

SDWP Priority Sectors Grant Environmental Health & Safety Technician Certificate Spring 2017 Cohort Summary Report

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Executive Summary

The Life Sciences focused Environmental Health & Safety Technician Certificate Program consists of 116 hours of training within 8 different courses and results in 4 in-demand industry recognized credentials. Course material includes such topics as; introduction to the field, hazardous waste management, occupational health and safety, emergency response, transportation of hazardous materials, legal and professional ethics, introduction to radiation safety, biological safety and blood borne pathogen training, recordkeeping and training requirements, and basic CPR & first aid. Students are introduced to relevant laws and regulations, participate in hands-on activities, and learn from professionals currently working in the field.

Grossmont-Cuyamaca ran 2 cohorts of the Environmental Health & Safety Technician Certificate program during the 2016-2017 year with a total of 38 student participants. Recruiting, in partnership with America's Job Centers of California, began in September 2016 and ran continuously through January 2017 in order to fill both cohorts. Ninety-three percent of participants completed the program to the midpoint and eighty-two percent of participants graduated from the program, obtaining the industry recognized certificates outlined in the grant. Additionally, program staff collected data on student learning outcomes, perceived level of confidence in ability utilize newly acquired knowledge, and student satisfaction, a summary of which follows.

Data Collection Methodology

Program Deliverables

- Attendance for each class was collected at the beginning and end of each class session and tracked via excel spreadsheet, as well as, a student database.
- Collection and storage of test scores, issue of industry certificates and wallet cards was conducted per industry standards for record keeping.
- WorkKeys pass rates were tracked via excel spreadsheet with support from the Career Centers (NCRC).

Student Learning Outcomes

Instructors administered both a pretest and posttest, with identical questions in randomized order. Tests scores for each program participant were analyzed for statistical significance using paired t-tests to assess acquisition of knowledge. For classes tied to an industry recognized certificate, students were expected to score a 70% or higher on the final exam. Additionally, participants completed a survey measuring self-reported confidence in their ability to act upon the knowledge

that was acquired in the program. Questions for the survey utilized a five point scale and were linked to the stated program learning objectives. (Appendix A)

Student Satisfaction

At the end of each class, students completed a satisfaction survey measuring the perceived quality of course instructors, materials, labs and facilities. Questions for the survey utilized a five point scale, from poor (1) to excellent (5).

Demographics

Eighty-one individuals expressed interest in the EHS Tech Certificate Program. Forty-one individuals certified through NCRC, all achieved a bronze level score or higher on their first attempt. Thirty-nine of the forty-one NCRC certified individuals enrolled and began the Environmental Health and Safety Tech Certificate program.

Student Demographics

Of the 39 eligible applicants who started the program:

- 64% were male,
- 48% possessed an Associate's degree or higher,
- The average age was 43,
- The average length of unemployment was 107 days.



“This program was very effective and comprehensive to safety through federal and state regulations. I learned so much and it has made me change my career plan to further my education in the EHS field.”

Program Outcomes

Contract Deliverables

- 1) 41 eligible participants certified through the NCRC, based on a goal of 30.
- 2) 39 NCRC certified participants enrolled in the program, based on a goal of 20-30.
- 3) 93% of enrolled participants completed the course to the midpoint, 58 hours.
- 4) 82% of enrolled participants completed the program and received their EHS certificate.
- 5) 95% of enrolled participants received at least one industry recognized certification.

(Appendix B Midpoint Progress Report, Appendix C Training Competition Report, Appendix D Certificate and Wallet Card Summary Report, Appendix E EHS Certificate Sample)

Student Learning Outcomes

30 Hour OSHA General Industry Safety Training

- A paired-samples t-test was conducted to determine the effect of instruction on acquisition of General Industry Safety knowledge. There was an extremely statistically significant difference between student's pretest scores, (Mean 52%) and posttest scores (Mean 93%).
- 90% percent of enrolled participants (35) obtained industry recognized certification.

