

**COURSE OVERVIEW HE0904**  
**Basic Principles of Industrial Hygiene (Certified)**

**Course Title**

Basic Principles of Industrial Hygiene (Certified)

**Course Reference**

HE0904

**Course Duration/Credits**

Five days/3.0 CEUs/30 PDHs

**Course Date/Venue**

Session(s)	Date	Venue
1	September 08-12, 2024	Al Aziziya Hall, The Proud Hotel Al Khobar, Al Khobar, KSA
2	December 22-26, 2024	Boardroom, Warwick Hotel Doha, Doha, Qatar



**Course Description**



***This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using the state-of-the-art industrial hygiene simulator.***



This course is designed to provide participants with a comprehensive overview of industrial hygiene and occupational health hazards. Participants will get an in-depth training on occupational health and hygiene issues and will learn about hygiene assessment and control principles in dealing with health hazards. The course develops the practical skills of the participants in the application part of occupational health issues and occupational hygiene measuring parameters. Participants will learn as well the practical skills in the application of hygiene assessments. It practices and job requirements of OH officers and hygienists. It is a unique blend of practical exercises and theoretical training in the subject.



The course is dealing with general principles and methods of controlling occupational health hazards basically to ensure that employees exposure to harmful chemical and physical agents doesn't result in occupational illness.

After the completion of this course, OH officers & hygienists will learn about the types of industrial hygiene control measures to be installed depending on the nature of harmful substance/agents and its entry into the body and how to reduce and take control measures for the contamination.

Process Industry deals with materials and products that are toxic, hazardous and harmful to human health and environment. Therefore, it is mandatory requirement for process companies to train occupational health officers and hygienists in how to understand the hazard, measure the toxic limit and exposure and take immediate control measures and permanent control measures based on preventive planning.

This course will help the OH officers and hygienist possess the adequate skills to implement the control methodology. They will also learn the toxicology and its effect on human and broad range of potential hazards, all the biological agents, harmful chemicals, construction materials which pose health hazards, physical stressors as well as total understanding of process technology and work practices.

The course will help participants to understand the circumstances surrounding an exposure hazard and choosing method(s) that will provide adequate control, lower exposure and path of its control to workers, employees work patterns and use of remedial measures.

The course will provide introductory principles of occupational hygiene as the basis for anticipation, recognition, evaluation and control of hazards that can be encountered in the workplace. On completing this course successfully, the participants will have a basic understanding of the following:-

- the value of occupational hygiene and the role of the occupational hygienist
- the range of hazards (physical and chemical) in the workplace
- hazard recognition techniques
- sources and potential routes of exposure
- hazard evaluation, exposure assessment and the measurement processes
- methods of controlling exposure
- the management of occupational hygiene programmes

### **Course Objectives**

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

- Apply and gain a good working knowledge on industrial hygiene
- Define industrial hygiene and discuss the health and safety timeline, ethics, application of current codes and ABIH enforcement process
- Recognize standards and exposure limits consisting of risk analysis, risk assessment, exposure assessment, OSHA act, consensus organization, inspection by OSHA, etc
- Differentiate particulates and gases as well as explain toxicology and radiation
- Use proper ventilation and classify noise and vibration

- Discuss air pollution and industrial hygiene (IH) chemistry including its terms, QA necessary for quality air sampling data, lab accreditation, report lab data, sampling media, factors affecting solid sorbent collection, etc
- Explain thermal stress covering its terms, heat balance equation, lose body heat, heat loss or gain can occur, WBGT index (determination), other heat indices, clothing effects, primary disorders, heat stress factors, cold stress and heat stress trivia
- Perform proper IH management as well as describe illumination and occupational epidemiology
- Carryout proper calibration and sampling as well as describe philosophy and sampling statistics including biological methods
- Identify hazardous trades consisting of abrasive blasting, battery (lead-acid) manufacture, cement manufacture, compressed air work, confined space entry, construction industry, etc
- Use personal protective equipment correctly through PPE training, identifying specific PPE types and selecting chemical protective clothing and gloves
- Determine ergonomics covering workplace design, biomechanics, upper extremity cumulative, trauma disorders, general lifting guidelines, design considerations for manual material handling and design considerations for CTD analysis
- List medical considerations comprising of medical surveillance objectives, types, biological monitoring, ACGIH BEIs, AIHA biological environmental exposure levels (BEELs), respiratory exams, occupational lung disease, occupational skin disease, occupational infections and biological hazards and fungal diseases
- Assess indoor air quality as well as employ risk assessment and management

### **Exclusive Smart Training Kit - H-STK®**



*Participants of this course will receive the exclusive “Haward Smart Training Kit” (H-STK®). The H-STK® consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.*

### **Who Should Attend**

This course provides an overview of all significant aspects and considerations of principles in industrial hygiene for health and safety professionals, occupational health specialists including physicians, nurses. Specialists in subjects such as acoustics, ergonomics, human factors, occupational psychology, work organisation, biosafety, engineering, analytical chemistry and those who want a broader appreciation of how their role interfaces with other professions over health issues in the workplace will find this course beneficial.



