skills to the overall curriculum. For more information, visit <http://ehsProfessional.education>.

### Videos

For a quick overview of the workshop, please view the following videos:

#### UC Irvine

November 14, 2017

<https://www.youtube.com/watch?v=fZux5ADFFfY>

Length: 1 min

#### UC Berkeley

February 5, 2018

<https://www.youtube.com/watch?v=4mxK9ebZeVs>

Length: 3 min

## Photos

REVIEW



PRACTICE



NETWORK



## Appendix D

# Campus Agreement

UNIVERSITY OF CALIFORNIA Risk & Safety Training and Education Center of Excellence

## EH&S Professional Education Workshop **Agreement**

Prepared by: Janette de la Rosa Ducut, Ed.D.



## Overview

## About the program

The UC Risk and Safety Training & Education Center of Excellence (COE), in collaboration with Subject Matter Experts from all campuses, has created the EH&S Professional Education program. This series of online courses is intended to cross-train safety professionals across the UC system in a blended learning experience of online modules and in-person trainings. The COE has partnered with the UC Berkeley Center of Occupational and Environmental Health, UCLA Southern California Research and Education Center, and UCSD Extension Center on this program. For more information visit [www.ehsProfessional.education](http://www.ehsProfessional.education).

## Purpose

The program fulfills the UC EH&S Leadership Council's (EHSLC) strategic objective of "Retention and Development: Provide systemwide opportunities for professional development and continuing education for UC EH&S professionals" (see [Strategic Plan 2015-2020](#)).

## Workshop

Attendees will be provided an overview of advanced topics in EH&S. Participants will review concepts from the online training, practice skills and use equipment common to the field, and network with colleagues from other UC campuses. Advanced topics include: professional certifications, leadership, UCOP Risk Services, and safety culture. Combined with the online courses, this one-day workshop replaces the five-day EH&S Academy previously hosted by UCOP (see [old EH&S Academy 2009 website](#)).

The in-person training will be held at a campus or medical center. A minimum of 50 staff are expected to attend each session.

## Campus requests

Originally intended for EH&S staff, the program has grown into a desired asset for the EH&S departments. With support from each campus EH&S Director, the program would also be useful in outreach and training external staff with a safety role. This includes Department Safety Coordinators, Laboratory Safety Representatives, and others who advocate for safety issues for the EH&S staff. These are individuals who do not report to EH&S, however have a sliver of responsibility related to safety.

Due to requests to spread this program to non-EH&S staff, there is desire to bring the workshop to each campus. This is largely due to the lack of travel funds that non-EH&S staff may have. In contrast, by providing a course on-site, there are greater opportunities to reach out to safety professionals outside of EH&S, and transfer safety culture values.

## Cost

The entire cost of this initiative is related to the in-person workshop. Without it, the program is currently free to all campus. As outlined in the budget samples, the total cost of this program is expected to be between \$1,275 to 4,000 per day.

## Responsibilities

Campus

Each campus that wishes to host the workshop will be responsible for providing staffing, outreach to students, room location, audio/visual equipment supplies for instruction, catering, parking, and printing. A central point of contact will be designated to coordinate logistics, attend meetings (pre-planning & post-review), assemble training materials, and submit rosters for entry into the learning management system (LMS).

COE

The COE team will facilitate the workshop (including paying for their own cost of travel), manage registrations, develop promotional templates and training materials, incur meeting costs, present to campuses upon request, issue certifications, and enter into a Memorandum of Understanding with an approved agency to furnish continuing education units (CEUs).

