

OESM 208: TECHNIQUES OF INDUSTRIAL HYGIENE

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Course Objectives:

- Understand the basic principals of IH monitoring
- Develop IH monitoring skills
- Develop scientific writing skills

Required Textbook

None

Student Evaluation

Students are expected to complete all of the following:

Assignments	# of Assignments	Points/Assignment	Total Points	% of Grade
Attendance	16	2	32	9%
Survey Reports	6	30	180	48%
Workshops	2	20	40	11%
Final Survey	1	80	80	22%
Final Presentation	1	40	40	11%
Total			372	100%

A = 372 - 335
B = 334 - 298
C = 297 - 261
D = 260 - 224
F = 223 - 0

Course Schedule – may change due to availability of speakers etc.

Week	Content
1	Introductions, Course review, IH Refresher
2	Sampling Strategy
3	Local Exhaust Ventilation Survey #1 – HCC Chemistry Lab Chemical Fume Hood
4	Confined Space Monitoring – Guest Lecturer Walter Medina, Board of Water Supply
5	Report Writing Workshop #1
6	IAQ Survey #2 Meet at Shelley's office @ Kaiser Permanente
7	Ethics workshop #2
8	Air Sampling Prep
9	Air Sampling Survey #3 - Direct and personal sampling Glutaraldehyde Meet at Kaiser Permanente Hospital (lobby)
10	Bioaerosol Monitoring – Guest Lecturer Tom Good, Diagnostic Laboratory Services
11	Nira Cooray, Bureau Vertias– Guest Lecturer
12	Particulate Monitoring Survey #4 – HCC Carpentry shop
13	Noise Survey #5 Meet at Hawaiian Airlines
14	Illumination Survey #6 HCC Courtyard
15	Projects/Presentations (alternate)
16	Projects/Presentation (due day of presentation)

Expectations:

1. **No Show Policy** – students must attend both of the first two class sessions of the semester or may be dropped unless they notify the instructor in advance.
2. **Disappear Policy** – students may receive an “F” grade if they do not officially drop their course by the drop deadline listed in the Academic Calendar of the current HCC catalogue or the schedule of classes.
3. **Survey Reports** – In order to receive credit for survey reports, students must physically conduct each survey under the supervision of the instructor and submit an individually written report. No credit will be given for reports submitted by students that did not perform the survey (i.e., you didn't make class the day of a survey and you submitted a report based upon data from a friend that conducted the survey). Make every effort to attend all survey sessions. Make-up sessions for surveys **are not guaranteed to be held**. Reports must be written in the format outlined in the syllabus. Failure to do so will result in loss of points.
4. **Attendance** – Students are expected to attend all classes and stay for the duration of the class. Students are responsible for obtaining information from any missed class.
5. **Homework** – All homework, surveys and workshops are due at the beginning of class the following week, unless specified otherwise by the instructor. Each **week** homework, surveys and/or workshops are late will result in a full grade drop. You are responsible for getting the late homework, surveys and/or workshops to my Kaiser Permanente office. All homework, surveys, and/or workshops must be done individually, unless specified otherwise by the instructor (no group write-ups).

Survey reports:

1. Reports should be approximately 3-5 typed pages (double-spaced).
2. Survey reports are to be written in the following format (failure to do so will result in loss of points):
 - a. Summary
 - This should be a **brief** overview describing the purpose of the survey (baseline, reassessment, or employee complaint), conclusions (exposure, no exposure), and major recommendations
 - b. Applicable Standards and Exposure Limits
 - Describe which standard (i.e., 29 CFR 1910.1034 BloodBorne Pathogen) you are using and corresponding exposure limit (i.e., REL, PEL, TLV etc.)
 - c. Health Effects
 - Name of chemical, properties, physical form etc.
 - d. Sampling Strategy
 - Describe activity you are monitoring
 - Describe sampling methodology (e.g., date, time, location, sample duration, equipment name and model #, calibration date of equipment, work schedule, sampling procedure, NIOSH sampling method, media etc.)
 - e. Observations and Conclusions
 - Interpretation of results
 - Observations and conclusions about the sources of exposure, the effectiveness of controls etc.
 - f. Recommendations
 - Based upon the results, what type of recommendations would you make to minimize exposure such as engineering, administrative, and/or PPE? If there is no exposure, what best management practices might you suggest to improve the process?
 - g. Appendix

- Appendix A: Survey results - Place results in charts, tables, forms etc. (do not place in narrative format)
- Appendix B: Maps of sampled areas (as applicable)
- Appendix C: Copies of certifications etc. (as applicable)
- Appendix D: Photos
- Appendix E: Chain of Custody (as applicable)
- Appendix F: Lab results (as applicable)

Monitoring Project

1. Select a hazard to monitor and present topic to instructor. Projects shall be conducted on an individual basis. Group projects not allowed.
2. Class equipment is available for monitoring. Students are responsible for all costs associated with repairing damaged or missing equipment.
3. Monitoring should be no longer than 1 day
4. Monitoring must be completed by Thanksgiving.
5. Papers are due the day of the presentation and are to be a minimum of 5 typed pages. Follow the survey report format. Late papers will not be accepted.
6. Present project to the class using PowerPoint presentation – 10-15 minutes

Examples of projects:

- Evaluation of noise exposure to radio control airplanes, nightclubs, automotive shop, coal burning plant, microfilm room at a hospital
- Organic vapor survey for cleaning products in an automotive shop
- Exposure to various chemicals found in smoke while working in a bar
- IAQ in an office setting
- Lighting survey for a children's facility

Basic Outline of PowerPoint Presentation

1. Brief overview of hazard monitored (e.g., introduction)
2. Health effects
3. Overview of sampling methodology
 - Date, time, location, sample duration, equipment name and model #, calibration date of equipment, work schedule, sampling procedure, NIOSH sampling method, media etc.
 - Photos
4. Results
5. Applicable Standards and Occupational Exposure Limit
6. Recommendations