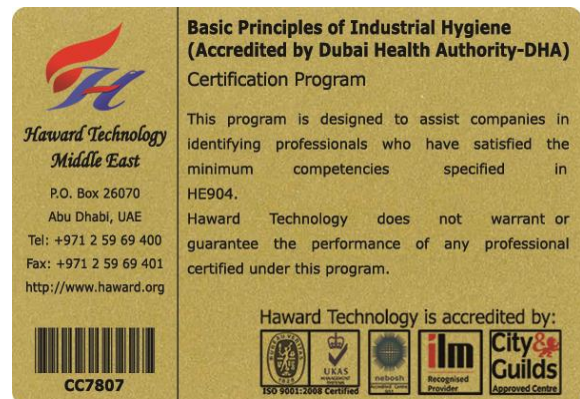
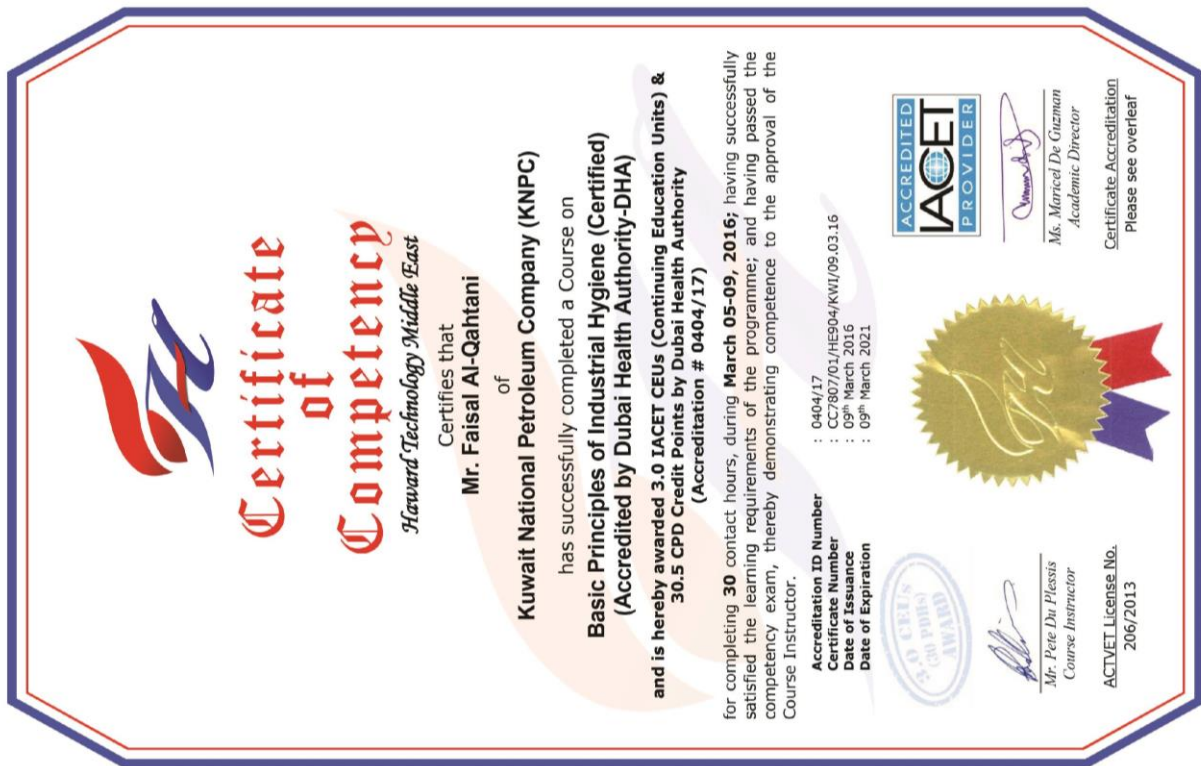
**Course Certificate(s)**

Internationally recognized Competency Certificates and Plastic Wallet Cards will be issued to participants who completed a minimum of 80% of the total tuition hours and successfully passed the exam at the end of the course. Certificates are valid for 5 years.

