INDUSTRIAL HYGIENE SAMPLING AND INSTRUMENTATION WORKSHOP AT THE AMERICAN UNIVERSITY OF BEIRUT

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Beirut, Lebanon
September 9-13, 2019
Background

- Lebanon is situated at the east end of the Mediterranean Sea. It is a beautiful country however, it’s been ravaged by a 15 year civil war (1975-1990) which has caused a variety of infrastructural and administrative problems.

- In present day, the country faces regular power outages, water contamination, a garbage crisis, and severe air pollution.

- Occupational and Environmental Health regulations are lax and enforcement is sporadic or non-existent.

- Industrial hygiene is typically practiced part time by engineers or consultants.

- Industrial hygiene labs are non-existent in the country.
Workshop

- Location: American University of Beirut (Beirut, Lebanon)
- Participants: 14 Faculty members and staff
- Dates: September 9-13, 2019
The American University of Beirut

- Premier academic institution in Lebanon (and arguably the Middle East).
- Influential alumni network.
- Instruction in the English language.
- Collaborated with the EHS team at AUB to organize the workshop.
Course Content

- The objective of the training was to teach participants how to conduct a basic exposure assessment for various gases, vapors, particulates, and noise. During the seminar, we discussed capabilities and limitations of various instruments, how to interpret data, and possible mitigation efforts.

- A hands-on portion of the course gave participants an opportunity to calibrate, use, and interpret real-time data. Discussion of the results was conducted in the field.
  - This was everyone's favorite part 😊
Topics

• Environmental and Regulatory Overview
  • Background - environmental health issues in Lebanon
  • Applicable regulations and recommended guidelines (US, EU, Lebanon, Global)

• Sampling Principles
  • Concepts; Occupational and environmental limits, Limit of Detection, Limit of Quantification, etc.
  • Methods (NIOSH, EU- OSHA, EU-EPA)

• Air monitoring
  • Passive and active sampling
  • Calibrators

• Direct Reading Instruments
  • Multi-Gas meters
  • Particulate meters
  • Sound Level Meters and dosimeters
  • Indoor Air Quality Meter

• Risk Assessment and mitigation efforts
  • Risk assessment Matrix
  • Hierarchy of controls

• Field visit
  • Power Plant
  • Laundry facility
  • Carpentry and Paint shops
  • Construction site
Successes

• The workshop presented new information for the majority of participants.

• Instruments used for demonstration were available at the university.

• Participants were engaged and excited about the field visit portion of the course.
Field Visit

Carpentry and Paint Shops
Laundry Facility
Construction Site (Video)
Evaluation

- 9 Questions
- 12 responses out of 14 participants
  (85% response rate)
Q1: How knowledgeable was your instructor?

Q2: How clearly did your instructor explain the course material?
Q3

How concerned was your instructor that students were learning the material?

- Extremely concerned
- Very concerned
- Somewhat concerned
- Not so concerned
- Not at all concerned

Answered: 12  Skipped: 0

Q4

How organized for class was your instructor?

- Extremely organized
- Very organized
- Somewhat organized
- Not so organized
- Not at all organized

Answered: 12  Skipped: 0
Q5

How well did your instructor answer students’ questions?

Answered: 12  Skipped: 0

- Extremely well
- Very well
- Somewhat well
- Not so well
- Not at all well
Any areas where your instructor did particularly well? Any areas of improvement for your instructor?

Showing 8 responses

- The instructor demonstrated high level of responsibility towards the materials she is presenting.
  10/2/2019 10:33 PM

- The whole course was great. I particularly loved the field visit as we were able to actually see and quantify real measured data.
  10/2/2019 12:05 AM

- None
  10/1/2019 10:13 PM

- None
  10/1/2019 9:21 PM
Responses to Q6 continued

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<td>Everything related to Industrial hygiene.</td>
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<td>Instructor did well in all chapters. The course deserved a bit more time. It needs may be like 2 additional hour so that the instructor can explain slowly the different concepts.</td>
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<td>all of them, no improvement needed</td>
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Q7

Did you learn anything which could be applied to your daily work? Please explain.

Answered: 8  Skipped: 4

Showing 8 responses

- The use of specific equipment for particular air pollutants.
  10/2/2019 10:33 PM

- Yes, I am now more interested in taking measurements whenever I see there is a need
  10/2/2019 12:05 AM

- Yes, maybe the air quality detection inside the labs
  10/1/2019 10:13 PM

- No, because my field of work is different from the training objectives.
  10/1/2019 9:21 PM
Responses to Q7 continued

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Which was the most interesting lesson you learned? What do you wish you could have learned more about?

Answered: 9  Skipped: 3

Showing 9 responses

- N/A
  10/2/2019 10:33 PM

- The field visit
  10/2/2019 12:08 AM

- Air quality
  10/1/2019 10:13 PM

- None
  10/1/2019 9:21 PM
Responses to Q8 continued

- Overall, the course was interesting.
  10/1/2019 7:19 AM
- Site visits and using the proper detectors.
  10/1/2019 6:56 AM
- I personally liked the instrumentation part (direct read-in instruments) and the interpretation of results.
  10/1/2019 5:44 AM
- More on safety behind industrial hygiene would have helped.
  10/1/2019 5:37 AM
- All of them, all were clear.
Q9

Any other thoughts, concerns, or comments?

Answered: 8  Skipped: 4

Showing 8 responses

- Thank for the interesting information you :)
  10/2/2019 10:33 PM
  View respondent's answers  Add tags

- Ms. Carina was great, I would definitely go for another course if she is ever offering one.
  10/2/2019 12:05 AM
  View respondent's answers  Add tags

- none
  10/1/2019 10:13 PM
  View respondent's answers  Add tags

- no
  10/1/2019 9:21 PM
  View respondent's answers  Add tags
Responses to Q9 continued

- FAMILIARITY WITH THE COUNTRY POLICIES
  10/1/2019 6:56 AM
  View respondent's answers

- Instructor should be a bit more relaxed. She kept moving back and forth between the screen and the PC taking the longest path. Overall the training was great and in my opinion, it achieved its objectives.
  10/1/2019 5:44 AM
  View respondent's answers

- Thank you
  10/1/2019 5:37 AM
  View respondent's answers

- NON
  10/1/2019 5:15 AM
  View respondent's answers
THANK YOU FOR THE OPPORTUNITY!

And special thanks to…

Nina Townsend, Karen Gunderson, and Garret Brown from AIHA
Farouk Merhebi, Albert Abdelnour, and Mike Rebeiz at AUB