Campus	COE
<ul style="list-style-type: none"> <li>▪ Staffing of subject matter experts (3-5 people)</li> <li>▪ Student (participant) outreach</li> <li>▪ Room rental</li> <li>▪ Audio/visual</li> <li>▪ Supplies for instruction (post-its, flipcharts or whiteboard, markers, candy or learning incentives)</li> <li>▪ Catering (optional)</li> <li>▪ Parking spaces and banners/signage (optional)</li> <li>▪ Printing (training materials, promotional flyers/posters)</li> <li>▪ Equipment for instruction (e.g. GM meters, spill cleanup kits, personal protective equipment, etc.)</li> <li>▪ Training materials (assembly of binders)</li> <li>▪ Meeting attendance (pre-planning &amp; post-review)</li> <li>▪ <b>Rosters (for LMS input)</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ Staffing of facilitators (COE team)</li> <li>▪ Travel to campus</li> <li>▪ Registration (prerequisite confirmation, sign-ups through LMS, etc.)</li> <li>▪ Promotional templates (flyers, emails, website, etc.)</li> <li>▪ Training materials development (presentations, handouts, etc.)</li> <li>▪ Meeting costs (zoom, travel, etc.)</li> <li>▪ Presentations (during campus meetings, Risk Summit, booth, etc.)</li> <li>▪ Certifications</li> <li>▪ Memorandum of Understanding with UCLA Southern California Educational Research Center for CEUs</li> </ul>

## Registration

## **Open enrollment**

Host campuses agree to open enrollment to other UC campuses. For example, a workshop at UC Riverside should allow participants from nearby UC Irvine, UC San Diego, and UC Los Angeles.

### Minimum

A minimum of 50 participants must be guaranteed by campus hosts prior to a workshop being delivered.

Time

Workshops will begin promptly at the time listed. Unless arrangements have been made in advance, participants who are more than 45 minutes late will be asked to leave and register for the next available workshop.

## Appendix E

# Agenda & Handout



University of California  
EH&S Professional Education Workshop

### Agenda

March 28, 2018

University of California Riverside

Time	Topic	Presenter
9:00 am – 9:15 am	<b>Welcome</b> (15 min)	Ken Smith, <a href="#">UCOP</a> Brent Cooley, <a href="#">UCOP</a> Dr. Albert Vasquez, <a href="#">UCR</a>
9:15 am – 9:25 am	<b>Administration</b> (10 min) Pretest. Agenda. Exits & Restrooms. Sign-in. Handouts. Guidebook. Introductions.	Janette de la Rosa Ducut, Ed.D., <a href="#">UCR</a>
9:25 am – 9:40 am	<b>Review</b> (15 min)	Christine Flanders, <a href="#">UCR</a>
9:40 am – 10:25 am	<b>Core competencies presentation</b> (45 min) Communication, Influence, and Program Management	Robert Emery, DrPH, <a href="#">UTHSC</a> (webconference)
10:25 am – 10:45 am	<b>Program Management workshop</b> (20 min)	Janette de la Rosa Ducut, Ed.D., <a href="#">UCR</a>
10:45 am – 11:45 am	<b>EH&amp;S Moments that matter</b> (60 min) Customer complaints	Dr. Albert Vasquez, <a href="#">UCR</a> Brent Cooley, <a href="#">UCOP</a> Ken Smith, <a href="#">UCOP</a>
11:45 am – 12:00 pm	<b>Influence &amp; Negotiation workshop</b> (15 min)	Cassandra Greenawalt, MS, <a href="#">UCR</a>
12:00 pm – 12:10 pm	<b>Influence Connections</b> (10 min)	Janette de la Rosa Ducut, Ed.D., <a href="#">UCR</a>
12:10 pm – 12:40 pm	<b>LUNCH</b> (30 min)	ALL
12:40 pm – 12:50 pm	<b>Technical overview</b> (10 min)	Janette de la Rosa Ducut, Ed.D., <a href="#">UCR</a>
12:50 pm – 2:20pm	<b>Technical stations (rotations)</b> (1 hour 30 min) <ol style="list-style-type: none"> <li><b>Environmental Health (REHS)</b> Temporary Food Vendor</li> <li><b>Emergency Management</b> Incident Command System</li> <li><b>Environmental Programs</b> Hazardous Waste storage &amp; segregation</li> <li><b>Laboratory / Research Safety</b> Laboratory Risk Assessment</li> </ol>	Tiffany Kwok, <a href="#">UCR</a> Beiwei Tu, <a href="#">UCR</a> Matt Mahaffey, <a href="#">UCR</a> James Cesar, <a href="#">UCSB</a> Richard Watson, <a href="#">UCR</a> Travis Underwood, <a href="#">UCR</a> Tope Ankintunji, <a href="#">UCR</a> Pamela See, <a href="#">UCR</a> Kennedy Vu, <a href="#">UCR</a>
2:20 pm – 2:30 pm	<b>Technical discussion</b> (10 min)	Janette de la Rosa Ducut, Ed.D., <a href="#">UCR</a>
2:30 pm – 2:45 pm	<b>Communication workshop</b> (15 min)	My-Linh Tran, <a href="#">UCR</a>
2:45 pm – 3:00 pm	<b>Pandemic outbreak</b> <ul style="list-style-type: none"> <li>Meningitis case study @ UCSB (5 min)</li> <li>Group practice (10 min)</li> </ul>	Janette de la Rosa Ducut, Ed.D., <a href="#">UCR</a> James Caesar, <a href="#">UCSB</a>
3:00 pm – 3:15 pm	<b>BREAK</b> (15 min)	ALL
3:15 pm – 3:45 pm	<b>Leadership</b> (30 min) <ul style="list-style-type: none"> <li>Styles and Dynamics</li> <li>Networking</li> </ul>	Heather Davis, <a href="#">UCR</a> Timothy Pagano, <a href="#">City of Riverside</a>
3:45 pm – 4:20 pm	<b>Teamwork workshop</b> (35 min) Building structure. "This" vs. "That" team.	Janette de la Rosa Ducut, Ed.D., <a href="#">UCR</a>
4:20 pm – 4:40 pm	<b>Debrief</b> (40 min) Posttest. Evaluations. Graduation. Reflection (group discussion). Next steps. Future workshops. Adjourn.	Janette de la Rosa Ducut, Ed.D., <a href="#">UCR</a>

