COURSE OVERVIEW HE1943
Industrial Hygiene Certification Program
BOHS-M507: Health Effects of Hazardous Substances
(Accredited by the British Occupational Hygiene Society - BOHS)

Course Title
Industrial Hygiene Certification Program: BOHS-M507: Health Effects of Hazardous Substances *(Accredited by the British Occupational Hygiene Society - BOHS)*

Course Date/Venue
Please see page 3

Course Reference
HE1943

Course Duration
Five days/3.7 CEUs/37 PDHs

Course Description

This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.

This course aims to provide an introduction to the principles of toxicology, the main types of harmful effects to target organs from exposure to chemical hazards at work, and the hazards associated with common hazardous substances.

On completing this course successfully, participants will be able to:-

- Provide definitions of commonly used toxicological terms
- Describe the main routes by which hazardous substances can enter the body, and the factors which influence their absorption, distribution, storage, and elimination
- Describe the main sources of information on hazardous substances and processes
- Describe the key features of the principal target organs affected by hazardous substances at work, and the factors which influence the degree of harm
- Describe the main routes of exposure and toxic and health effects for hazardous substances commonly encountered in the workplace
- Conduct basic interpretation of the results from epidemiological studies

This course is designed to provide participants with a detailed and up-to-date overview of BOHS-M507: Health Effects of Hazardous Substances. It covers the basic principles of toxicology including pharmacokinetics and dose response relationships; the toxicity testing and types of combined effects, general health effects, carcinogens, sensitisers and reproductive effects; the physiology and target organs including particles, gases and vapours, the lung as a target organ, allergic conditions and skin; and the nervous system, circulatory system, liver, kidney and reproductive system.

During the interactive course, paticipants will learn the epidemiology and the health effects and industrial processes covering risk and safety phrases, sources of information, gases, vapours and minerals, dusts, and particulate materials; the metals and their compounds, common industrial processes and specific industry profiles; and the principal toxic effects and sources of legionella and humidifier fever, infections of blood borne diseases, zoonoses, bloodborne infections, moulds, pandemics and genetic modification.

This course will require at least 45 hours of study time, of which at least 37 hours will be taught (teaching and practical assessments) and 8 hours will be independent (in the candidates' own time).

Course Objectives

Upon the successful completion of this course, each participant will be able to:

- Achieve the BOHS Certificate in BOHS-M507: Health Effects of Hazardous Substances
- Discuss the basic principles of toxicology including pharmacokinetics and dose response relationships
- Carryout toxicity testing and identify the types of combined effects, general health effects, carcinogens, sensitisers and reproductive effects
- Describe the physiology and target organs including particles, gases and vapours, the lung as a target organ, allergic conditions and skin
- Recognize nervous system, circulatory system, liver, kidney and reproductive system
- Discuss epidemiology and the health effects and industrial processes covering risk and safety phrases, sources of information, gases, vapours and minerals, dusts, and particulate materials
- Identify metals and their compounds, common industrial processes and specific industry profiles
- Describe the principal toxic effects and sources of legionella and humidifier fever, infections of blood borne diseases, zoonoses, bloodborne infections, moulds, pandemics and genetic modification

Who Should Attend

This course provides an overview of all significant aspects and considerations of health effects of hazardous substances for technicians and technologists who conduct measurements and testing in workplaces.

Exam Eligibility & Structure

There are no prerequisites required for this qualification, however, candidates for this course are expected to be aware of the contents of the Control of Substances to Health (COSHH) regulations and The Chemicals (Hazard Information and Packaging for Supply) Regulations (CHIPS) especially with regard to labelling and safety data sheets.

Suggested References and Further Reading

(1) WHO Guidelines on the prevention of toxic exposures
(2) Patty's Industrial Hygiene and Toxicology
(3) NIOSH, IARC and WHO criteria documents
(4) Computer databases (RTECS, MEDLINE, TOXLINE, HSDB, HSELINE)
(5) Controlling Skin Exposure to Chemicals and Wet-Work
(6) Introduction to Toxicology
(7) Industrial Toxicology
(8) Basic Epidemiology (WHO)

Course Date/Venue

Session(s)	Date	Venue
1	May 18-22, 2025	Al Aziziya Hall, The Proud Hotel Al Khobar, Al Khobar, KSA
2	July 20-24, 2025	Slaysel 02 Meeting Room, Movenpick Hotel & Resort Al Bida'a Kuwait, City of Kuwait
3	August 11-15, 2025	Ajman Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
4	October 19-23, 2025	Club B Meeting Room, Ramada Plaza by Wyndham Istanbul City Center, Istanbul, Turkey
5	December 21-25, 2025	Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

