

COURSE OVERVIEW LE0413
Microbiological Identification
& Enumeration of Food Safety Hazards

Course Title

Microbiological Identification & Enumeration of Food Safety Hazards

Course Date/Venue

November 23-27, 2025/Business Meeting, Crowne Plaza Al Khobar, Al Khobar, KSA

Course Reference

LE0413

Course Duration/Credits

Five days/3.0 CEUs/30 PDHs



Course Description



This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.



This course is designed to provide participants with a detailed and up-to-date overview of Microbiological Identification and Enumeration of Food Safety Hazards. It covers the aerobic and anaerobic bacteria, aerobic colony count (ACC) and food safety microbiology; the implications of positive results and writing a proper report; the listeria monocytogenes and listeria Spp; the enumeration and detection of listeria in food samples; and the confirmation tests and analysis of results.



During this interactive course, participants will learn the escherichia coli including E coli O157 and coliforms; the identification techniques for E coli and the vibrio parahaemolyticus; the sampling techniques, and the difference between salmonella Spp and staphylococcus aureus; the clostridium perferingens and clostridium Spp; the bacillus cereus and bacilluss Spp; the food safety risk, types of samples for culture and isolation of yeasts and moulds; and the safety precautions relating to culture and isolation of yeasts and moulds.

Course Objectives

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

- Apply and gain an in-depth knowledge on microbiological identification and enumeration of food safety hazards
- Identify aerobic and anaerobic bacteria, aerobic colony count (ACC) as well as food safety microbiology
- Analyze the implications of positive results and write a proper report
- Discuss listeria covering listeria monocytogenes and listeria Spp, enumeration and detection of listeria in food samples, preparation of media, confirmation tests and analysis of results
- Determine escherichia coli including E coli O157 and coliforms, types of samples and techniques for isolation and analysis, enrichment of media and media preparation, identification techniques for E coli and analysis of results
- Describe vibrio parahaemolyticus including its types of samples for isolation and analysis, sampling techniques, isolation media preparation, analysis of results, etc
- Distinguish the difference between salmonella Spp and staphylococcus aureus including their types of samples for isolation and analysis, sampling techniques, isolation and analysis techniques, isolation media preparation, identification techniques after isolation and analysis of results
- Discuss clostridium perferingens and clostridium Spp and bacillus cereus and bacillus Spp covering their types of samples for isolation and analysis, techniques for isolation and analysis, preparation of isolation media, enumeration techniques and analysis of results
- Discuss yeasts and moulds that cover food safety risk, types of samples for culture and isolation of yeasts and moulds, safety precautions relating to culture and isolation of yeasts and moulds, techniques for isolation and analysis, preparation of isolation media, enumeration techniques applicable to yeasts and moulds and analysis of results

Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive “Howard 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 microbiological identification and enumeration of food safety hazards for microbiologists, health inspectors, food manufacturers, public health officials and other laboratory and HSE staff.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -

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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.

Course Fee

US\$ 5,500 per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

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:



Dr. Mohamed Elsayed, PhD, MSc, BSc is an **HACCP Expert** with over **25 years** of experience in **HACCP Standards, HACCP Accreditation, HACCP Application, Food Hygiene, Food Safety** and **Analytical Laboratory Management**. He is an **authority** in **Food Analysis & Quality Control, Quality Management Systems (ISO 17025, ISO17020, 15189 and 9001), Laboratory Accreditation, Laboratory Auditing, Statistical Analysis of Laboratory Data, Chemical Laboratory Management, Good Laboratory Practices (GLP), Uncertainty Measurement, Process Analyzers, GC and HPLC**. Further, his wide experience and expertise also cover **Food Safety Management, Hazard Analysis of Critical Control Points (HACCP), Food Sampling and Food Additives**. He is currently a **Consultant and Lead/Technical Assessor** in various industries wherein he provides technical assistance & expert services, consultancy and training services for testing and calibration of laboratory equipment, guiding medical laboratories to establish their quality management systems and develop accreditation based on **ISO17025/15189** requirements, designing validation/verification schemes for all test methods, estimation of uncertainty and planning & developing laboratories towards accreditation.

In his career life, Dr. Mohamed has served as a **Senior Expert, Lead Technical Auditor, Project Manager, Quality Manager and Senior Analytical Chemist for Government Companies and Internationally Funded Projects**. He has **participated** in the **accreditation** of more than **100 laboratories globally** and as a **Senior Accreditation Expert** he has participated in the development of more than 35 laboratories towards being ISO 17025 Accredited.

Dr. Mohamed has **PhD** and **Master** degrees in **Environmental Analytical Chemistry** and **Bachelor's** degree in **Chemistry**. He is a **Certified Auditor** of **ISO 17025, ISO 15189, ISO 9000 and ISO 14000**. Further, He is an active member of the **Society for Analytical Chemists, Association of Official Analytical Chemists (AOAC)** and the **Egyptian Society for Quality**.