40 Hour OSHA Hazardous Waste Operations Emergency Response Training

- A paired-samples t-test was conducted to determine the effect of instruction on acquisition of OSHA Hazardous Waste Operations Emergency Response knowledge. There was an extremely statistically significant difference between student's pretest scores, (Mean 44%) and posttest scores (Mean 88%).
- 90% percent of enrolled participants (35) obtained industry recognized certification.

Department of Transportation Hazardous Materials Awareness Training

- A paired-samples t-test was conducted to determine the effect of instruction on acquisition of OSHA Department of Transportation Hazardous Materials Awareness knowledge. There was an extremely statistically significant difference between student's pretest scores, (Mean 63%) and posttest scores (Mean 93%).
- 95% percent of enrolled participants (37) obtained industry recognized certification.

Introduction to Hazardous Waste

- Students obtained an average end of class test score of 97.50%
- 90% percent of enrolled participants (35) who attended all class sessions obtained a certificate of attendance.

CPR/ Basic First Aid/ AED Training

- 95% percent of enrolled participants (35) passed the First Aid exam and obtained certification.

Introduction to EHS Recording Keeping

- Students obtained an average end of class test score of 87.25%

Introduction to Radiation Safety

- A paired-samples t-test was conducted to determine the effect of instruction on acquisition of Radiation Safety knowledge. There was an extremely statistically significant difference between student's pretest scores, (Mean 69%) and posttest scores (Mean 95%).

Blood-borne Pathogens & Biological Safety

- A paired-samples t-test was conducted to determine the effect of instruction on acquisition of Blood-borne Pathogens & Biological Safety knowledge. There was an extremely statistically significant difference between student's pretest scores, (Mean 38%) and posttest scores (Mean 88%).
- 79% percent of enrolled participants (31) obtained industry recognized certification



“I think the courses are fantastic, you are exposed to important information. It was good start to a career in EHS.”

“This program opened doors for me that I would not had otherwise. It has given me insight into the EHS field and hope for my career.”



“Very informative, hands on, well informed instructors and all in a fun and open learning environment.”

Perceived Confidence in Ability to Remember, Understand and Apply Program Content

Self-reported confidence in ability to utilize the knowledge that was acquired in the program for students completing 100% of the hours. Average scores on a five point scale, five being highly confident.

Access and use OSHA resources to make informed decisions about hazardous situations	4.7
Identify a potentially hazardous situation at work or at home	4.8
Understand placards associated with materials I am handling	4.8
Read, understand, and prepare shipping papers	4.4
Read and understand material safety data sheets	4.6
Identify each level of personal protective equipment as it pertains to hazardous materials and hazardous waste handling	4.8
Respond to a basic first aid scenario	4.7
Discuss and describe basic environmental health and safety training requirements and laws	4.6
Summarize hazardous materials and waste storage handling protocols	4.5
Talk informally about health and safety concerns with an employer or other professional	4.6
Discuss the ethical responsibilities relating to the Environmental Health and Safety Profession	4.5
Explain how this training applies to a career in Environmental Health and Safety	4.6



“Very informative & unique training. Loved every moment, especially the spill drill”

Student Satisfaction

Self-reported satisfaction of program graduates (students completing 100% of the hours) for program instructors, materials, and lab. Average scores on a five point scale, five being excellent.

The instructors delivered the content in manner that made it easy to learn	4.8
Written course materials supported class instruction	4.6
Equipment and exhibits supported class instruction	4.7
Instructors demonstrated knowledge of subject matter	4.9

Self-reported satisfaction of program graduates (students completing 100% of the hours) for the overall program. Average scores on a five point scale, five being excellent

I am satisfied with the level of knowledge I obtained	4.86
Based on what was advertised, the program content met my expectations	4.76
I feel confident that the skills and knowledge I acquired will help me transition into the EHS field	4.46

“The EHS certification program is definitely worth it. All the courses are helpful and very informative. Great way to start and EHS network with all the awesome instructors.”