30% Lectures
20% Practical Workshops & Work Presentations
30% Hands-on Practical Exercises & Case Studies
20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Fee

Al Khobar	**US$ 7,500** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day
Kuwait	**US$ 7,500** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day
Abu Dhabi	**US$ 7,500** per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day
Istanbul	**US$ 8,000** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day
Dubai	**US$ 7,500** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day

Exam Fee

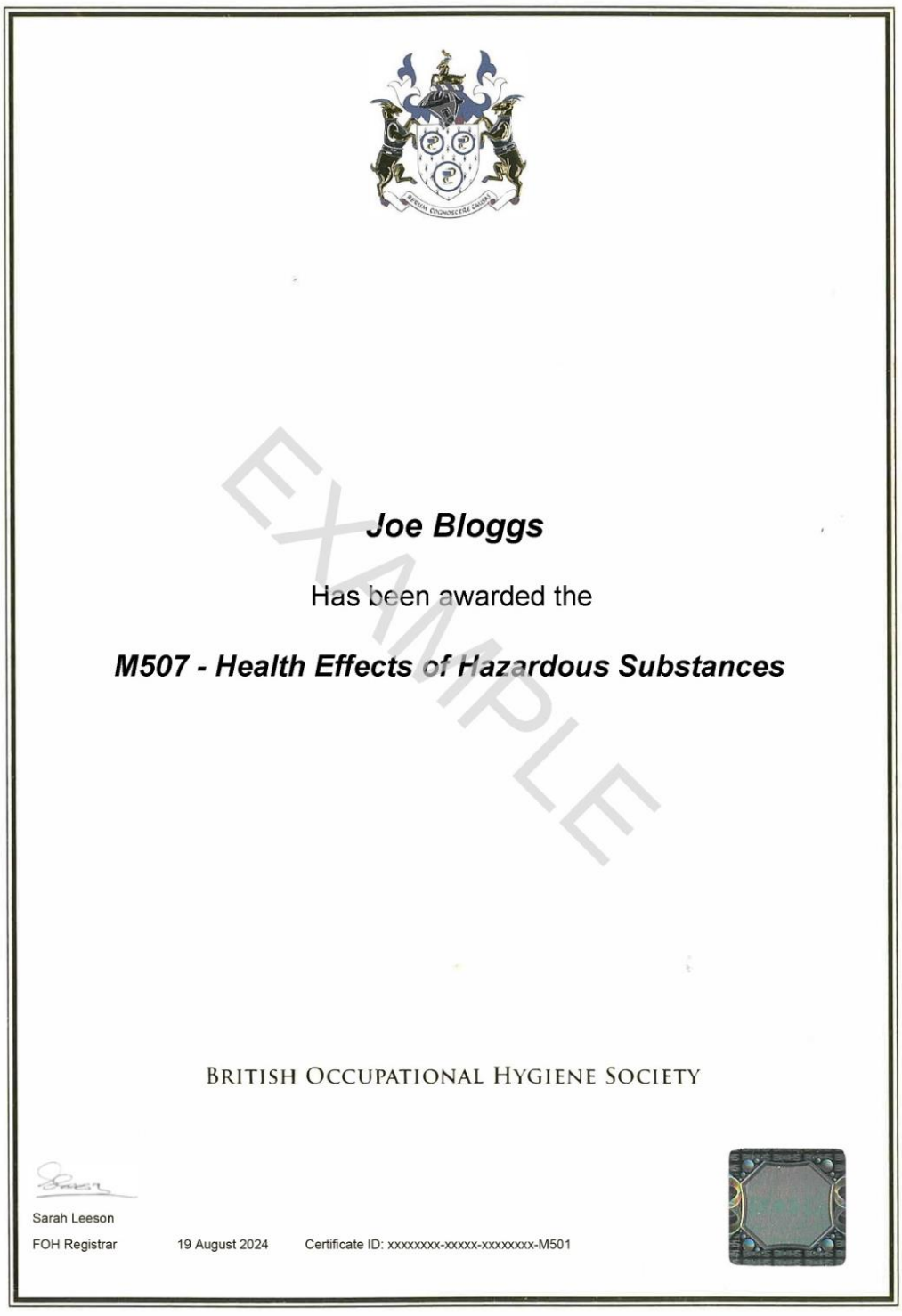
US$ 175 per Delegate + **VAT**

Course Certificate(s)

(1) BOHS-M507 – Health Effects of Hazardous Substances will be awarded to participants who have successfully completed the course and passed all the parts (A and B) within 12 months.