version 3/31/18



## EH&S Professional Education Workshop

### Handout

March 28, 2018 @ University of California Riverside



Risk & Safety  
**TRAINING**  
University of California

### Agenda

- (9:00 am) Welcome, Administration, Review
- (9:40 am) Core Competencies presentation
- (10:25 am) Program Management workshop
- (10:45 am) EH&S Moments that matter: Customer complaints
- (11:45 am) Influence & Negotiation workshop
- (12:10 pm) LUNCH
- (12:40 pm) Technical overview, stations, discussion
- (2:30 pm) Communication workshop
- (2:45 pm) Pandemic outbreak
- (3:00 pm) BREAK
- (3:15 pm) Leadership / Networking
- (3:45 pm) Teamwork workshop
- (4:20 pm) Debrief
- (5:00 pm) Adjourn

### Guidebook

1. Search for "Guidebook" app
2. Select "Enter passphrase"
3. Enter "riverside"



### Review

1. Go to [www.menti.com](http://www.menti.com)
2. Enter the code 713435
3. Type in your name
4. Use your phone to answer the questions

### EH&S Moments that matter

#### Customer Complaints

Faculty is upset at having to complete additional compliance work for his laboratory. EH&S has asked them to complete the Laboratory Hazard Assessment Tool, develop SOPs for each chemical, certify their laboratory is safe on a self-audit, and use an online form WASTe to pickup hazardous waste.

Staff are mad at all the facility problems they're experiencing, especially because no one is helping them fix it. EH&S has identified multiple problems in the Child Development Center during an inspection including: broken tile (asbestos), chipping paint (lead hazards), lack of Lockout/Tagout procedures for each equipment, evidence of unused paint being poured down the drain in a sink, and mold growing on the walls.

Students like to use a local street vendor "El Elotero" to help them fundraise for their clubs and organizations. They are upset that EH&S policies only allow food permits to be granted to campus organizations, but not to street vendors that work with them.