Appendix A Program Learning Objectives

Student will be able to:

- A. Students will earn the basic training qualifications required to work around and with hazardous material and waste general industry
- B. Discuss and describe basic relevant environmental health and safety related laws and regulations and training requirements
- C. Discuss and describe relevant environmental health and safety training requirements
- D. Prepare and present relevant employee environmental health and safety training material
- E. Prepare hazardous material and waste for shipment
- F. Identify each level and use of personal protective equipment as it pertains to hazardous materials, hazardous waste handling, and general industrial operations
- G. Summarize hazardous materials and waste storage and handling protocols
- H. Understand and apply basic lifesaving and first aid technique. Including CPR and use of an automatic external defibrillator
- I. Demonstrate the training objectives by successfully passing subject related written and/or practical exams.
- J. Understand the ethical responsibilities relating to the Environmental Health and Safety (EH&S) professional
- K. Understand the relevance of this training as it applies to a career in EHS

Common Entry level Jobs Associated with EHS Training:

- Materials Handler
- Lab Assistant
- Hazardous Waste Technician
- EHS Technician
- Chemical Support Technician
- Manufacturing
- Chemical Transport

Appendix B
Final Participant Progress Report

CALJOBS #	Last Name	First Name	Enrollment date	NCRC passed	Midpoint completed, 58 hours
24805122	Abril	Ron	1/27/17	Y	Y
29791120	Ahmed	Saif	2/2/17	Y	Y
30528179	Ahmed Ali	Juhaina	2/2/17	Y	Y
30422384	Alvarado	Arnold	2/2/17	Y	Y
505428	Andrade	Emilio	10/28/16	Y	Y
29882911	Artis	Markecha	1/27/17	Y	Y
31031187	Ayala	Ivan	2/2/17	Y	Y
30649351	Bingham	Jahwaan	1/27/17	Y	Y
30126334	Blakely	Veryl	9/18/16	Y	Y
310457559	Burnside	Milton	2/2/17	Y	Y
30905449	Cislo	Erin	2/2/17	Y	Y
23572311	Denney	Rick	2/2/17	Y	Y
30316761	Domenick	Jeff	9/29/16	Y	Y
31031345	Garcia	Edward	2/2/17	Y	Y
30920644	Hirth	Brian	10/21/16	Y	Y
30355442	Jimenez	Angelica	2/3/17	Y	Y
30035320	Khalil	Ahmed	2/2/17	Y	Y
15968835	Kojima	Christopher	2/2/17	Y	Y
25887573	Larry	moon	2/6/17	Y	Y
30659943	Mejia Gordils	Maribel Araceli	10/11/16	Y	Y
23120243	Morin	Paul	2/2/17	Y	Y
31056429	Murillo	Victor	2/2/17	Y	Y
1001871762	Murillo	Daniel	2/2/17	Y	Y
25611467	Ponder	Mary	2/2/17	Y	Y
30329968	Preston	Neeve	2/2/17	Y	Y
30929277	rahimzadeh	elyas	10/16/16	Y	Y
26145123	Ramirez	Vanessa	2/2/17	Y	N
28924684	Roche	Leilani	1/27/17	Y	N
29984721	Stocke	Megan	9/14/16	Y	Y
29273483	Vasquez	Victor	1/27/17	Y	Y
30870357	Villalobos	Manary	9/22/16	Y	Y
26753986	Villarino Chaidez	Pablo	1/27/17	Y	Y
24140937	Wallace	Tia	1/27/17	Y	Y
30052059	Westerburg	Gary	10/5/16	Y	Y
30938495	Whatley	Leonard	1/27/17	Y	N
25270783	White	Nanette	2/2/17	Y	Y
27780363	Zazueta	David	1/27/17	Y	Y
699361278	Ziaei	Morteza	2/2/17	Y	Y
22774534	Zimmerman	Maria	2/2/17	Y	Y

