

Subject Description Form

Subject Code	CSE377
Subject Title	Occupational Health and Hygiene
Credit Value	3
Level	3
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	(1) To deliver basic concepts in occupational health and hygiene; (2) To have a clear understanding on the environmental stressors influencing health; (3) To have an understanding on problems of occupational health and hygiene and contribute to discussion on the problems in HK. (4) To learn how to monitor occupational exposure.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. explain the effects of various chemical (gases/vapors, dusts/mists/fumes), physical, and biological agents in the workplace; b. discuss the hierarchy of controls and its application to hazard control; c. work with others in groups, and take a responsibility for an agreed area of a shared activity; d. understand problems of occupational health and hygiene and contribute to discussion on these problems in Hong Kong. e. know how to monitor indoor environment quality in workplaces. f. recognize the need for, and to engage in life-long learning.
Subject Synopsis/ Indicative Syllabus	Introduction to Occupational Health: Concepts of occupational health standards and ethical code of conduct. Recognition of Hazards: Basic knowledge of different types of hazards: chemical, physical, biological, ergonomic, psychophysiological, and safety; Concepts of solvents and particulate; Hazard-recognition procedures. Evaluation: Basic knowledge of various monitoring methods for different types of hazards; Dose-response relationship; Concept of threshold limit values (TLVs), permissible exposure limit (PEL), and time-weighted average (TWA). Control: Basic knowledge of hierarchy of Controls: substitution, engineering, administrative, and personal protective equipment.

	Environmental monitoring and audit. Use of Occupational Health data in the General Community: Concept of healthy community; Effects of occupational hazards in community.																																																						
Teaching/Learning Methodology	Basic understanding of the scope of occupational health and hygiene will be covered in the lectures. Discussion of case studies in tutorial sessions will allow students to relate to real problems. Small group project work will be used to investigate specific occupational hazards. Laboratory will provide students with opportunities to learn (1) how to operate analyzers, (2) to carry out monitoring of occupational hazards and (3) data handling and interpretation. Independent study and associated reading will require students to conduct some problem-solving exercises individually, analyze the experimental data obtained from laboratory sessions and prepare integrated laboratory reports.																																																						
Assessment Methods in Alignment with Intended Learning Outcomes	<table><tr><th rowspan="2">Specific assessment methods/tasks</th><th rowspan="2">% weighting</th><th colspan="6">Intended subject learning outcomes to be assessed</th></tr><tr><th>a</th><th>b</th><th>c</th><th>d</th><th>e</th><th>f</th></tr><tr><td>1. Test / Quizzes</td><td>15%</td><td>✓</td><td></td><td></td><td>✓</td><td></td><td></td></tr><tr><td>2. Laboratory and Seminar Reports</td><td>15%</td><td>✓</td><td></td><td>✓</td><td></td><td>✓</td><td>✓</td></tr><tr><td>3. Group Presentation</td><td>10%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td></tr><tr><td>4. Final Examination</td><td>60%</td><td>✓</td><td>✓</td><td></td><td>✓</td><td>✓</td><td></td></tr><tr><td>Total</td><td>100%</td><td colspan="6"></td></tr></table> Students must pass the final examination and achieve a passing overall score / grade to pass the subject. The continuous assessment methods, including test/ quizzes, laboratory and seminar reports and group project, are used to assess the students' learning outcomes. The final examination is to assess how much the students has learnt in this subject.	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed						a	b	c	d	e	f	1. Test / Quizzes	15%	✓			✓			2. Laboratory and Seminar Reports	15%	✓		✓		✓	✓	3. Group Presentation	10%	✓	✓	✓	✓	✓		4. Final Examination	60%	✓	✓		✓	✓		Total	100%						
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Student Study Effort Expected	Class contact:	Average hours per week
	▪ Lectures / Laboratory / Tutorials	3 Hrs.
	Other student study effort:	
	▪ Coursework	2.5 Hrs.
	▪ Self Study	3.5 Hrs.
	Total student study effort	9 Hrs.
Reading List and References	Essential Textbooks: Goetsch, D. L. (2008). <i>Occupational Safety and Health for Technologists, Engineers, and Managers</i>. Upper Saddle River, NJ: Prentice Hall. Nims, D. (1999). <i>Basics of Industrial Hygiene</i>. New York: John Wiley & Sons. Reference Textbooks: Asfahl, C. R. (2010). <i>Industrial Safety and Health Management</i>. (6th Edition). Upper Saddle River, N. J.: Prentice Hall. LaDou, J. (2007). <i>Current Occupational and Environmental Medicine</i>. (4th Edition). New York: Medical McGraw Hill. Levy, B. S. and Wegman, D. H. (Editors). (2000). <i>Occupational Health: Recognizing, Preventing Work-related Disease and Injury</i>. (4th edition). Philadelphia: Lipincott Williams and Wilkins, A Wolters Kluwer Company. Plog, B. A. and Quinlan, P. J. (Editors). (2002). <i>Fundamentals of Industrial Hygiene</i>. Itasca, Ill: National Safety Council. Ridley, J. and Channing, J. (1999). <i>Occupational Health and Hygiene: Volume 3 of the Safety at Work Series</i>. Oxford: Butterworth-Heinemann. Rogers, B. (1994). <i>Occupational Health Nursing: Concepts and Practice</i>. Philadelphia: W. B. Saunders Co. Tillmann, C. (Editor). (2007). <i>Principles of Occupational Health & Hygiene</i>. Crows Nest, NSW: Allen & Unwin.	