### Networking

Name:

Campus:

Email:

Phone:

Name:

Campus:

Email:

Phone:

## Appendix F

### Budget

Cost	Purpose	Cost
<b>Staffing</b>	Salaries and benefits estimated for: <ul style="list-style-type: none"> <li>▪ <b>Speakers</b> \$1,500 to develop, practice, and present during the session(s) (calculated as \$50/hour x 3 hours per person x 10 speakers)</li> <li>▪ <b>Facilitators</b> \$5,000 Training team to coordinate event, setup &amp; breakdown, and facilitate (calculated as \$50/hour x 20 hours per person x 5 people)</li> </ul>	6,500.00
<b>Travel</b>	Travel costs estimated for: <ul style="list-style-type: none"> <li>▪ <b>Facilitators</b> to teach core competencies, manage registration, setup and breakdown event. Costs include airfare, hotel, transportation, meals = \$500/person x 5 people</li> <li>▪ <b>Speakers</b> to present during technical stations. No cost due to use of existing subject matter experts already at the host campus. Dr. Robert Emery attended via webconference = FREE</li> <li>▪ <b>Participants</b> to attend program (transportation), classroom room rental, catering, supplies and equipment. No cost of hotel, air, or meals, and parking due to local attendance at nearby university, meals provided by host campus, and parking permit reciprocity.</li> </ul>	2,500.00
<b>Catering</b>	Meals for participants. Includes morning refreshments, lunch, and afternoon snack for 90 people (average per class). Costs paid for by host campus (UCI, UCB, UCR, UCD, UCSB)	1,500
<b>Supplies &amp; Equipment</b>	Materials for: <ul style="list-style-type: none"> <li>▪ Instruction (post-its, flipchart paper &amp; markers, technical stations). Limited cost due to use of existing supplies and equipment from the host campus = \$300</li> <li>▪ Administration (paper for certificates, nametags, promotional flyers; workshop activities, etc.) = \$200</li> <li>▪ Training materials (handouts, presentations). No cost due to all files available electronically via Guidebook app = FREE</li> </ul>	500
<b>Learning Management System</b>	SumTotal Learning Management System to launch course enrollment/registration, track completions, and automatically email certificates of completion. No cost due to existing subscription obtained by the University = FREE	0.00
<b>Registration</b>	Enrollment fee to participate in the program. No cost due to free service for all UC faculty, staff, and students = FREE	0.00
<b>Room</b>	Rental fee for room reservation. Includes audio/visual needs. No cost due to existing space reservations or agreements by local EH&S staff = FREE	0.00
<b>Webconference</b>	Zoom webconference subscription to host planning meetings, practices, and speakers attending from other campuses. No cost due to existing educational subscription obtained by the University = FREE	0.00
<b>Website</b>	OmniUpdate content management system to host information about the program, online registration form, videos, photos, and flyers related to the event. No cost due to existing system owned by the University= FREE	0.00
<b>TOTAL</b>		<b>\$ 11,000.00</b>

## Appendix G

# Evaluations

Sample report from workshop at University of California Berkeley.

Risk & Safety  
**TRAINING**  
University of California  
EH&S Professional Education Workshop  
**Summary Report**  
February 5, 2018  
University of California Berkeley

**Wednesday, February 21, 2018**

Prepared by: Cassandra Greenawalt, MS, RDN

### Background

The second **EH&S Professional Education In-Person Workshop** was held on Monday, February 5, 2018 at the University of California (UC) Berkeley. The program provided **70 participants**, from **5 campuses** & locations, an overview of advanced topics in Environmental Health & Safety (EH&S), in addition to: hands-on exercises, networking with colleagues, and dialogue about core competencies such as communication, influence & negotiation, and program management. **Course evaluations & Tests** were used to collect feedback and to assess participants' overall **reactions**, changes in **behavior** and learning, and **demographic** information.

