



COURSE TITLE : Chemical Health Risk Assessment
COURSE DURATION : 11-day(s) / 70.50-hour(s) **COURSE CODE** : CHRA
COURSE CATEGORY : Competency **COURSE LEVEL** : Basic
HRD CORP SCHEME : Claimable
COURSE FEE : RM5,292.00 (inclusive of 8% SST) **EXAMINATION FEE** : RM400.00

1. OBJECTIVE(S):

At the end of the course, the participant will be able to:

- i. Conduct Chemical Health Risk Assessment.
- ii. Write CHRA report.

2. TARGET GROUP(S):

- i. This course is designed for those who intend to be a competent Assessor under USECHH Regulations 2000.

3. ENTRY REQUIREMENT(S):

- i. Malaysian citizen; **AND**
- ii. Possess a Degree or Postgraduate Diploma in Occupational Safety And Health; Occupational Safety; Occupational Health; or Industrial / Occupational Hygiene recognised by the Malaysian Qualifications Agency (MQA); **OR**
- iii. Possess a Degree in Medicine, Engineering, Physics, Chemistry, Biochemistry, Ergonomics or Natural and Applied Sciences recognised by the Malaysian Qualifications Agency (MQA); **OR**
- iv. Possess a Diploma in Engineering, Physics, Chemistry, Biochemistry, Ergonomics, Natural and Applied Sciences recognised by the Malaysian Qualifications Agency (MQA).

Note: This entry requirement(s) is applicable for training purpose only. Please refer to the DOSH website if you would like to be a registered competent person (Assessor). Effective 1st January 2024, participant is required to sit for the first examination within one (1) year from the date of completion of the course.

4. TOPIC(S):

Module 1 - Legislative Requirements for Hazardous Chemicals

- i. Introduction to Legislative Requirements for Hazardous Chemicals.
- ii. Overview of Chemical Management.
- iii. Introduction to Health Effect of Hazardous Chemical.
- iv. Overview of OSHA, Regulations and Orders.
- v. Occupational Safety and Health (USECHH) Regulations 2000.



- vi. Occupational Safety and Health (CLASS) Regulations 2013.
- vii. Overview of FMA and its Regulations.
- viii. Other Regulations Related to Chemical.
- ix. ICOP (CLASS) – Classification of Health Hazards.
- x. Overview of SOHELP.

Module 2 - Control of Chemical Hazardous to Health

- i. Introduction to Control of Chemical Hazardous to Health.
- ii. Principle of Industrial Hygiene and Hierarchy of Control.
- iii. Technical Control (Elimination, Substitution, Enclosure and Isolation).
- iv. Technical Control (Engineering) - General Ventilation and Local Exhaust Ventilation (LEV).
- v. Technical Control (Engineering) - Push Pull, High Pressure Low Volume and Water Spray.
- vi. Technical Control (PPE) – Respiratory and Dermal.
- vii. Organizational Control.
- viii. Emergency Response Preparedness.
- ix. Chemical Exposure Monitoring.
- x. Medical Surveillance and Biological Monitoring.

Module 3 - Chemical Health Risk Assessment

- i. Gather Information and Divide into Work Unit.
- ii. Routes of Exposure.
- iii. Hazard Determination.
- iv. Evaluate Exposure & Risk Determination: Inhalation.
- v. Evaluate Exposure & Risk Determination: Dermal.
- vi. Evaluate Exposure & Risk Determination: Ingestion.
- vii. Assess Adequacy of Control Measure.
- viii. Conclude, Recommend and Prioritize.
- ix. Report Writing.
- x. Case Study CHRA.
- xi. Practical Session.
- xii. Report Preparation and Presentation.
- xiii. Wrap Up, Evaluation and Closing.



5. LIST OF REFERENCE BOOK(S):

- i. Occupational Safety and Health Act 1994.
- ii. Pesticides Act 1974.
- iii. Environmental Quality (Scheduled Wastes) Regulations 2005.
- iv. Industry Code of Practice on Chemicals Classification and Hazard Communication 2014.
- v. Industry Code of Practice on Chemicals Classification and Hazard Communication (Amendment) 2019: Part 1.
- vi. Guidelines on Monitoring of Airborne Chemical Hazardous to Health 2022.
- vii. Guidelines on Medical Surveillance Programme at the Workplace 2023.
- viii. A Manual of Recommended Practice on Assessment of the Health Risks Arising from the Use of Chemicals Hazardous to Health at the Workplace (3rd Edition).