Appendix C

Final Participant Progress Report

Cohort	CALJOBS #	Last Name	First Name	201/501	Email	Phone	Enrollment date	NCRC passed	Midpoint complete 58 hours	Training complete 108 hours
2	24805122	Abril	Ron		ronabril@yahoo.com	626-262-8828	1/27/17	Y	Y	Y
2	29791120	Ahmed	Saif		saif.salomy@gmail.com	619-383-5095	2/2/17	Y	Y	N
2	30528179	Ahmed Ali	Juhaina		ajuhaina@yahoo.com	646-919-4907	2/2/17	Y	Y	Y
2	30422384	Alvarado	Arnold		arnold_mitchel@hotmail.com	540-335-0309	2/2/17	Y	Y	N
1	505428	Andrade	Emilio		andradee milioae@g mail.com	619-919-6361	10/28/16	Y	Y	Y
2	29882911	Artis	Markecha		markechaartis@gmail.com	619-372-3787	1/27/17	Y	Y	Y
2	31031187	Ayala	Ivan		ivanayala26@yahoo.com	619-248-1609	2/2/17	Y	Y	Y
2	30649351	Bingham	Jahwaan		Jahwaan@yahoo.com	760-818-5743	1/27/17	Y	Y	Y
1	30126334	Blakely	Veryl		verylblakely@yahoo.com	858-754-6719	9/18/16	Y	Y	Y
2	310457559	Burnside	Milton		milton.a.burnside.esh@gmail.com	619-384-3782	2/2/17	Y	Y	Y
2	30905449	Cislo	Erin		eec974@gmail.com	619-316-0407	2/2/17	Y	Y	Y
2	23572311	Denney	Rick		rick.denney@att.net	619-884-0579	2/2/17	Y	Y	Y
1	30316761	Domenick	Jeff		jdomenick7 1@gmail.c om	619-942-1222	9/29/16	Y	Y	Y
2	31031345	Garcia	Edward		igot13k@yahoo.com	619-867-3457	2/2/17	Y	Y	Y
1	30920644	Hirth	Brian		briankhirth@gmail.com	913-998-3802	10/21/16	Y	Y	Y
2	30355442	Jimenez	Angelica		angiej01@icloud.com	619-855-9755	2/3/17	Y	Y	Y
2	30035320	Khalil	Ahmed		ahmed_khalil@hotmail.com	201-960-0879	2/2/17	Y	Y	Y
2	15968835	Kojima	Christopher		christopher_kojima@hotmail.com	619-517-6129	2/2/17	Y	Y	Y
2	25887573	Larry	moon		excelencezb@gmail.com	619-287-2281	2/6/17	Y	Y	Y
1	30659943	Mejia Gordils	Maribel		maribelgordils@gmail.com	619-704-9365	10/11/16	Y	Y	Y
2	23120243	Morin	Paul		lmoondog@yahoo.com	619-383-4781	2/2/17	Y	Y	Y
2	31056429	Murillo	Victor		Vmurillo22@gmail.com	619-250-2872	2/2/17	Y	Y	Y
2	1001871762	Murillo	Daniel		murillodaniel96@gmail.com	619-867-5869	2/2/17	Y	Y	Y
2	25611467	Ponder	Mary		maryaliceponder@yahoo.com	619-512-7994	2/2/17	Y	Y	Y
2	30329968	Preston	Neeve		neevestreston@yahoo.com	619-413-4282	2/2/17	Y	Y	Y
1	30929277	ahimzadeh	elyas		elyas0331@gmail.com	619-715-8174	10/16/16	Y	Y	Y
2	26145123	Ramirez	Vanessa		vanessa_abeny_ramirez@yahoo.com	408-413-8000	2/2/17	Y	N	N