BOHS Certificate(s)

The following certificate is a sample of the BOHS certificates that will be issued to successful candidates:-



(2) Official Transcript of Records will be provided to the successful delegates with the equivalent number of ANSI/IACET accredited Continuing Education Units (CEUs) earned during the course.

Haward Technology Middle East

Continuing Professional Development (HTME-CPD)

CEU Official Transcript of Records

TOR Issuance Date: 15-Nov-23

HTME No. 74851

Participant Name: Waleed Al Habeeb

Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
HE1943	Industrial Hygiene Certification Program BOHS-M507: Health Effects of Hazardous Substances *(Accredited by the British Occupational Hygiene Society - BOHS)*	November 11-15, 2023	37	3.7

Total No. of CEU's Earned as of TOR Issuance Date **3.7**

TRUE COPY

Jaryl Castillo
Academic Director

Haward Technology has been approved as an Accredited Provider by the International Association for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this approval, Haward Technology has demonstrated that it complies with the ANSI/IACET 1-2018 Standard which is widely recognized as the standard of good practice internationally. As a result of their Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for programs that qualify under the ANSI/IACET 1-2018 Standard.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking Continuing Education Units (CEUs) in accordance with the rules & regulations of the International Association for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology is accredited by

P.O. Box 26070, Abu Dhabi, United Arab Emirates | Tel.: +971 2 3091 714 | E-mail: info@haward.org | Website: www.haward.org

Certificate Accreditations

Haward Technology is accredited by the following international accreditation organizations:-

- The British Occupational Hygiene Society (BOHS)

Haward Technology is an Approved Training Partner of the British Occupational Hygiene Society (BOHS) for the M201 and M500 series modules, which are designed to maintain a high standard of occupational hygiene education.

Together with BOHS, Haward Technology supports hygiene professionals in their mission to create safe working environments globally and is committed to advancing the practice of occupational hygiene to promote healthier workplaces worldwide.

British Accreditation Council (BAC)

Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC

- The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **3.7 CEUs** (Continuing Education Units) or **37 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:

Mr. Peter Jacobs, is a **Senior HSE Consultant** with almost **25 years** of extensive experience within **Oil & Gas**, **Refinery** and **Petrochemical** industries. His wide experience covers in the areas of **OHTA Modules** (Measurement of Hazardous Substances, Thermal Environment, Noise Measurement & Its Effects, Asbestos & Other Fibers, Control of Hazardous Substances, Ergonomics Essentials, Health Effects of Hazardous Substances), Advanced **Industrial Hygiene**, **Incident Command & Report Writing**, **HAZOP**, **HAZMAT**, **HAZID**, **Health Risk** Assessment, Modern **Safety Risk** Management, **Process Risk** Management, **Root Cause Analysis** Techniques, **HSE Management System** Development & Implementation, **SAESI Hazardous Materials** for the **First Responder Operations (NFPA 472)**, **Industrial Safety** & Housekeeping, **Job Safety & Hazard** Analysis, **Hazardous Substances** Measurement, **Workplace** Control, Physical Agents, **Emergency Response**, **Chemical & Biological** Operations, Basic **Safety & Loss Prevention**, Safety in **Chemical Laboratory**, **Confined Space Safety**, **Industrial Hygiene**, **Occupational Health & Hygiene**, **Ergonomics**, **Biological** Assessment, **Radiation** with Radon/Thoron Assessment, **Radiation** Protection Safety, **Radiation** Monitoring, Natural **Radiation** Sources, **Nuclear** Regulatory Act, **Industrial Ventilation**, **Air Pollution Dispersion** Modelling, Basic Clandestine **Drug Laboratory** Investigation, **Chemical** Engineering, **Fire** Safety & Evacuation, **Evacuation** Safety, Safety Orientation, Hand & Power Tools Safety, Isokinetic Stack Sampling, Dust Exposure, Quantifying Workplace Stressors, Noise & Airborne Pollutants, Thermal Stress, Illumination, Mine Health & Safety, Statistical Method Validation, Legal Audit Compliance, Riot & Crowd Control, ISO 14000, OHSAS 18000, ISO 17025 and ISO 9000.

