

2017-2018 Annual Program Assessment Report

Please submit report to your department chair or program coordinator, the Associate Dean of your College, and to james.solomon@csun.edu, Director of the Office of Academic Assessment and Program Review, by September 28, 2018. You may, but are not required to, submit a separate report for each program, including graduate degree programs, which conducted assessment activities, or you may combine programs in a single report. **Please identify your department/program in the file name for your report.**

College: HHD

Department: Environmental and Occupational Health

Program: Baccalaureate (BS) and Masters (MS)

Assessment liaison:

1. Please check off whichever is applicable:

- A. ☒ Measured student work within program major/options.
- B. ☒ Analyzed results of measurement within program major/options.
- C. ☐ Applied results of analysis to program review/curriculum/review/revision major/options.
- D. ☐ Focused exclusively on the direct assessment measurement of General Education Natural Sciences learning outcomes

2. Overview of Annual Assessment Project(s). On a separate sheet, provide a brief overview of this year's assessment activities, including:

- an explanation for why your department chose the assessment activities (measurement, analysis, application, or GE assessment) that it enacted
- an explanation for why your department chose the assessment activities (measurement, analysis, application, or GE assessment) that it enacted
- if your department implemented assessment **option A**, identify which program SLOs were assessed (please identify the SLOs in full), in which classes and/or contexts, what assessment instruments were used and the methodology employed, the resulting scores, and the relation between this year's measure of student work and that of past years: (include as an appendix any and all relevant materials that you wish to include)
- if your department implemented assessment **option B**, identify what conclusions were drawn from the analysis of measured results, what changes to the program were planned in response, and the relation between this year's analyses and past and future assessment activities
- in what way(s) your assessment activities may reflect the university's commitment to diversity in all its dimensions but especially with respect to underrepresented groups
- any other assessment-related information you wish to include, including SLO revision (especially to ensure continuing alignment between program course offerings and both program and university student learning outcomes), and/or the creation and modification of new assessment instruments

Overview of Annual Assessment Project(s)

The department is actively preparing for an accreditation site visit from EHAC in 2019. As part of our preparatory efforts, we are measuring and analyzing data revealing overall program health and effectiveness for both BS and MS degrees. A broader perspective afforded by the use of indirectly measured outcomes through post-graduation data, along with an updated hierarchical alignment of relevant learning outcomes were necessary to ensure a smooth and well-rounded accreditation process for our department. Given the recent overhaul of the EOH graduate program, the undergraduate is the main target of current projects; notwithstanding, data was generated for the MS program as well.

As we approach the end of our 2014-2019 strategic assessment period, the department is simultaneously working on the creation of the next 5-year assessment plan, which will include indirect and direct measurement of program SLOs (PSLOs). Over the last two years, our assessments have provided insights that not only support routine department activities, but also provide key information of when and where EOH program graduates find field-related employment. The latter is a criterion used in the evaluation of our program by EHAC.

Our recently gained insight for the dual purpose of accreditation and program assessment stems from a comprehensive online survey for graduates of our baccalaureate program. The survey was sent to alumni who had degrees conferred in 2015, 2016, and 2017, with questions aimed at their employment status, title, certifications and similar indicators. An email sent to graduates contained the survey link to a Google form with questions about their status, salary information and hindsight of their experience and product of our training.

Additionally, a follow up query to the department's 2016 social network canvassing study was conducted for the same students in the original set to follow their progress status. LinkedIn profiles of recent graduates were reviewed to look for signs of their career progression and to observe variables such as job status, type, and advancement level using the canvassing technique. Forty student names drawn from the 2015 commencement ceremonies program then, were used again for this follow up activity. For 2016 graduate data, the names of ten undergraduate and ten graduate students selected from the corresponding source were the target of a 2016 e-mail survey only. Social network canvassing of the 2016 set of graduates was only performed this year, 2018 to determine their current status. Comparison for these students will be possible upon follow up next year.

The 2017-2018 activity collected relevant LinkedIn data on the aforementioned set of graduates, in search of indicators suggesting EOH program management skills. As of the start of the fall 2018 semester, preliminary analyses of the survey and profile reviews already contribute substantial knowledge, and we will continue to process that data in the coming months. Subsequently, the tasks associated with the application of project results, and implementing changes thought to have a positive impact on our program based on current data, will be integrated within our new comprehensive plan and accreditation developments.