**Recertification is FOC for a Lifetime.**

**Sample of Certificates**

The following are samples of the certificates that will be awarded to course participants:-



- (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 \* CEUs \* Haward Technology \* CEUs \* Haward Technology \* CEUs \* Haward Technology \*



**Haward Technology Middle East**

Continuing Professional Development (HTME-CPD)

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### CEU Official Transcript of Records

**TOR Issuance Date:** 14-Nov-19

**HTME No.** 8667-2014-9020-2555

**Participant Name:** Abdulsatar Al Otaibi

Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
HE0904	Basic Principles of Industrial Hygiene (Certified)	November 10-14, 2019	30	3.0

**Total No. of CEU's Earned as of TOR Issuance Date** **3.0**

**TRUE COPY**



Maricel De Guzman  
Academic Director

Haward Technology has been approved as an Authorized 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 1-2013 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 1-2013 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










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\* Haward Technology \* CEUs \* Haward Technology \* CEUs \* Haward Technology \* CEUs \* Haward Technology \*

### Certificate Accreditations


Certificates are accredited by the following international accreditation organizations:-

- 
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 **3.0 CEUs** (Continuing Education Units) or **30 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.

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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.

### Accommodation

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



**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. Eric Matthews** is a **Senior SHEQ Consultant** with over **35 years** of industrial experience within **Oil, Gas and Power** industries. His expertise includes **Environmental Management System, ISO 14001, ISO 9001, OHSAS 18001, Safety Management System, Industrial Hygiene, Construction Safety (STOP), Process Safety Management (PSM), Risk Management, Risk Assessment, OSHA, SHEQ, HAZOP, PHA, Industrial Hygiene, Confined Space Entry, Fall Protection, Work Permit & First Aid, Forklift Operations, Accident & Incident Prevention, Site Inspection, HSE Leadership, Safety Attitude and Industrial Plant Safety** as well as Pneumatic, Control Systems and Logic Boards. Moreover, his experience includes Quality Management System (**QMS**), Change Management, Project Management, Contract Management, Business Management, Time Management, Performance Management, Supervisory & Management Skills, Coaching & Mentoring and Strategic Decision Making. He was the **Managing Director** of **Ken Matthews & Associates Training Consultancy**. Further, he is a **Registered and Certified Trainer, Assessor, Moderator, Verifier and Program Designer & Developer** as well as an **Authorized Accreditation Advisor**.

During Mr. Matthews' career life, he has shared his knowledge and practical expertise through the continuous and numerous trainings internationally. He started his profession from various challenging positions such as the **Tool Maker, Mechanical Technician, Sea Going Engineer, Safety Officer, Senior Lecturer/Professor, College Mentorship Programme Head, Mechanical Engineering Curriculum Designer, Learning Material Developer, Trainer & Assessor**.

Mr. Matthews has **Bachelor** degree in **Industrial & Organizational Psychology** with **Honours (Cum Laude)**. Further, he is a **Certified Instructor/Trainer; a Certified Trainer/Assessor** by the **City & Guilds of London Institute**; a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)**; a **Registered SETA Assessor/Moderator/Skills Coach** and an active member of the **British Institute of Works Managers** and **British Institute of Personnel Managers** and delivered innumerable trainings, courses, seminars and workshops worldwide.

**Course Fee**

Al Khobar	<b>US\$ 5,500</b> per Delegate + <b>VAT</b> . This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Doha	<b>US\$ 6,000</b> per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.



### **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 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 – 0830	<i>Registration &amp; Coffee</i>
0830- 0845	<i>Welcome &amp; Introduction</i>
0845 – 0900	<b>PRE-TEST</b>
0900 – 0915	<b><i>Basic Principles in Occupational Hygiene</i></b>
0915 – 0930	<b><i>Human Physiology</i></b>
0930 – 0945	<i>Break</i>
0945 – 1015	<b><i>Fundamentals of Toxicology</i></b>
1015 – 1045	<b><i>Examples of Hazardous Substances/Processes</i></b>
1045 – 1145	<b><i>HSE Management</i></b>
1145 - 1230	<b><i>Assessment of Health Risks</i></b>
1230 – 1245	<i>Break</i>
1245 - 1315	<b><i>Risk Assessments</i></b>
1315 – 1345	<b><i>Basic Principles</i></b>
1345 - 1420	<b><i>Sampling for Particulates</i></b>
1420 – 1430	<b><i>Recap</i></b>
1430	<i>Lunch &amp; End of Day One</i>