Cohort	CALJOBS #	Last Name	First Name	201/501	Email	Phone	Enrollment date	NCRC passed	Midpoint complete 58 hours	Training complete 108 hours
2	28924684	Roche	Leilani		rocheleilani@gmail.com	619-205-2168	1/27/17	Y	N	N
1	29984721	Stocke	Megan		meganstocke@yahoo.com	619-855-4155	9/14/16	Y	Y	N
2	29273483	Vasquez	Victor		altavox@yahoo.com	619-446-7192	1/27/17	Y	Y	Y
1	30870357	Villalobos	Manary		mvillalobos226@gmail.com	619-813-1545	9/22/16	Y	Y	Y
2	26753986	Villarino Chaidez	Pablo		pvillarino@cox.net	619-717-1439	1/27/17	Y	Y	Y
2	24140937	Wallace	Tia		tia@barcodesandiego.com	619-227-8106	1/27/17	Y	Y	Y
1	30052059	Westerburg	Gary		Boatsburg@gmail.com	858-201-8577	10/5/16	Y	Y	Y
2	30938495	Whatley	Leonard		chippenon@msn.com	858-336-3191	1/27/17	Y	N	N
2	25270783	White	Nanette		nanettewhite828@gmail.com	323-359-0839	2/2/17	Y	Y	Y
2	27780363	Zazueta	David		davidgzv1987@gmail.com	760-498-6785	1/27/17	Y	Y	Y
2	699361278	Ziaei	Morteza		mory.ziaei@gmail.com	858-444-5460	2/2/17	Y	Y	Y
2	22774534	Zimmerman	Maria		mazlujan@gmail.com	619-831-9308	2/2/17	Y	Y	N

Appendix D
Summary Report of Awarded Certificates and Wallet Cards

Certificates Awarded

CALJOBS #	Last Name	First Name	30hr General Industry	40hr HAZWOPER	DOT	Bloodborne pathogens	Intro hazardous waste	Final EHS Tech Cert
24805122	Abril	Ron	x	x	x	x	x	x
29791120	Ahmed	Saif	x	x	x	x		
30528179	Ahmed Ali	Juhaina	x	x	x	x	x	x
30422384	Alvarado	Arnold	x	x	x		x	
505428	Andrade	Emilio	x	x	x	x	x	x
29882911	Artis	Markecha	x	x	x	x	x	x
31031187	Ayala	Ivan	x	x	x	x	x	x
30649351	Bingham	Jahwaan	x	x	x	x	x	x
30126334	Blakely	Veryl	x	x	x	x	x	x
310457559	Burnside	Milton	x	x	x	x	x	x
30905449	Cislo	Erin	x	x	x	x	x	x
23572311	Denney	Rick	x	x	x	x	x	x
30316761	Domenick	Jeff	x	x	x	x	x	x
31031345	Garcia	Edward	x	x	x	x	x	x
30920644	Hirth	Brian	x	x	x	x	x	x
30355442	Jimenez	Angelica	x	x	x	x	x	x
30035320	Khalil	Ahmed	x	x	x	x	x	x
15968835	Kojima	Christopher	x	x	x	x	x	x
25887573	larry	moon	x	x	x	x	x	x
30659943	Mejia Gordils	Maribel Araceli	x	x	x	x	x	x
23120243	Morin	Paul	x	x	x	x	x	x
31056429	Murillo	Victor	x	x	x		x	x
1001871762	Murillo	Daniel	x	x	x	x	x	x
25611467	Ponder	Mary	x	x	x	x	x	x
30329968	Preston	Neeve	x	x	x	x	x	x
30929277	rahimzadeh	elyas	x	x	x	x	x	x
26145123	Ramirez	Vanessa						
28924684	Roche	Leilani						
29984721	Stocke	Megan	x		x			
29273483	Vasquez	Victor	x	x	x	x	x	x
30870357	Villalobos	Manary	x	x	x	x	x	x
26753986	Villarino Chaidez	Pablo	x	x	x	x	x	x
24140937	Wallace	Tia	x		x		x	x
30052059	Westerburg	Gary	x	x	x	x	x	x
30938495	Whatley	Leonard		x	x		x	
25270783	White	Nanette	x	x	x	x	x	x
27780363	Zazueta	David	x	x	x	x	x	x
699361278	Ziaei	Morteza	x	x	x	x	x	x
22774534	Zimmerman	Maria		x	x		x	