During his career life, Mr. Jacobs has gained his practical and field experiences through his various significant positions and dedication as the **Forensic Science Laboratory Manager**, **Occupational Hygienist**, **Radiation Protection Officer**, **Lead Practitioner**, Safety, Health & Environmental (**SHE**) **Specialist**, **First Responder**, **OHS Inspector**, **Ambulance Assistant** and **LPG Distributor Auditor** from various international companies like the Sedulitas, Richards Bay Minerals, Sasol and South African Police Service.

Mr. Jacobs has a **Master's** degree in **Public Health – Occupational Hygiene**, a **National Diploma** in **Purchasing Management** and an **Intermediate Certificate in Mine Environmental Control** an **Accredited South African Emergency Services Institute** (**SAESI**). Further, he is a **Certified Instructor/Trainer**, an Appointed Commissioned Officer, a SAIOH/ IOHA President, an Assessor/Moderator of Health & Welfare SETA, a **Registered Occupational Hygienist** of the Southern African Institute for Occupational Hygiene, awarded as a SAIOH **Occupational Hygienist** of the Year Award and a well-regarded member of the British Occupational Hygiene Society (**BOHS**), Mine Ventilation Society of South Africa (MVSSA) and South African Radiological Protection Association (SARPA). He has further delivered numerous trainings, courses, seminars, workshops and conferences worldwide.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Basic Principles of Toxicology: Definitions*** *Acute, Chronic, Local, Systemic, Allergic Reaction, Sensitiser, Carcinogen, Mutagen, Teratogen, Xenobiotic, Stochastic, Non-Stochastic*
0930 – 0945	*Break*
0945 - 1130	***Basic Principles of Toxicology: Basic Pharmacokinetics*** *Absorption: Routes of Absorption for Substances, When Ingestion Can Occur, Situations Where Skin Absorption & Penetration Can Occur • Distribution: Main Distribution Pathways, Blood, Lymphatic System • Storage: how Chemical Properties of a Substance Influence the Site of Storage & Common Examples of Where Materials Are Stored (E.G. Solvents in Fatty Tissues, Lead in Bones, Liver as a Storage Organ) • Biotransformation: Meaning of Biotransformation, Where Biotransformation Occurs, how Biotransformation Can Initiate or Enhance Toxic Effects (Examples - Benzene, Dichloromethane, Methanol) • Elimination: Definition of Biological Half-Life, Wide Variation of Half-Lives, Shape of Curve*
1130 - 1230	***Basic Principles of Toxicology: Dose Response Relationships*** *Meaning of Dose Response Relationships • Typical Shape of Dose Response Curve • Concept of Threshold & No-Observed Adverse Effect Level • Dose Response Curves Without Threshold • Importance of Slope of Curve*
1230 - 1330	*Lunch*
1330 – 1430	***Basic Principles of Toxicology: Toxicity Testing*** *Meaning of LD_{50}, LD_{LO}, LC_{50}, LC_{LO}, TD_{50}, TD_{LO}, TC_{50} & TD_{LO} • Units Used to Express Results of Animal Testing • Types of Toxicity Testing – Toxicokinetic Studies, Acute Toxicity Studies, Sensitisation Studies, Repeated Dose Toxicity Studies, Genotoxicity Studies, Reproductive & Developmental Toxicity Studies, Carcinogenicity Studies • Uses of Toxicological Data & Estimation of Safe Human Dose • Limitations of Toxicity Testing Data*
1430 - 1500	***Basic Principles of Toxicology: Types of Combined Effects*** *Addition • Synergism • Potentiation • Antagonism • Independent*
1500 – 1515	*Break*
1515 - 1620	***Basic Principles of Toxicology: General Health Effects*** *Asphyxia • Irritation • Narcosis • Toxicity*
1620 – 1630	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today & Advise them of the Topics to be Discussed Tomorrow*
1630	*End of Day One*