#### **Day 2**

0730 – 0830	<b><i>Biological Monitoring &amp; Health Surveillance</i></b>
0830 – 0900	<b><i>Common Industrial Processes</i></b>
0900 – 0930	<b><i>Health Effects</i></b>
0930 – 0945	<i>Break</i>
0945 – 1030	<b><i>Specific Industry Profiles</i></b>
1030 – 1100	<b><i>Regulatory Considerations</i></b>
1100 – 1200	<b><i>“Laser Printers” Case Study</i></b>
1200 – 1230	<b><i>Introduction to Toxicology</i></b>
1230 – 1245	<i>Break</i>
1245 – 1345	<b><i>Types of Health Effects</i></b>
1345 - 1420	<b><i>Basic Human Biology &amp; Target Organs</i></b>
1420 – 1430	<b><i>Recap</i></b>
1430	<i>Lunch &amp; End of Day Two</i>







**Day 3**

0730 – 0830	<b>Basic Toxicokinetics</b>
0830 - 0930	<b>Dose Response and Toxicity Testing</b>
0930 – 0945	<i>Break</i>
0945 – 1030	<b>Overview of Health Effects</b>
1030 – 1100	<b>Radiation</b>
1100 – 1200	<b>Ionizing Radiation</b>
1200 – 1230	<b>Ventilation</b>
1230 – 1245	<i>Break</i>
1245 – 1345	<b>Inlets/Hoods</b>
1345 - 1420	<b>Capture Zone/Capture Bubble</b>
1420 – 1430	<b>Recap</b>
1430	<i>Lunch &amp; End of Day Three</i>

**Day 4**

0730 – 0830	<b>Noise</b>
0830 – 0930	<b>Vibration</b>
0930 – 0945	<i>Break</i>
0945 – 1030	<b>Overview of Ergonomics</b>
1030 – 1100	<b>Biological Ergonomics</b>
1100 – 1200	<b>Psychology at Work</b>
1200 - 1230	<b>Ergonomics Methods &amp; Techniques</b>
1230 – 1245	<i>Break</i>
1245 – 1315	<b>Ergonomics Risk Management</b>
1315 – 1345	<b>Musculoskeletal Disorders (MSDs)</b>
1345 - 1420	<b>Standards &amp; Social Aspects</b>
1420 – 1430	<b>Recap</b>
1430	<i>Lunch &amp; End of Day Four</i>