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: Sunday, 23rd of November 2025

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	Aerobic & Anaerobic Bacteria Discussion & Implication for Food Safety
0930 – 0945	Break
0945 – 1030	Presentation About Aerobic Colony Count (ACC)
1030 – 1115	Presentation on Food Safety Microbiology Importance of Standard Methods • Validation Methods
1115 – 1145	Implications of Positive Results
1145 – 1215	Report Writing
1215 – 1230	Break
1230 – 1420	Listeria Presentation of <i>Listeria Monocytogenes</i> & <i>Listeria Spp</i> • Enumeration & Detection of <i>Listeria</i> in Food Samples • Preparation of Media • Confirmation Tests • Discussion & Analysis of Results
1420 – 1430	Recap
1430	Lunch & End of Day One

Day 2: Monday, 24th of November 2025

0730 – 0930	Escherichia Coli Presentation on <i>Escherichia Coli</i> , <i>E Coli</i> O157 & Coliforms (Food Safety Hazards, Pathology) • Types of Samples for Isolation & Analysis • Isolation & Analysis Techniques
0930 – 0945	Break
0945 – 1100	Escherichia Coli (cont'd) Enrichment of Media & Media Preparation • Identification Techniques for <i>E Coli</i> • Discussion & Analysis of Results
1100 – 1215	Vibrio Parahaemolyticus Presentation & Discussion on <i>Vibrio Parahaemolyticus</i> (Food Safety Hazards, Morphology, Pathology) • Types of Samples for Isolation & Analysis
1215 – 1230	Break
1230 – 1420	Vibrio Parahaemolyticus (cont'd) Isolation & Analysis Techniques • Isolation Media – Preparation • Discussion & Analysis of Results
1420 – 1430	Recap
1430	Lunch & End of Day Two

Day 3: Tuesday, 25th of November 2025

0730 – 0930	Salmonella Spp Presentation & Discussion on <i>Salmonella Spp</i> (Food Safety Hazards, Morphology, Pathology) • Types of Samples for Isolation & Analysis • Sampling Techniques • Isolation & Analysis Techniques
0930 – 0945	Break
0945 – 1100	Salmonella Spp (cont'd) Isolation Media Preparation • Identification Techniques after Isolation • Discussion & Analysis of Results



1100 – 1215	Staphylococcus Aureus Presentation of & Discussion on Staphylococcus Aureus (Food Safety Hazards, Morphology, Pathology) • Types of Samples for Isolation and Analysis • Isolation & Analysis Techniques
1215 – 1230	Break
1230 – 1420	Staphylococcus Aureus (cont'd) Isolation Media Preparation • Isolation Discussion & Analysis of Results
1420 – 1430	Recap
1430	Lunch & End of Day Three

Day 4: Wednesday, 26th of November 2025

0730 – 0930	Clostridium Perferingens Presentation & Discussion on Clostridium Perferingens & Clostridium Spp (Food Safety Hazards, Morphology, Pathology) • Types of Samples for Isolation & Analysis • Techniques for Isolation & Analysis
0930 – 0945	Break
0945 – 1100	Clostridium Perferingens (cont'd) Preparation of Isolation Media • Discussion & Analysis of Results
1100 – 1215	Bacillus Cereus Presentation & Discussion on Bacillus Cereus and Bacillus Spp (Food Safety Hazard, Morphology, Pathology) • Types of Samples for Isolation & Analysis • Techniques for Isolation & Analysis
1215 – 1230	Break
1230 – 1420	Bacillus Cereus (cont'd) Preparation of Isolation Media • Enumeration Techniques • Discussion & Analysis of Results
1420 – 1430	Recap
1430	Lunch & End of Day Four

Day 5: Thursday, 27th of November 2025

0730 – 0930	Yeasts & Moulds Presentation on Yeasts & Moulds That Present a Food Safety Risk (Food Safety Hazards, Morphology of the Different Yeasts & Moulds, Pathology)
0930 – 0945	Break
0945 – 1100	Yeasts & Moulds (cont'd) Types of Samples for Culture & Isolation of Yeasts & Moulds • Safety Precautions Relating to Culture & Isolation of Yeasts & Moulds
1100 – 1215	Yeasts & Moulds (cont'd) Techniques for Isolation & Analysis • Preparation of Isolation Media
1215 – 1230	Break
1230 – 1345	Yeasts & Moulds (cont'd) Enumeration Techniques Applicable to Yeasts & Moulds • Discussion & Analysis of Results
1345 – 1400	Course Conclusion
1400 – 1415	POST-TEST
1415 – 1430	Presentation of Course Certificates
1430	Lunch & End of Course



Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises:-



Course Coordinator

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