Day 2

0830 – 0930	***Basic Principles of Toxicology: Carcinogens*** *Basic Mechanisms of Carcinogenicity (Genotoxicity, Irritant Etc.) • Benign & Malignant Tumours • Difficulties in Identifying Causal Agents, Long Latency Periods • IARC Classifications*
0930 – 0945	*Break*
0945 - 1230	***Basic Principles of Toxicology: Sensitisers*** *How Sensitisation Affects Individuals • Sensitisers (Respiratory, Animal Allergy, Skin - Chromium) • Uncertainty About Thresholds • Mechanisms of Sensitisation & Assessment Methods*
1230 – 1330	*Lunch*
1330 – 1430	***Basic Principles of Toxicology: Reproductive Effects*** *Teratogens*
1430 - 1500	***Physiology & Target Organs: The Main Regions of the Respiratory System*** *Head Airways Region: Role of Turbinate Filtration Mechanisms • Tracheobronchial Region: Structure, Dimensions of Air Passages • Mucociliary Escalator • Alveolar Region: Surface Area, Retention Time of Particles, Lack of Cilia*
1500 – 1515	*Break*
1515 – 1600	***Physiology & Target Organs: Particles*** *Definition of Aerodynamic Diameter. Relevance of Particle Size • Particle Deposition & Clearance • Main Deposition Mechanisms; Interception, Impaction, Sedimentation, Diffusion • Particle Size Ranges from Each of the Three Regions • Particles: Those Deposited in the Alveoli, Fate of Particles Deposited Elsewhere, Including Absorption Via Digestive Tract • ISO Curves: Inspirable, Thoracic, & Respirable Curves, Shape of Respirable Curve*
1600 - 1620	***Physiology & Target Organs: Gases & Vapours*** *Absorption Through the Lungs • Gases; Importance of Solubility*
1620 – 1630	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today & Advise them of the Topics to be Discussed Tomorrow*
1630	*End of Day Two*

Day 3

0830 – 0930	***Physiology & Target Organs: The Lung as a Target Organ*** *Gaseous Contaminants: Acute Irritancy, Role of Solubility in Determining Region Affected, Chronic Effects • Causes & Consequences of Inflammation. • Benign Pneumoconiosis: Definition, Main Agents (Iron, Tin, Barium) • Fibrosis: Definition. (Crystalline Silica, Asbestos Etc.) • Emphysema (Cadmium Oxide Etc.) • Cancer (Rubber Fume, Arsenic, Hexavalent Chromium Etc.)*
0930 – 0945	*Break*
0945 - 1230	***Physiology & Target Organs: Allergic Conditions*** *Rhinitis - Symptoms, Nonspecific Nature, Wide Range of Agents • Asthma - Symptoms, Common Causes (Isocyanates, Solder Fume, Metals, Latex, Vegetable Dusts, Animal Proteins, & Enzymes (Industrial & Food Utilisation) • Allergic Alveolitis - Symptoms, Causative Agents for Farmers Lung & Other Moulds • Byssinosis - Symptoms, Main Stages of Textile Process Associated with Disease • Assessment Methods – Lung Function Testing, Challenge Testing, Skin Prick Testing, Blood Ige Analysis Etc*
1230 – 1330	*Lunch*

1330 – 1500	***Physiology & Target Organs: Skin*** *The Structure & Function of Different Layers & Components (Stratum Corneum & Epidermis; Dermis; Hair Follicles; Sweat Glands; Nerves; Fat) • Mechanisms of Cutaneous Protection Against Chemical Penetration & Biological Agents); The Skin as a Target Organ; Definitions, Main Mechanisms & Common Causes of Irritant Contact Dermatitis, Allergic Contact Dermatitis (Nickel, Epoxy Resins), Folliculitis, Pigment Disturbances, Ulceration, Cancer)*
1500 – 1515	*Break*
1515 – 1600	***Physiology & Target Organs: Nervous System*** *Central & Peripheral Nervous Systems (Definitions, Roles, Structure of Nerve Cells, Transmission of Nerve Impulses; Transmission Along Cells, Transmission Across Synaptic Gap; Nervous System as a Target Organ; Role of Volatile Organic Compounds as Depressants) • Definitions, Main Mechanisms, & Common Causes of (Damage to Nerve Cells (Lead, Mercury, N-Hexane, Manganese.); Deactivation of Cholinesterase (Organophosphates))*
1600 - 1620	***Physiology & Target Organs: Circulatory System*** *Composition of Blood & Role of Constituents • Blood as a Target Organ • Definitions & Common Causes of (Haemolysis (Arsine & Stibine); Carboxyhaemoglobin Formation (Carbon Monoxide - from Direct Exposure & from Metabolization of Dichloromethane); Methaemoglobin Formation (Aromatic Amines); Anaemia (Lead, Benzene); Leukaemia (Benzene))*
1620 – 1630	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today & Advise them of the Topics to be Discussed Tomorrow*
1630	*End of Day Two*

