

INDUSTRIAL HYGIENE MEASUREMENTS LABORATORY (842-316-200)

**EHS 252F SPRING QUARTER
WEDNESDAYS 2.00-5.00 p.m.**

CHS 56-059(Zhu-Z), CHS 66-079(Que Hee-SQH) 3 UNITS

Z, Professor Yifang Zhu CHS 51-295A, 54324, yifang@ucla.edu

SQH, Professor Shane Que Hee CHS 56-071A, 67388, squehee@ucla.edu

TA for YZ: Nu Yu, CHS 51-295A, yununu@gmail.com

Aims: This course covers the practical bases of detecting, sampling and analyzing gases/vapors and aerosols through laboratories to complement EHS 252D and EHS 252E.

Learning Outcomes: Students will be able to generate, contain, sample, and analyze gases, vapors, and aerosols in a laboratory setting. They will be able to use direct reading devices as well as time-weighted average devices. The need for quality assurance/quality control and calibration of instruments will be understood and articulated. The need for planning and preparing to perform laboratory equipment calibrations before and after field assessments will be learnt and articulated. The significance of occupational health air sampling guidelines will be learnt and articulated.

The above learning objectives (**LO**) reflect the following environmental health competencies for Master of Science students (**A,B,C**): B4 Identify potential sources of systematic error (bias) as well as random error; C1 Use computer systems and analytic software packages; C2 Produce working tables, statistical summaries, and effective figures to summarize data; D1 Make reasonable inferences from results of analysis of observational and analytic studies.

The EHS Master of Public Health competencies involved are: C3 Describe federal and state regulatory programs, guidelines, and authorities that control environmental health issues; C5 Specify approaches for assessing, preventing and controlling environmental hazards that pose risks to human health and safety

The following cross-cutting public health competencies (**CC**) are also reflected in the design and content of the course: communication and informatics; leadership; professionalism; program planning; systems thinking.

Format: The One 3-hour laboratory experiment per week is keyed to EHS 252D and EHS 252E lectures. The students will perform experiments in groups of at least two.

No open toed shoes, running shoes, shorts, or food/drink are allowed in laboratories. Gloves, safety glasses, and lab coats will be available for use. All students must have passed the UCLA EH&S test for Laboratory Safety. See <https://www.ehs.ucla.edu/training/schedule>

Evaluation: There is no Midterm or Final Examination. Instead, there is progressive assessment through performing the laboratory, and writing/

submitting the individual reports (as set out in the EHS 252F laboratory manual) within a week of the laboratory.

Text: The EHS 252F Laboratory Manual is required. The manual will be sent electronically to you after the 1st lecture. Please print out the appropriate experiment and bring it with you to the lab.

CHS 56-059(Z), CHS 66-079(SQH) 3 UNITS

DATE	LABORATORY NUMBER/TOPIC	FACULTY
Wed Apr 5	1. Introduction, use of TLVs [CHS 41-235]	QH
Wed 12	2. Air flow, pressure, volume measurements	Z
Wed 19	3. Pump calibration, mass concentration	Z
Wed 26	4. Carbon monoxide	QH
Wed May 3	5 Impaction, cascade impactor, respirable mass sampling	Z
Wed 10	6. Toluene	QH
Wed 17	7 Toluene continued/Ozone	QH
Wed 24	8 Condensation particle counter and nanoparticle sampling	Z
Wed 31	9A. 2 p.m. Asbestos counting 9B. 3:30 p.m. Organic mixtures	Z QH
Wed June 7	No Lab—Seattle AIHCE	

Z=Zhu; QH=Que Hee; Zhu will be assisted by doctoral student Yu Nu,

No Midterm or Final Examinations