Appendix D
Summary Report of Awarded Certificates and Wallet Cards

Wallet Cards Issued

CALJOBS #	Last Name	First Name	30hr General Industry	40hr HAZWOPER	DOT	Blood bourne pathogens	CPR / First Aid
24805122	Abril	Ron	x	x	x	x	x
29791120	Ahmed	Saif	x	x	x	x	
30528179	Ahmed Ali	Juhaina	x	x	x	x	x
30422384	Alvarado	Arnold	x	x	x		x
505428	Andrade	Emilio	x	x	x	x	x
29882911	Artis	Markecha	x	x	x	x	x
31031187	Ayala	Ivan	x	x	x	x	x
30649351	Bingham	Jahwaan	x	x	x	x	x
30126334	Blakely	Veryl	x	x	x	x	x
310457559	Burnside	Milton	x	x	x	x	x
30905449	Cislo	Erin	x	x	x	x	x
23572311	Denney	Rick	x	x	x	x	x
30316761	Domenick	Jeff	x	x	x	x	x
31031345	Garcia	Edward	x	x	x	x	x
30920644	Hirth	Brian	x	x	x	x	x
30355442	Jimenez	Angelica	x	x	x	x	x
30035320	Khalil	Ahmed	x	x	x	x	x
15968835	Kojima	Christopher	x	x	x	x	x
25887573	larry	moon	x	x	x	x	x
30659943	Mejia Gordils	Maribel Araceli	x	x	x	x	x
23120243	Morin	Paul	x	x	x	x	x
31056429	Murillo	Victor	x	x	x		x
1001871762	Murillo	Daniel	x	x	x	x	x
25611467	Ponder	Mary	x	x	x	x	x
30329968	Preston	Neeve	x	x	x	x	x
30929277	rahimzadeh	elyas	x	x	x	x	x
26145123	Ramirez	Vanessa					
28924684	Roche	Leilani					
29984721	Stocke	Megan	x		x		x
29273483	Vasquez	Victor	x	x	x	x	x
30870357	Villalobos	Manary	x	x	x	x	x
26753986	Villarino Chaidez	Pablo	x	x	x	x	x
24140937	Wallace	Tia	x		x		
30052059	Westerburg	Gary	x	x	x	x	x
30938495	Whatley	Leonard		x	x		x
25270783	White	Nanette	x	x	x	x	x
27780363	Zazueta	David	x	x	x	x	x
699361278	Ziaei	Morteza	x	x	x	x	x
22774534	Zimmerman	Maria		x	x		x

Appendix E
Sample of EHS Technician Certificate

Certificate of Attendance


This Certifies that

Manary Villalobos

Has completed 116 hours of continuing education for

Environmental Health and Safety Technician

Consisting of 30 Hr General Industry Training, 40 Hr. HAZWOPER Training in compliance with OSHA 1910.120 and State of California Regulation 5192 Title 8, Department of Transportation Hazardous Materials Regulations per Title 49 Code of Federal Regulations, Bloodborne Pathogens Training in compliance with OSHA 29 CFR 1910.1030, CPR, Basic First Aid and AED Training, Introduction to Hazardous Waste Management, Introduction to Environmental Health and Safety Record Keeping, and Introduction to Radiation Safety



John Valencia, Vice Chancellor
Workforce & Organizational Development
Grossmont Cuyamaca Community College District