Day 4

0830 – 0930	***Physiology & Target Organs: Liver*** *Position of Liver in the Circulatory System • Role in Biotransformation & Consequent Vulnerability to Toxic Agents • Structure of Liver Lobules • Main Agents which can Cause Liver Damage (e.g. Alcohol, Chlorinated Hydrocarbons, Metal Compounds)*
0930 – 0945	*Break*
0945 – 1230	***Physiology & Target Organs: Kidney*** *Structure & Function • Role in Homeostasis & Excretion • Link to Circulatory System • Structure & Role of Nephrons • Kidney as a Target Organ: Effects of Cadmium, Lead, Mercury, Organic Compounds*
1230 – 1330	*Lunch*
1330 – 1500	***Physiology & Target Organs: Reproductive System*** *Effects on Unborn Child: Heredity, Teratogenicity • Interference with the Male & Female Systems*
1500 - 1515	*Break*
1515 – 1600	***Epidemiology*** *Types of Epidemiological Study • Importance of Study Design • Definitions of Cohort/Case-Referent, Retrospective/Prospective, Crosssectional/ Longitudinal Designs, Mortality/Morbidity Ratios • Use of Epidemiological Data, Limitations, & Restrictions, Confounding Factors. Bradford Hill Criteria • Limitations of Epidemiological Studies, Importance of Study Size, Link to Exposure Standards*
1600 - 1620	***Health Effects & Industrial Processes: Risk & Safety Phrases*** *International System for Risk & Safety Phrases*

1620 – 1630	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today & Advise them of the Topics to be Discussed Tomorrow*
1630	*End of Day Three*

Day 5

0830 – 0900	***Health Effects & Industrial Processes: Sources of Information*** *Safety Data Sheets • Literature • National Data Bases Including REACH*
0900 - 0930	***Health Effects & Industrial Processes: Gases*** *Use a Selection of the Gases Given Below to Illustrate the Principal Toxic Effects (Simple Asphyxiation, Chemical Asphyxiation, Upper & Lower Respiratory Tract Irritation, Blood Effects, Lung Damage, Cancer) from Exposure to Gaseous Substances. the Occurrence of these Gases & Their Common Applications: • Inert Gases • Carbon Dioxide & Carbon Monoxide • Hydrogen Cyanide • Ammonia • Chlorine • Hydrogen Sulphide • Oxides of Nitrogen & Ozone • Acid Gases (Sulphur Dioxide, Hydrogen Chloride, Hydrogen Fluoride) • Metal Hydrides*
0930 – 0945	*Break*
0945 – 1130	***Health Effects & Industrial Processes: Vapours*** *Describe the Generic Hazards of Organic Vapours (i.e. Narcosis, Respiratory Irritation, Skin Irritation & Dermatitis, Skin Absorption, Organ Damage) & Use Some of the Substances Given Below to Illustrate these. the Occurrence of these Vapours & Their Common Applications: • Anaesthetic Gases e.g. Halothane, Nitrous Oxide • Aniline & Phenol • Benzene, Toluene, & Xylene • Formaldehyde • Isocyanates • Styrene • Halogenated Hydrocarbons • Vinyl Chloride • N-Hexane • Glycol Ethers • Acetone/MEK*
1130 - 1230	***Health Effects & Industrial Processes: Minerals, Dusts & Particulate Materials*** *Minerals - Use the Minerals Given Below to Illustrate the Principal Toxic Effects of such Substances. The Occurrence of these Minerals & Their Common Applications: • Crystalline Silica (Quartz, Cristobalite & Tridymite) • Asbestos (Serpentine & Amphibole) • Machine-Made Mineral Fibres (Glass, Rock, Refractory Ceramic Fibre) • Organic & Other Dusts (Nanoparticles • Flour & Other Food Components (Industrial & Manufacturing) • Diesel Fume • Latex (Manufacturing & Use) • Enzymes (Detergents & Food Industries) • Physiological Active Materials (Pharmaceuticals))*
1230 - 1330	*Lunch*
1330 – 1445	***Health Effects & Industrial Processes: Metals & Their Compounds*** *Use Some of the Metals Given Below to Illustrate the Principal Toxic Effects (Nuisance, Respiratory Effects, Organ Damage, Lung Damage, Fibrosis, Skin Irritancy/Sensitisation, Systemic Effects, Cancer) from Exposure to Such Metals & Their Compounds. The Occurrence of these Metals & Their Common Applications (Arsenic • Aluminium • Beryllium • Cadmium • Chromium & Nickel • Cobalt • Iron • Lead Including Differences Between Inorganic & Organic Lead Compounds) • Mercury • Manganese • Vanadium • Zinc & Copper)*
1445 - 1500	*Break*
1500 – 1515	***Health Effects & Industrial Processes: Common Industrial Processes*** *Working with Metals (Grinding, Machining, Welding) • Surface Coating & Treatments (Chromium Plating, Galvanising Etc.) • Soldering • Handling & Processes Involving Solvents (Open & Closed Systems. Degreasing, Painting Etc.) • Handling of Solids & Powders*