Undergraduate Assessment Activities:

PSLO 1: *Demonstrate a comprehensive knowledge of the recognition, evaluation and control of biological, chemical, and physical factors that can impact human health and safety and the environment.*

This SLO has been assessed indirectly using an alumni survey, similar to that of our accrediting agency (EHAC) to collect data deemed indicative of overall program success. The main indicator used was their ability to secure employment and/or to obtain related certifications such as *Registered Environmental Health Specialist (REHS)*, *Certified Industrial Hygienist (CIH)*, *Certified Safety Professional (CSP)*. As a follow up to the department's 2016 pilot study, social network canvassing was used to view LinkedIn profiles of the same students as a means to determine employment status, job title, retention, and career progression.

Data from the first round of survey results collected over summer 2018 (n=23), revealed that less than 7% are either unemployed or actively pursuing further education. Over **60%** respondents have secured an **EOH related job** (~ 74% employed including non-EOH employed). About 90% of the employed obtained a job within **12 months** of graduation. In a different metric reflecting competence in a more direct manner, 30% of the subjects obtained an REHS designation, and about 4% obtained the CIH designation (see appendix). Our respondents did not obtain a CSP, and though relevant, this is a less common designation within our department. These measurements are indicative of student success based on the short time from graduation to employment, in demonstrated ability to start a career related to their academic preparation, and ability to obtain certifications, all of which may indicate a successful attainment of SLO1. While this insight is preliminary, further data processing and analyses will be conducted during the 2017-2018 academic year, including desired titles, salaries and comments. Comparisons will be made to CSUN's institutional research as well.

Overall, measurement and preliminary analysis of this SLO showcased the quality of our program. The finding that students who had an EOH job in 2016 were able to retain employment after two years (4 out of 5 in 2018) was promising. LinkedIn profiles of 2016 also showed a high rate of student success, 50% of students had secured a job per their Linked in profile, and 20% were now graduate students. No match was found on Linked in for the other 30%, which is not an indicator of unemployment.