6. LIST OF TEACHING AID(S):

- i. LCD projector.
- ii. Computer.
- iii. White board with accessories.
- iv. Flip chart with accessories.

7. LIST OF CLASSROOM ACTIVITIES:

- i. Lecture.
- ii. Discussion.
- iii. Practical.

Note: Participant is required to bring along laptop (for presentation) during the training session (Module 3).

COURSE TITLE: CHEMICAL HEALTH RISK ASSESSMENT

MODULE 1 (LEGISLATIVE REQUIREMENTS FOR HAZARDOUS CHEMICALS)

DAY ONE

TIME	HOURL	TOPIC	TRAINER/ FACILITATOR
0800 - 0830	0.50	Registration	NIOSH
0830 - 0900	0.50	Introduction to CHRA Module 1	
0900 - 1030	1.50	Overview of CHRA: • Chemical Management	
1030 - 1045	0.25	MORNING TEA BREAK	
1045 - 1245	2.00	Overview of CHRA: • Introduction to Health Effect of Hazardous Chemical (+Toxicology)	
1245 - 1345	1.00	LUNCH	
1345 - 1515	1.50	Overview OSHA, Regulations & Orders • Prohibition Substance • NADOPOD • CIMA	
1515 - 1530	0.25	AFTERNOON TEA BREAK	
1530 - 1700	1.50	Overview OSH (USECHH) Regulations 2000	
	7.00	END OF DAY ONE	

DAY TWO

TIME	HOUR	TOPIC	TRAINER/ FACILITATOR
0900 - 1000	1.00	Overview OSH (CLASS) Regulations 2013	
1000 - 1030	0.50	FMA and Its Regulations • Safety, Health & Welfare • Lead, Asbestos & Mineral Dust	
1030 - 1045	0.25	MORNING TEA BREAK	
1045 - 1115	0.50	Continuation	
1115 - 1300	1.75	Other Regulations Related to Chemical • Environmental Quality (Scheduled Wastes) Regulations 2005 • Pesticides Act 1974	
1300 - 1400	1.00	LUNCH	
1400 - 1430	0.50	Continuation	
1430 - 1530	1.00	Overview of SOHELP	
1530 - 1545	0.25	AFTERNOON TEA BREAK	
	5.25	END OF DAY TWO	

DAY THREE

TIME	HOUR	TOPIC	TRAINER/ FACILITATOR
0900 - 1030	1.50	ICOP (CLASS)- Health Hazards • Single Classification • Mixture Classification	
1030 - 1045	0.25	MORNING TEA BREAK	
1045 - 1300	2.25	Continuation	
1300 - 1400	1.00	LUNCH	
1400 - 1500	1.50	Continuation	
1530 - 1545	0.25	AFTERNOON TEA BREAK	
1545 - 1730	1.75	Continuation	
	7.00	END OF THE COURSE	

MODULE 2 (CONTROL OF CHEMICAL HAZARDOUS TO HEALTH)

DAY ONE

TIME	HOUR	TOPIC	TRAINER/ FACILITATOR
0900 - 0930	0.50	Introduction to CHRA Module 2	
0930 - 1030	1.00	Principle of Industrial Hygiene: • Principle and Hierarchy of Control	
1030 - 1045	0.25	MORNING TEA BREAK	
1045 - 1145	1.00	Technical Control (TC): • Elimination, Substitution, Enclosure, Isolation	
1145 - 1300	1.25	TC-Engineering Control • General Ventilation • LEV	
1300 - 1400	1.00	LUNCH	
1400 - 1530	1.50	Continuation	
1530 - 1545	0.25	AFTERNOON TEA BREAK	
1545 - 1700	1.25	Continuation	
	6.50	END OF DAY ONE	

DAY TWO

TIME	HOUR	TOPIC	TRAINER/ FACILITATOR
0900 - 1000	1.00	TC-Engineering Control: • Push Pull, High Pressure Low Volume & Water Spray	
1000 - 1015	0.25	MORNING TEA BREAK	
1015 - 1115	1.00	Continuation	
1115 - 1300	1.75	TC-PPE • Respiratory • Dermal	
1300 - 1400	1.00	LUNCH	
1400 - 1515	1.25	Continuation	
1515 - 1530	0.25	AFTERNOON TEA BREAK	
1530 - 1700	1.50	Organisational Control (OC) • SOP, Personal Hygiene, PTW, Specific Control, Training	
	6.50	END OF DAY TWO	