1515 - 1530	***Health Effects & Industrial Processes: Specific Industry Profiles*** *• Smelting & Refining of Iron & Steel • Foundries • Mining & Quarrying • Oil & Petroleum Industry • Pharmaceutical Industry*
1530 - 1545	***An Outline to Biological Agents*** *Legionella & Humidifier Fever • Infections of Blood Borne Diseases (Hepatitis & HIV) • Zoonoses; Definition, how Infection Can Occur, Common Examples (Anthrax, Leptospirosis, Salmonellosis) • Bloodborne Infections • Moulds • Pandemics • Genetic Modification*
1545 - 1600	***Course Conclusion***
1600 – 1615	***POST-TEST***
1615 – 1630	*Presentation of Course Certificates*
1630	*End of Course*

MOCK Exam

Upon the completion of the course, participants have to sit for a MOCK Examination similar to the exam of the Certification Body through Haward's Portal. Each participant will be given a username and password to log in Haward's Portal for the MOCK exam during the 30 days following the course completion. Each participant has only one trial for the MOCK exam within this 30-day examination window. Hence, you have to prepare yourself very well before starting your MOCK exam as this exam is a simulation to the one of the Certification Body.

Examinations & Assessment

Candidates are required to pass all of the following parts (A and B below) to be awarded this qualification.

(A) Practical Assessment

The practical assessment is conducted by the Tutor during the relevant part of the course for all candidates. This is to ensure that every candidate can demonstrate their individual ability and correct method.

The studies are designed by the course tutor(s) to assess basic skill and knowledge of each candidate and will include

- An evaluation of available data to advise on a suitable exposure limit to be applied for a material (Safety data sheets etc.)
- A study should be a scenario study to evaluate potential exposure routes and the potential health consequences from a selected process.

Further information about the formative practical assessment is published in the following documents: Practical Evaluation Report which is available from www.bohs.org

(B) Written Examination

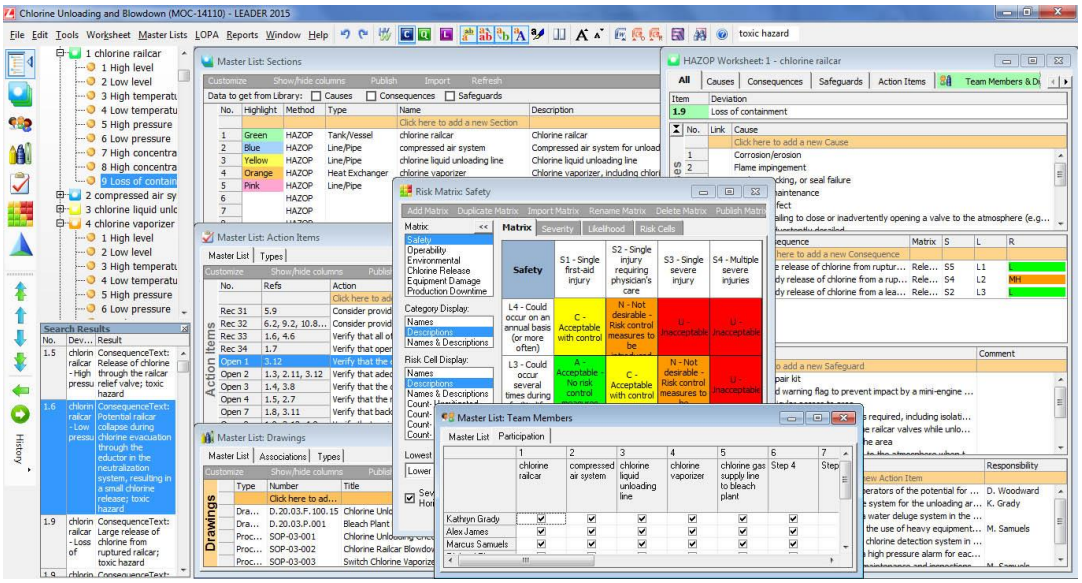
This is an open-book examination comprising of 40 (160 marks) short-answer questions illustrated by photographs and diagrams as appropriate to be answered in 2 hours. Each question is worth 4 marks

The examination covers all sections of the syllabus and is overseen by an invigilator.