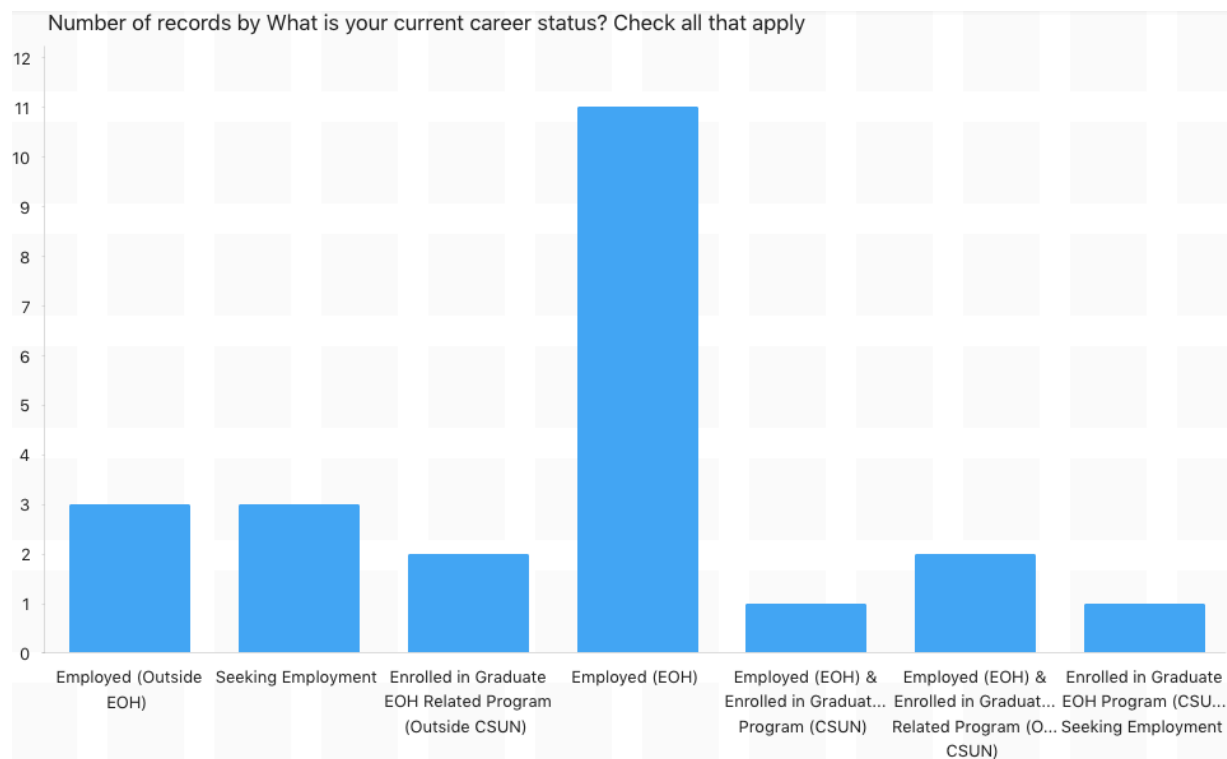


Fig. 1 Employment status of online survey sent in 2018 to graduates of the 2015-2017 undergraduate classes.

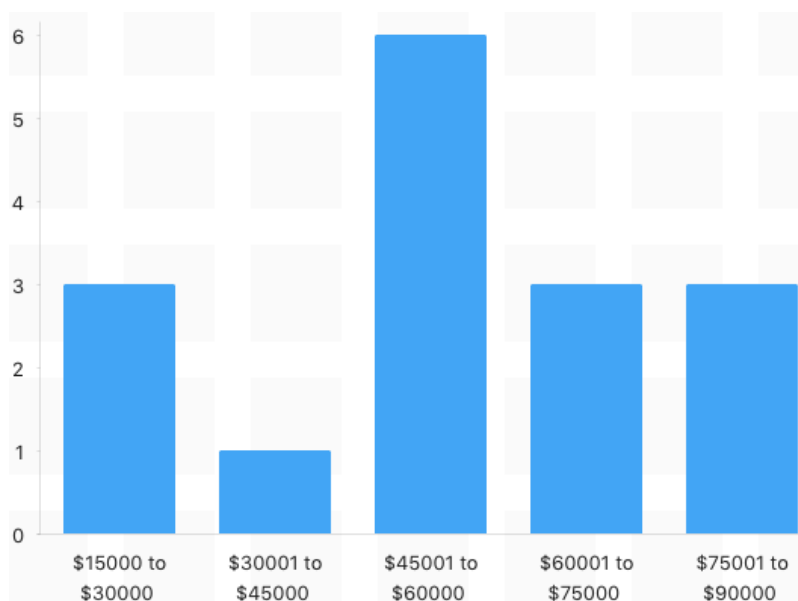


Fig. 2 Salaries reported for EOH employed students

PSLO 3: Communicate environmental and occupational health concepts and programs to a variety of audiences, using both written and verbal forms of communication.

This SLO was indirectly assessed using social network canvassing and alumni surveys. Job titles were reviewed to identify those involving instruction and/or training as their main duty.

Titles including the words “consultant”, “trainer”, “tutor” were considered indicative of applied communication skills in EOH concepts and programs. The titles of 3 BS students from the 2015 graduate set found in their LinkedIn profiles contained these terms. In the course of professionally inculcating EOH discipline knowledge, these students demonstrated their ability to communicate basic and advanced concepts to a variety of audiences.

Graduate Assessment Activities:

PSLO 2: Oral, written and electronic communication skills to present information to professional groups, regulatory agencies and lay audiences.

This SLO was indirectly assessed via social network canvassing. Job titles were reviewed to identify those involving instruction and/or training as a central duty.

At least two graduate students had a title containing a keyword potentially indicating demonstration of this SLO. However, the outcome is dictated by career choice and not necessarily by abilities in this area. Survey questions on desired career or title provide further insight, but the department will evaluate that aspect at a later time.

PSLO 4b: A broad set of management skills to initiate program planning and critical analysis of environmental or occupational health and safety programs.