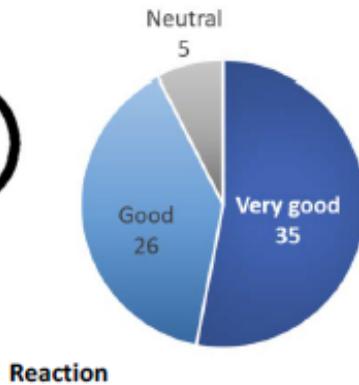
### Course Evaluations

Training is evaluated largely in terms of participant's **reaction** (e.g., thoughts and feelings), **behavior** (e.g., transfer of learning to the job), **learning** (e.g., change in knowledge and skills), and/or results.

### Reaction

Evaluation of reactions enables the program to examine how well participants like the learning process. Reactions provide an indicator of course quality and overall satisfaction.

**92% Positive reactions**

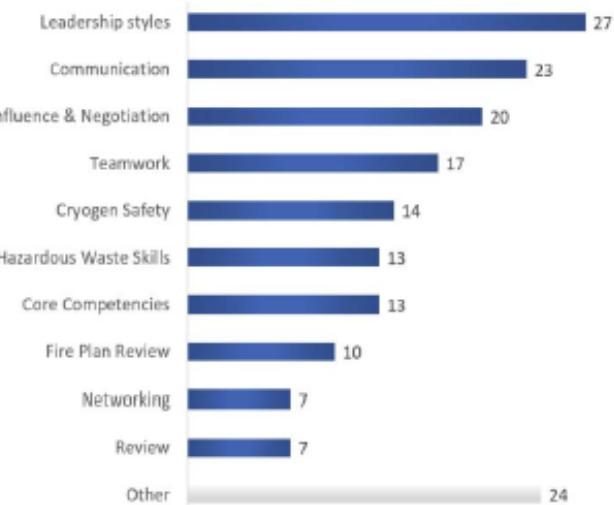


*What is your overall reaction to the program?*

**92% of participants** indicated that workshop was either "Good" or "Very Good"; 8% had a neutral response.

### Learning

Evaluation of learning enables the program to examine the extent to which participants gained skill or knowledge. Learning metrics provide an indicator of the effectiveness of training in increasing knowledge or skill to accomplish course objectives.



\*Other includes: Customer complaints, Infection risk (recreational health, vector, food, and housing/community risks), Program management, Pandemic avoidance, Hygiene, Emergency Management, Other campus best practices, Learning is fun, Importance of Continuing education.

### Top 10 Learned Concepts & Skills

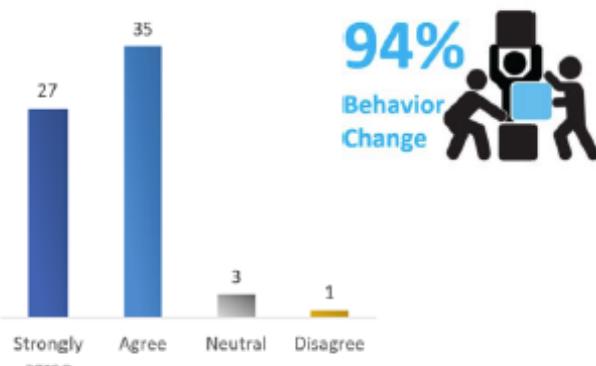
*What are 2-3 things you learned from this workshop?*

Attendees most frequently recalled determining **Leadership Styles** as a learned topic (15%). Participants also indicated that they learned additional skills related to **Communication** (13%) and **Influence & Negotiation** (11%).

### Behavior

Evaluation of behavior enables the program to examine the changes in performance as a result of the training. Behavior data provide an indicator of the effectiveness of training in transferring knowledge or skills from the classroom to the job.

