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| COURSE TITLE | : Chemical Health Risk Assessment | COURSE CODE | : CHRA |
| COURSE DURATION | : 11-day(s) / 70.50-hour(s) | COURSE LEVEL | : Basic |
| COURSE CATEGORY | : Competency | | |
| HRD CORP SCHEME | : Claimable | | |
| COURSE FEE | : RM5,194.00 (inclusive of 6% 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 at least a diploma in engineering, physics, chemistry, biochemistry, ergonomics, natural and applied sciences or nursing recognised by the Government of Malaysia.

Note: This entry requirement(s) is applicable for **training** purpose only. Please refer to the Guidelines for the Registration of Assessors, Hygiene Technician and Occupational Health Doctor by the Department of Occupational Safety and Health, Ministry of Human Resources Malaysia 2000 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

- i. Overview of CHRA.
- ii. Overview OSHA, Regulations & Orders.
- iii. Factories and Machinery Act 1967 and Its Regulations.
- iv. Other Regulations Related to Chemical.
- v. Overview of SOHELP.
- vi. Classification of Health Hazards.



Module 2

- i. Principle of Industrial Hygiene.
- ii. Technical Control.
- iii. Organisational Control.
- iv. Emergency Response Preparedness.
- v. Chemical Exposure Monitoring.
- vi. Medical Surveillance.

Module 3

- i. Introduction to CHRA Manual 3rd Edition.
- ii. Gather Information and Divide into Work Unit.
- iii. Routes of Exposure.
- iv. Hazard Determination.
- v. Evaluate Exposure & Risk Determination.
- vi. Assess Adequacy of Control Measure.
- vii. Conclude, Recommend and Prioritise.
- viii. Report Writing.
- ix. Case Study CHRA.

5. LIST OF REFERENCE BOOK(S):

- i. Occupational Safety and Health Act 1994.
- ii. Factories and Machinery Act 1967.
- iii. Pesticides Act 1974.
- iv. Environmental Quality (Scheduled Wastes) Regulations 2005.
- v. Industry Code of Practice on Chemicals Classification and Hazard Communication 2014.
- vi. Guidelines on Medical Surveillance.
- vii. Guidelines on the Control of Chemical Hazardous to Health.
- viii. Guidelines on Monitoring of Airborne Contaminant for Chemicals Hazardous to Health.
- ix. Guidelines for the Registration of Assessors, Hygiene Technician and Occupational Health Doctor.
- x. 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).


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| | COURSE SCHEDULE | | |
| | Document No. NIOSH-PDD-CS-CHRA | Revision No. MAST240124 | Page 4 / 10 |

COURSE TITLE: CHEMICAL HEALTH RISK ASSESSMENT

MODULE 1 (LEGISLATIVE REQUIREMENTS FOR HAZARDOUS CHEMICALS)

DAY ONE

| TIME | HOUR | 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 | |
| | 7.00 | END OF DAY ONE | |



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|---|---|----------------------------|----------------|
|  | NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH | | |
| | COURSE SCHEDULE | | |
| | Document No. NIOSH-PDD-CS-CHRA | Revision No. MAST240124 | Page 5 / 10 |

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 | |

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|---|---|----------------------------|----------------|
|   | NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH | | |
| | COURSE SCHEDULE | | |
| | Document No. NIOSH-PDD-CS-CHRA | Revision No. MAST240124 | Page 6 / 10 |

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 | |

| | | | |
|---|---|----------------------------|----------------|
|   | NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH | | |
| | COURSE SCHEDULE | | |
| | Document No. NIOSH-PDD-CS-CHRA | Revision No. MAST240124 | Page 8 / 10 |

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 | |

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|---|---|---------------------|-------------|
|   | NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH | | |
| | COURSE SCHEDULE | | |
| | Document No. | Revision No. | Page |
| | NIOSH-PDD-CS-CHRA | MAST240124 | 10 / 10 |

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).