This SLO was indirectly assessed via social network canvassing. Job titles were reviewed to identify management level or similar positions presumed to involve strong leadership skills in EOH related areas. One out of ten (1/10) graduate students hold a management level EOH position, two years after their graduation. These students indirectly demonstrate mastery of program planning, critical analysis and management skills. As previously noted, to a certain extent, this outcome is connected with the career choice a student makes and does not necessarily mean they did not have the skills. Because of this complication, a faculty member (current assessment liaison) previously expressed the need to improve measurement of this SLO, and hence the topic will be discussed at an upcoming meeting on assessment this fall.

Assessment activities may reflect the university's commitment to diversity in all its dimensions but especially with respect to underrepresented groups

Currently, the department addresses commitment to diversity at the course level, with instructors committed to applying general and custom proactive and reactive techniques to address challenges observed in students of diverse backgrounds throughout the semester. Some of these include early intervention, frequent and extended feedback, resource referrals and approaches specific to the type of underrepresented background the student presents. However, we will begin discussion on potential methods that we can implement at the program level, recognizing the need for a more systematic approach. For instance, we pride ourselves in our high impact practice (HIP) opportunities, and we will explore ways to assess this type of activity at the department level. Dr. Nola Kennedy (current chair) obtained and administers an NIH training grant aimed at providing underrepresented minority students with laboratory research opportunities, in collaboration with UCLA. Dr. Boria Perez actively recruits and trains minority students in research at the microbiology lab, also providing HIP opportunities, facilitating and supporting scholarships and funding applications for their training. Formative assessment of HIPs at the program level is a talking point this year.

3. Preview of planned assessment activities for 2018-19. Include a brief description as reflective of a continuous program of ongoing assessment.

The department will continue to develop the alumni survey to meet or modify questions according to assessment needs. The faculty will move to create exit interviews with graduates of the MS program, as has been suggested in the last few years by faculty members. To increase survey response by undergraduate and graduate students, the department will discuss a mechanism to collect personal e-mail addresses of program alumni before losing regular contact.

Often times, our graduate students find full time work in the course of their academic career. Recording the existence of their EOH related job while students are in the program would help identify a management position secured after they earned their MS degree. For instance, this information would improve measurement of PSLO 4b. Our department will continue discussion initiated in 2014 on a potential REHS course to serve our student population interested in obtaining that designation, which constitutes a large portion of our students. The figure stands at 30% per the 2018 survey (n=23) discussed above, though our REHS passing rate data will provide better picture of what that population looks like currently. We intend to collect and analyze those results, along with our internship form data scores. The internship form, which collects reviews and numerical ratings from external supervisors of our internship students will undergo modification this academic year. The goal is to improve alignment with HHD SLOs, and to include SLO 3, which is not currently integrated on the form. The result of the 2017-2018 data provides renewed knowledge of our offerings, which be presented to stakeholders interested in student success through our program.

**2018-2019 DRAFT: Comprehensive Assessment Plan Aligned with HHD
Department of Environmental and Occupational Health**

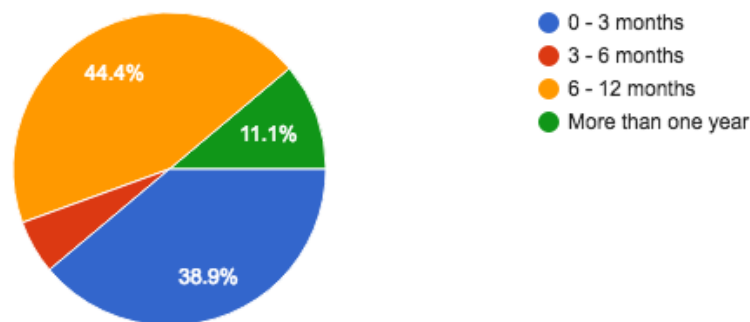
Table 1. Tentative comprehensive plan for direct assessment measurements to be developed as part of our upcoming 5-year plan.