DAY THREE

TIME	HOUR	TOPIC	TRAINER/ FACILITATOR
0900 - 1000	1.00	Emergency Response Preparedness • Eye Wash, First Aid, Fire Extinguisher	
1000 - 1015	0.25	MORNING TEA BREAK	
1015 - 1315	3.00	Chemical Exposure Monitoring	
1315 - 1415	1.00	LUNCH	
1415 - 1515	1.00	Medical Surveillance • Biological Monitoring	
1515 - 1530	0.25	AFTERNOON TEA BREAK	
1530 - 1630	1.00	Continuation	
	6.00	END OF THE COURSE	

MODULE 3 (CHEMICAL HEALTH RISK ASSESSMENT)

DAY ONE

TIME	HOUR	TOPIC	TRAINER/ FACILITATOR
0900 - 1030	1.50	Introduction to CHRA Manual 3 rd Edition	
1030 - 1045	0.25	MORNING TEA BREAK	
1045 - 1145	1.00	Gather Information and Divide into Work Unit	
1145 - 1245	1.00	Routes of Exposure	
1245 - 1345	1.00	LUNCH	
1345 - 1515	1.50	Hazard Determination	
1515 - 1530	0.25	AFTERNOON TEA BREAK	
1530 - 1700	1.50	Continuation	
	6.50	END OF DAY ONE	

DAY TWO

TIME	HOUR	TOPIC	TRAINER/ FACILITATOR
0900 - 1030	1.50	Evaluate Exposure & Risk Determination • Inhalation	
1030 - 1045	0.25	MORNING TEA BREAK	
1045 - 1215	1.50	Continuation	
1215 - 1315	1.00	Evaluate Exposure & Risk Determination • Dermal	
1315 - 1415	1.00	LUNCH	
1415 - 1445	0.50	Evaluate Exposure • Ingestion	
1445 - 1530	0.75	Assess Adequacy of Control Measure	
1530 - 1545	0.25	AFTERNOON TEA BREAK	
1545 - 1700	1.25	Continuation	
	6.50	END OF DAY TWO	

DAY THREE

TIME	HOUR	TOPIC	TRAINER/ FACILITATOR
0900 - 1000	1.00	Conclude, Recommend and Prioritise	
1000 - 1015	0.25	MORNING TEA BREAK	
1015 - 1115	1.00	Continuation	
1115 - 1215	1.00	Report Writing	
1215 - 1300	0.75	Case Study CHRA	
1300 - 1400	1.00	LUNCH	
1400 - 1530	1.50	Continuation	
1530 - 1545	0.25	AFTERNOON TEA BREAK	
1545 - 1700	1.25	Continuation	
	6.50	END OF DAY THREE	

DAY FOUR

TIME	HOUR	TOPIC	TRAINER/ FACILITATOR
0830 - 0900	0.50	BREAKFAST	
0900 - 1300	4.00	Practical Session (Site Visit)	
1300 - 1400	1.00	LUNCH	
1400 - 1530	1.50	Practical Session (Data Analysis & Report Preparation)	
1530 - 1545	0.25	AFTERNOON TEA BREAK	
1545 - 1700	1.25	Continuation	
1700 - 1730	0.50	Examination Briefing	ECD
	6.75	END OF DAY FOUR	

DAY FIVE

TIME	HOUR	TOPIC	TRAINER/ FACILITATOR
0830 - 1000	1.50	Report Preparation and Presentation	
1000 - 1015	0.25	MORNING TEA BREAK	
1015 - 1230	2.25	Report Presentation	
1230 - 1430	2.00	LUNCH	
1430 - 1600	1.50	Report Presentation	
1600 - 1615	0.25	AFTERNOON TEA BREAK	
1615 - 1700	0.75	Wrap Up	
1700 - 1715	0.25	Evaluation and Closing	NIOSH
	6.00	END OF THE COURSE	

Note: 1 pax = 30 minutes (20 minutes for presentation and 10 minutes for comments).