(continued from p. 1)



**Behavior affected by course**  
*The course affects the way I do my work.*

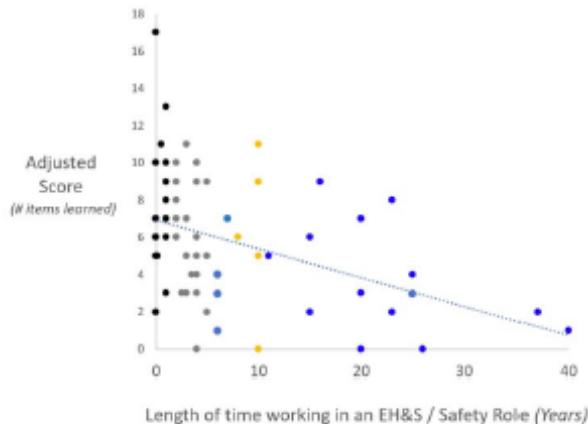
Approximately 94% of participants reported that changes in behavior are attributed to the workshop.

## Tests

Pre- and post- tests are used to evaluate learner outcomes of educational programs. The test used for this workshop collected: Learning Scores, duration working in EH&S/Safety roles, and confidence in achieving program objectives.

### Learning Score

Feedback is collected by measuring the initial knowledge level of the learner and comparing it to the knowledge gained from the workshop or presentation, known as the Learning Score.



### Learning Score versus Length of time working in an EH&S/Safety Role

The length of time participants worked in an EH&S or Safety role was not strongly correlated with the number of items learned in the workshop.

Length of Time	New Concepts Learned
< 2 years (entry-level)	6
6-7 years	4
8-10 years	6
11+ years	4

The average Learning Score was 5.8, indicating that participants reported learning of or increased confidence in 6 new skills / concepts.



**7.5 Years**  
As EH&S or Safety Professionals

On average, participants have worked in EH&S or another safety role for 7.5 years.

### Confidence

Participants' confidence in achieving or demonstrating program objectives was measured prior to and after the workshop.

### Post-Test

I strongly agree that I can...

Objective	"True" responses
Connect with someone in the workshop today.	66 (100%)
Consider different forms of communication and interpretation.	66 (100%)
Diagnose good, and bad, ways of responding to complaints by faculty, staff, and students.	66 (100%)
Don/doff personal protective equipment when working with liquid nitrogen.	66 (100%)
Recognize safe storage methods for hazardous waste.	66 (100%)
Determine your leadership style.	65 (98%)
Identify characteristics of good, and bad, teams.	65 (98%)
Recall information from the online training modules (EH&S Generalist).	65 (98%)
Reduce risk of infection from recreational health, vector, food, and housing or community health risks.	65 (98%)
Determine how to prioritize, build credibility, and show effectiveness.	64 (97%)
Determine which hygiene factors improve your chances of avoiding illness.	64 (97%)
Identify persons of influence, Key Performance Indicator(s), and ways of being service-oriented.	64 (97%)
Recognize cryogen hazards and temperature measurements.	64 (97%)

After the workshop, each objective received at least a 90% confidence rating, with the exception of two; Participants felt least confident in their ability to identify materials that can safely be immersed in cryogens (79%), and to use a Geiger-Mueller (GM) meter to detect radioactive contamination upon exiting a decay room (77%).

(continued from p. 2)

### Pre-Test

*I strongly agree that I can...*

Objective	"True" responses
Determine which hygiene factors improve your chances of avoiding illness.	61 (92%)
Recognize safe storage methods for hazardous waste.	59 (89%)
Recall information from the online training modules (EH&S Generalist).	57 (86%)
Connect with someone in the workshop today.	56 (85%)
Consider different forms of communication and interpretation.	54 (82%)

*Prior to the workshop, participants felt most strongly that they could determine proper hygiene methods for preventing illness (92%).*

*Attendees felt least confident in their ability to: Identify materials that can safely be immersed in cryogens (27%), Navigate through construction documents (41%), Use a GM meter to detect radioactive contamination (42%), and measure egress distance within building plans (42%).*

### Objective Learning Scores

*I strongly agree that I can... (Pre- vs. Post- Test)*

Objective	Learning Score
Navigate your way through a set of construction documents.	35
Identify materials that can safely be immersed in cryogens.	34
Recognize cryogen hazards and temperature measurements.	33
Measure the egress distance within a set of building plans.	32
Manage a team project with limited communication.	29

*Participants reported increased learning for each workshop objective. The greatest increases were observed in participants' ability to: Navigate through construction documents, Identify materials that can safely be immersed in cryogens, and Recognize cryogen hazards and temperature measurements.*



### Demographic Information

70 EH&S and Safety Professionals, from 5 different campuses or locations, attended the in-person workshop at UC Berkeley. Participants were also asked if they wanted to receive Continuing Education Units (CEUs) for participating in the program.