Program PLO/SLO	HHD SLO	Program course	Assessment activity	Assessment tool	Assessment schedule	How data will be reported as evidence	Designated personnel	Data dissemination schedule	Closing the loop strategy
1. Ethical Code	1. Ethical and Professional Standards	EOH 356A Environmental Health I	Course exams	Overall score/percentage	3 times/semester	Annual Assessment Report	Michael Sullivan	Once per academic year. Faculty will meet to discuss in upcoming meeting.	Discuss report data during meeting set to identify course overlap
2. Sensitivity Code	2. Cultural Competencies	EOH 352 Environmental Health Policy, Law and Admin.	Attend a public meeting	Summary Report Rubric Overall score/percentage	1 / semester	Annual Assessment Report	Rania Sabty-Daily	Once per academic year. Faculty will meet to discuss in upcoming meeting.	Discuss report data during meeting set to identify course overlaps
3. Evidence Based Practices	3. Evidence-Based Practices	EOH 455 L. Microbial Hazards in Environmental Health Laboratory	Laboratory experimental data results	Lab reports	2/ semester	Annual Assessment Report	Gretchen Boria-Perez (consulting Veronica Becerra)	Once per academic year. Faculty will meet to discuss in upcoming meeting.	Discuss report data during meeting set to identify course overlaps this Fall
4. Interprof. Education Practices	4. Interprof. Education Practices	EOH 694B Internship	Students are supervised and evaluated by internship employer	Final Report employer evaluation	Once at the conclusion of the semester	Internship coordinator discussion with faculty Accreditation report	Dr. Nola Kennedy	Accreditation will be reviewed 2018-2019 academic year	Discuss report data at meeting to ID overlaps

Appendix A: Survey for Graduates of 2015-2017 EOH Undergraduate Program (additional data)

How long did it take you to secure employment?

18 responses



What is your current job title? (18 responses)

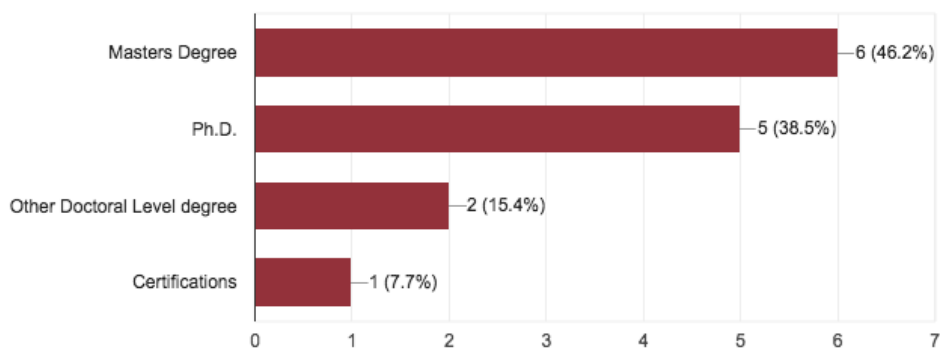
- EKG Tech
- Environmental health officer
- Food Safety and Quality Assurance
- Deputy Health Officer/Hazardous Materials Specialist
- Environmental health specialist
- Registered Environmental Health Specialist
- EHS Associate
- Mosquito tech
- Operations Project Manager
- Environmental consultant for solid waste
- EHSA Coordinator
- Safety Specialist
- Graduate student
- Environmental Health Specialist II
- EHS
- Environmental Health Specialist
- Environmental, Health, Safety, and Compliance Manager
- EHS compliance specialist

What is your desired job title? 17 responses

PA
District environmental health officer
Hazardous Materials Specialist
Supervising Hazardous Materials Specialist
Chief environmental health specialist
Supervising Environmental Health Specialist
Water treatment operations
Director of Operations
Project manager
N/A
Safety Manager
Toxicologist
Supervising Environmental Health Specialist
EHS chief
Director of a program
President of Operations
EHS director

What is your target graduate degree?

13 responses

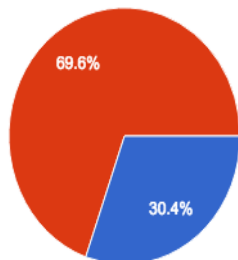


What is your target degree discipline? (11 responses)

PA
Toxicology
DDS
Environmental and occupational safety management
EOH
MPA
Environmental Toxicology
Environmental Health and Safety Management
Microbiology
MBA

Have you obtained an REHS designation?

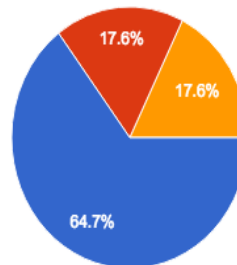
23 responses



● Yes
● No

If you have not done so, do you plan to obtain an REHS?