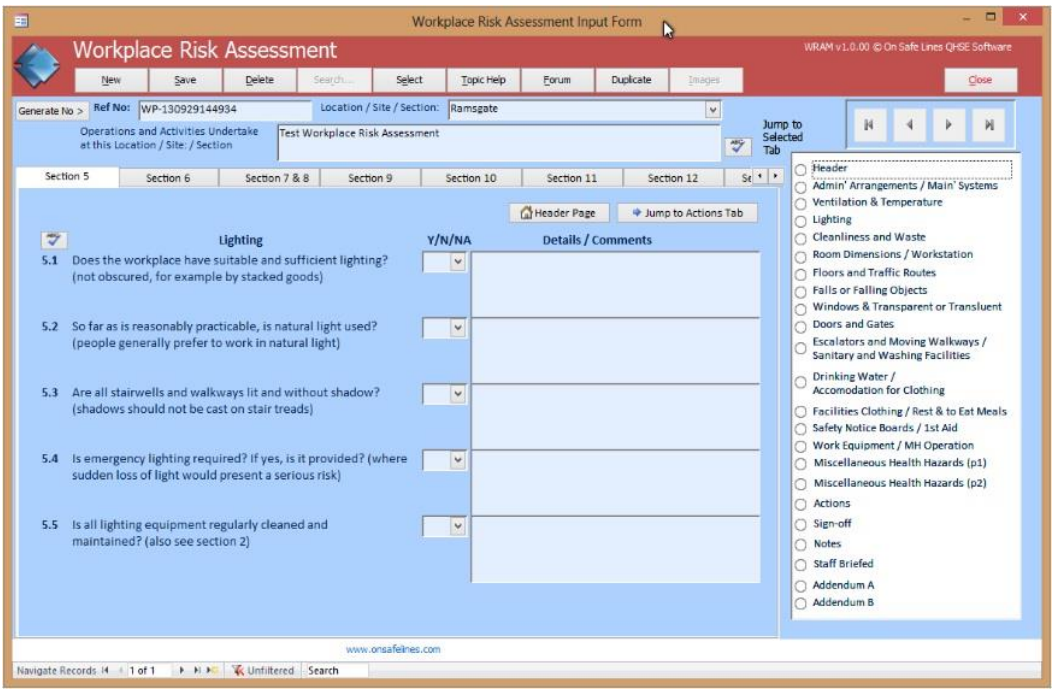
The pass mark for this examination is 50 %

Simulator (Hands-on Practical Sessions)

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using our state-of-the-art "PHA/HAZOP", "Workplace Risk Assessment" "Industrial Hygiene Virtual Laboratory" and "CIHprep V9.0 " simulators.

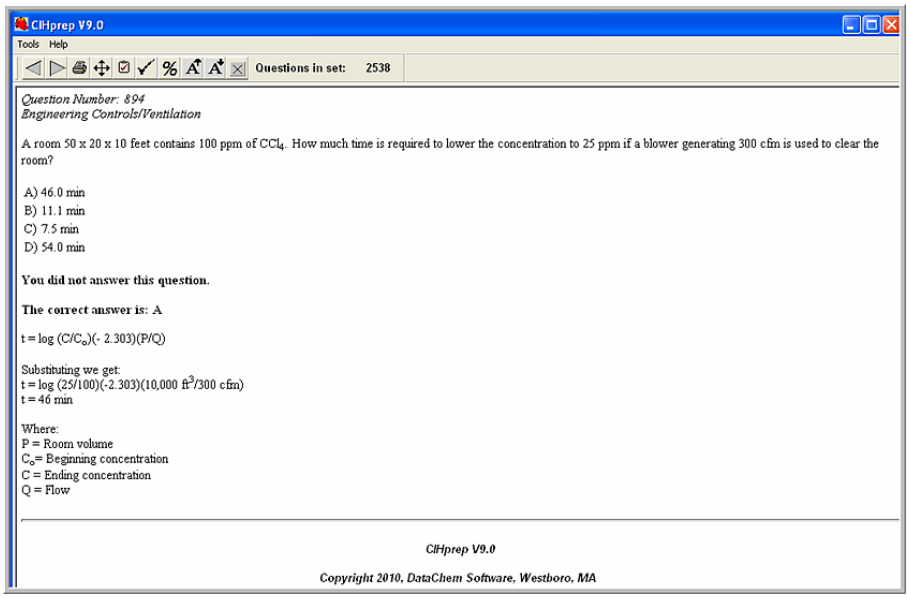


PHA/HAZOP Simulator



Workplace Risk Assessment

Industrial Hygiene Virtual Laboratory Simulator



CIHprep V9.0 Simulator

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