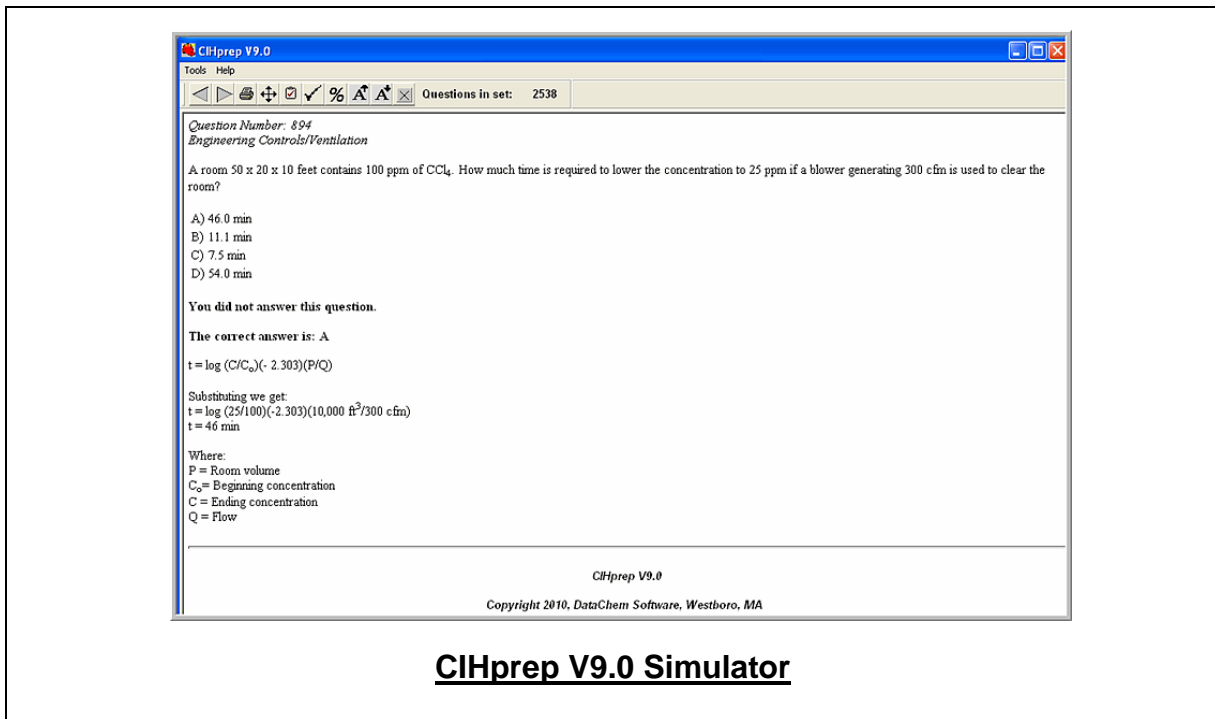
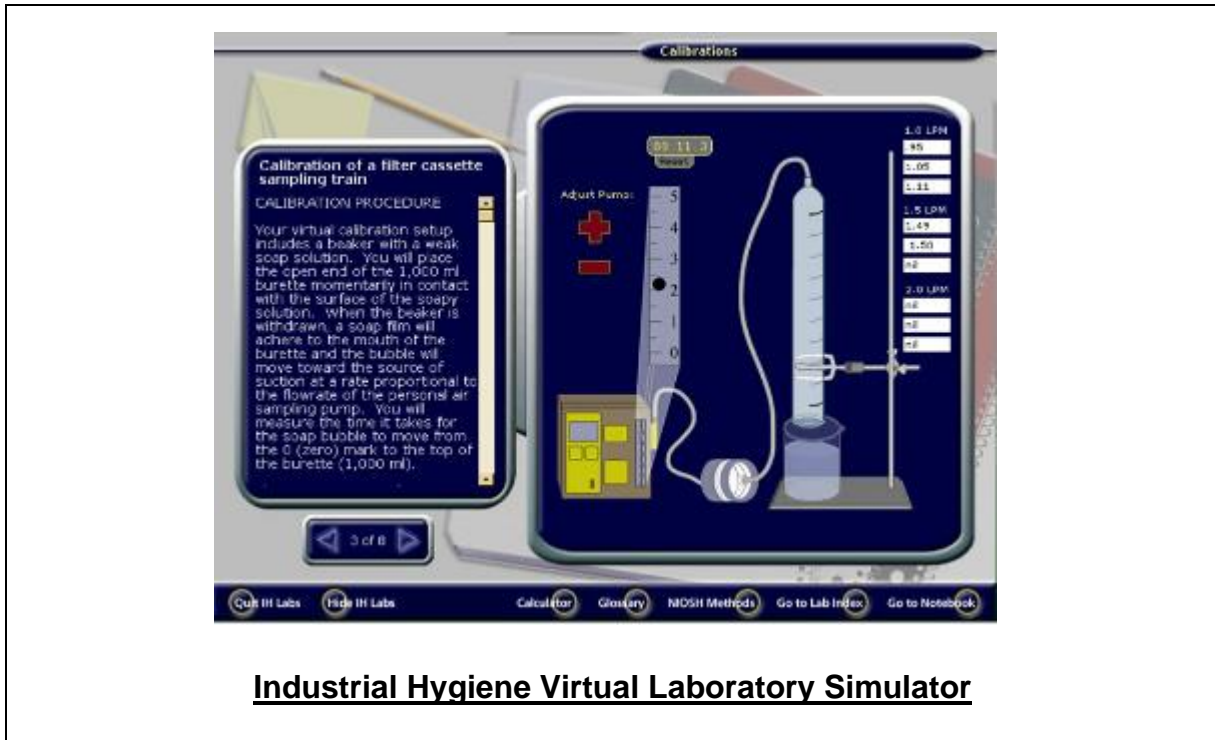
**Day 5**

0730 – 0800	<b>Vision &amp; Lighting</b>
0800 – 0900	<b>Noise</b>
0900 – 0930	<b>Thermal Environment</b>
0930 – 0945	<i>Break</i>
0945 – 1015	<b>Vibration</b>
1015 – 1100	<b>Smell, Taste &amp; Touch</b>
1100 – 1130	<b>Clothing &amp; Personal Protective Equipment</b>
1130 – 1200	<b>Introduction to Physiology &amp; Toxicology</b>
1200 - 1230	<b>Risk Assessment</b>
1230 – 1245	<i>Break</i>
1245 - 1300	<b>Hygiene Standards</b>
1300 – 1315	<b>Course Conclusion</b>
1315 – 1415	<b>COMPETENCY EXAM</b>
1415 - 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch &amp; End of Course</i>



### 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 the state-of-the-art “Industrial Hygiene Virtual Laboratory Simulator” and “CIHprep V9.0 Simulator”.



### Course Coordinator

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