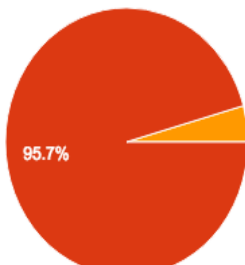
17 responses



● Yes
● No
● Not Sure

Have you obtained a CIH designation?

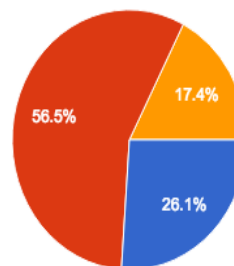
23 responses



● Yes
● No
● Not Sure

If you have not done so, do you plan to obtain a CIH?

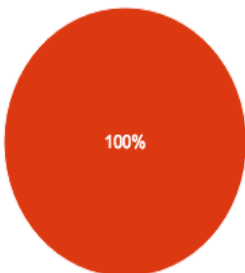
23 responses



● Yes
● No
● Not Sure

Have you obtained a CSP designation?

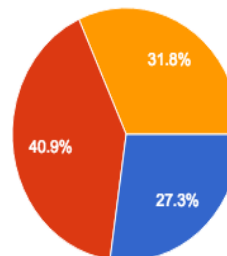
23 responses



● Yes
● No

If you have not done so, do you plan to obtain a CSP?

22 responses



● Yes
● No
● Not Sure

Social Network Canvassing Project Follow Up Project (Data on separate attachment)

In 2016, a pilot assessment study was conducted by the department to review the employment status of a select group of 2015 and 2016 graduates on LinkedIn and using survey, respectively. The purpose then was to assess overall program success and effectiveness by following a sample of alumni LinkedIn profiles. Out of 70 EOH BS students and approximately 21 EOH MS students, a set of individuals became the subject of the survey probing their success in entering an EOH career path.

In the present 2017-2018 longitudinal activity, the subjects were again evaluated for LinkedIn profile presence and content. The same forty student names drawn from the 2015 commencement ceremonies program were used for this activity. Social network canvassing of the 2016 set of graduates was only performed this year, 2018, to determine their current status. Comparisons for these students will be possible upon follow up next year.

This social network canvassing activity investigates the status and career progression of the 2015 and 2016 study subjects. As a social network intended for building connections with other professionals online (for the primary purpose of collaborating or securing a job), LinkedIn remains our preferred venue for this follow up assessment activity. Factors such as title, retention, and promotion, were considered indicators of career success and progression, and were therefore provide indirect evidence that our PSLOs are achievable and have been met by our graduates beyond graduation.

Our graduates typically find jobs in the public sector and private sector not long after graduation. We received a much greater response using the Google Form (23), than using email questions (3). However, the surveys were also sent to their CSUN e-mail and not their personal e-mail address. The Department does not currently know the definitive percentage of graduates that monitor or maintain their University email accounts after graduation, which may be a factor that influences the number of students receiving and responding to such inquiries. This is a challenge the department intends to address through exit interviews to collect personal e-mail addresses for future surveys.

Representative Use of 2016-2017 and 2017-2018 Indirect Assessment Results to Improve Student Success

The 2015-2016 program assessment report named one BS student who was still in search for a job in the field at the time of that assessment. That student has since secured, and retained a valuable job, the application for which was supported by a positive faculty reference letter (current assessment liaison), demonstrating that our program was effective in producing desired outcomes and tools needed to fill an Environmental Resource Analyst 4 position at Ventura Regional Sanitation District.

Another remarkable student was flagged on our LinkedIn job title worksheet (in red) due to the appearance that he had not yet secured employment, 3 years after his 2015 graduation. In this case, the student had not updated his profile. Not only did we find that he was employed, but also the connection presented a potential opportunity for a graduate of our program to secure employment, facilitated by faculty-alumni networking. That conversation contributed valued insight and a potential job opportunity for another graduate. The result exemplifies the necessity, and appropriateness, of verifying the status of a student whose profile indicates an unsuccessful, multi-year job search.

Such subtle interventions could yield multiple positive outcomes, e.g., the opportunity to provide the student with job leads and guidance in securing EOH related employment or confirming that the student is employed for the sake of accuracy. Further, re-connecting with a student who happens to be in a senior EOH related position may help facilitate jobs at their company or institution for another student, especially when the subject has demonstrated achievement of our PSLOs.