Campus	Participants
UCB	47
UCSF	18
LBNL*	2
UCSC	2
UCM	1

\*LBNL: Lawrence Berkeley National Laboratory



**Campus**  
*A majority of participants were affiliates from UC Berkeley (67%) and UC San Francisco (26%).*



**Continuing Education Units**  
*29% Of attendees expressed interest in earning CEUs for participating in the workshop.*

### Summary

The program proved beneficial in several areas related to training overall reactions, influencing behavior, and increased learning. Additional comments are provided below.

#### Positive Feedback

- All Good! / Excellent Program
- Fantastic! Would highly recommend.
- Great Day! / Great Job!
- Great Workshop really enjoyed how you made it super interactive.
- How to do plan review- this should be offered at every or every other risk summit for people that don't do it all the time.
- I appreciated the dynamic nature of the workshop activities.
- Importance of ongoing continuance of education for Education for EH&S Profession. Ongoing cross training and need for rounding out EH&S Skills.
- I wanted to say that it's a great mix of mental and physical activities, which is effective in keeping you alert and able to imbibe the lessons into your body, thus retaining them better.
- My actions are on the right path.
- Thank You! (x2) / Nice Workshop. All day and yet not tired. Good Job!!
- The diversity of types of people & jobs that are related to EH&S.
- Very enjoyable experience learned a lot! Thanks.
- Well done! Kept it interesting - A good mix of interactive learning.

#### Recommendations for Improvement

- I didn't understand what "team" we were / are. Who are these people? I won't see most of them again.
- Maybe include paper to take notes & a presentation on ergonomics.
- I felt a little less interaction and more specifics. I'm not sure some of the interaction gave me more specific knowledge in EH&S practices & policies. Soft skills were not necessarily specific to EH&S.
- I would have brought a Nalgene bottle and worn better (and safer) shoes if I knew where we would visit beforehand.
- Clearer instructions in advance to wear walking shoes.
- Provide more info Pre-workshop - had very little info beforehand (logistics, walking tour, hydration issues, etc.)
- Significantly improve the audio quality of the online portion of this course.
- The room was crowded, loud, and difficult to navigate, making networking and obtaining contact information difficult. The communication and group workshops were good but lack depth, especially for someone who has done similar training in the past.
- Too soft content, especially because we weren't a team already. (Building with strangers.) Needs more: hard, technical / content and EH&S focus.
- Would be interesting with some case studies, example bad labs.

## Appendix H

# Background

### About the University

The University of California (UC), which includes over 250,000 students and over 190,000 faculty and staff, owns and operates facilities across the state of California including ten campuses and five medical centers. In addition, it manages the three national laboratories, and includes the Agriculture and Natural Resources program with 57 offices throughout California.

The University of California (UC) locations are similar to cities, with all of their complexities, activities, and hazards. They include trades staff such as plumbers and electricians, police departments, dining operations, and residential living areas. They involve complex research operations including a wide variety of hazardous chemicals, and biological and radioactive materials. They incorporate large and expanding healthcare systems, where a myriad of healthcare providers deliver state-of-the-art care.

Over 500 Environment, Health & Safety (EH&S) staff serve as health and safety professionals at the University. In addition, the field is supplemented by a range of others who assume a safety role from other departments; such as Department Safety Coordinators, Building / Facility Managers, and Chemical Hygiene Officers. They support the University in every aspect of the mission: to teach, conduct research, and provide public service. Both EH&S staff, as well as those with a safety role, are invited to participate in the program.

### Institution

University of California Riverside

### Program Lead

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