



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

**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 1<sup>st</sup> 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. Other Regulations Related to Chemical.
- viii. ICOP (CLASS) – Classification of Health Hazards.
- ix. Generic Occupational Health.
- 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 (3<sup>rd</sup> 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	HOURLY	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 • CIMAHA	
1515 - 1530	0.25	AFTERNOON TEA BREAK	
1530 - 1700	1.50	Overview OSH (USECHH) Regulations 2000	
	<b>7.00</b>	<b>END OF DAY ONE</b>	

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### DAY TWO

TIME	HOUR	TOPIC	TRAINER/ FACILITATOR
0900 - 1000	1.00	Overview OSH (CLASS) Regulations 2013	
1000 - 1015	0.25	MORNING TEA BREAK	
1015 - 1230	2.25	Other Regulations Related to Chemical <ul style="list-style-type: none"> <li>• Environmental Quality (Scheduled Wastes) Regulations 2005</li> <li>• Pesticides Act 1974</li> </ul>	
1230 - 1400	1.50	LUNCH	
1400 - 1500	1.00	Generic Occupational Health	DOSH Additional Topic
1500 - 1515	0.25	AFTERNOON TEA BREAK	
1515 - 1615	1.00	Overview of SOHELP	DOSH Additional Topic
	<b>5.25</b>	<b>END OF DAY TWO</b>	

### DAY THREE

TIME	HOUR	TOPIC	TRAINER/ FACILITATOR
0900 - 1030	1.50	ICOP (CLASS)- Health Hazards <ul style="list-style-type: none"> <li>• Single Classification</li> <li>• Mixture Classification</li> </ul>	
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	
	<b>7.00</b>	<b>END OF THE COURSE</b>	

## 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	
	<b>6.50</b>	<b>END OF DAY ONE</b>	

### 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	
	<b>6.50</b>	<b>END OF DAY TWO</b>	

**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	
	<b>6.00</b>	<b>END OF THE COURSE</b>	

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### MODULE 3 (CHEMICAL HEALTH RISK ASSESSMENT)

#### DAY ONE

TIME	HOUR	TOPIC	TRAINER/ FACILITATOR
0900 - 1030	1.50	Introduction to CHRA Manual 3 <sup>rd</sup> 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	
	<b>6.50</b>	<b>END OF DAY ONE</b>	

#### 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	
	<b>6.50</b>	<b>END OF DAY TWO</b>	

### 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	
	<b>6.50</b>	<b>END OF DAY THREE</b>	

### 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
	<b>6.75</b>	<b>END OF DAY FOUR</b>	

**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
	<b>6.00</b>	<b>END OF THE COURSE</b>	

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