



Sterilization Sciences Course (English)

Introduction

19th April 2023

In Hong Kong as well as in Asia, provision of regular in-depth sterilization course is extremely limited. Recently, the sterilization advancement in Hong Kong practice has increased the demand on education in sterilization sciences. With the formation of Sterilization Science Academy under HKSSMA, not only we can train up the profession locally, but we can also share our experience with overseas delegates and further strengthen the professionalism in the sterilization field. The course is designed for in-depth enrichment of participants' professional knowledge on sterilization sciences.

Objectives

1. Upon completion of the course, participants are expected to be able to understand:
2. The key concepts in microbiology and importance of infection control & decontamination science
3. The theoretical concepts and professional terminology in decontamination
4. The physics behind steam sterilization
5. The importance of water quality for thermal disinfection and steam sterilization
6. Understand various monitoring methods for cleaning / sterilization processes
7. Components of a washer disinfectant and validation standards
8. Components of a steam sterilizer and validation standards
9. Construction and Management of a modern Central Sterile Supplies Department (CSSD)
10. Apply theoretical concepts in advanced decontamination sciences into daily practice

Organizer

Sterilization Sciences Academy with assistance of Aesculap Academy and GKE Cleaning Sterilization

Course Coordinator: Any query can address to Mr. Samuel Tat Hong LAW at lawthsamuel@hkssma.org

Course Module

Module 1	Date: Venue: Subject:	12 Jul 2023 (Wed) to 14 Jul 2023 (Fri) Eaton Hotel Hong Kong, 380 Nathan Road, Hong Kong Microbiology, Infection Control, disinfection and sterilization, water quality, Washer Disinfectant, Low Temperature Hydrogen Peroxide sterilization, Sterile Barrier System
Module 2	Date: Venue: Subject:	To be organized in 2024 To be confirmed Steam kinetics, clean steam system, steam sterilization and validation, Quality Management System, Supply and Store Management, Research Study, Planning and construction of CSSD

Language Medium

English



Course Duration and Date

The Sterilization Sciences Course (English) comprises of 2 modules. Each module is lasted for three days. The course is going to organize in every year.

Target Participants and Class Size

The course is designed for both local and overseas nurses, staff working in hospitals or in sterilization field. The class size is around 50 – 60.

Lecturers

Dr. Gerhard KIRMSE

- Director Technical Competence Center; Dr. Ing.

Mr. Wei GUO

- Office Manager GKE China

Mr Philippe Destrez

- Physics (MSc-France) and (MBA-USA), R&D Director at ASP

Mr. Samuel Tat Hong LAW

- HKSSMA Chairman / Course Advisor, RN,

Mr. Teddy Chun Kin LEE

- HKSSMA vice-Chairman, RN

Continuing Nursing Education (CNE) Points

Total contact time is 18 hours per module with 18 CNE credit points to be awarded for each module

Award of Certificate

Participants must attend 75% of the theoretical lecture.

Certificate of attainment will be issued to participants who have completed the course and obtained satisfactory result in the course assessment.

Course Fees for Each Module (3 days)

1. HKSSMA member: HK \$3,500; Early bird enrolment: HK \$3,500; Late enrolment: HK\$3,900
2. The early bird enrolment deadline is set on **21st May 2023**. The registration will be closed on **11th Jun 2023**. Overseas registration is first come first served.
3. Course fee including hotel lunch and coffee breaks for 3 days but excluding hotel accommodation
4. Registration fee is neither transferable nor refundable.

Online Registration

For course registration, please click the following hyperlink.

<https://www.hkssma.org/>



Course Curriculum

Module I - Microbiology, Infection Control, disinfection and sterilization, water quality, Washer Disinfectant, Low Temperature Hydrogen Peroxide sterilization, Sterile Barrier System

Date	Time	Day One Topic	Speaker
12 Jul 2023 Wednesday (Day 1)	09:00 – 09:15	✚ Introduction and course overview	Mr. Samuel Tat Hong LAW
	09:15 – 10:15	✚ Microbiology ➤ Different types of microorganisms ➤ Mode of spreading of infectious diseases ➤ Prions and Creutzfeldt–Jakob disease (CJD) ✚ Infection prevention and control ➤ Decontamination of medical devices ➤ Spaulding Classification	Mr. Samuel Tat Hong LAW
	10:15 – 10:45	Tea Break	
	10:45 – 11:35	✚ Definition of disinfection and sterilization ✚ Method of disinfection and sterilization ✚ General principle of cleaning ✚ Chemical disinfection ✚ Thermal disinfection and A ₀ Concept	Mr. Samuel Tat Hong LAW
	11:35 – 11:45	Short Break	
	11:45 – 13:00	✚ Low Temperature Hydrogen Peroxide Sterilization ✚ Standard (ISO 22441) and Validation of Low Temperature Hydrogen Peroxide Sterilization	Mr Philippe Destrez
	13:00 – 14:00	Lunch Break	
	14:00 – 15:15	✚ Hospital Accreditation in Hong Kong ✚ Revolution of Sterile Supply Services in Hong Kong ✚ Global Code of practices of Hospital Sterilization	Mr. Samuel Tat Hong LAW
	15:15 – 15:45	Tea Break	
	15:45 – 17:00	✚ General principle of cleaning ✚ Manual Cleaning ✚ Mechanism of Ultrasonic Cleaning	Mr. Samuel Tat Hong LAW
Date	Time	Day Two Topic	Speaker
13 Jul 2023 Thursday (Day 2)	09:00 – 09:15	✚ Course Recap	Mr. Samuel Tat Hong LAW
	09:15 – 10:15	✚ Introduction to water quality ✚ Chemical impurities, Biofilm, Endotoxins and their impacts to sterile service ✚ International standards for water quality	Mr. Teddy Chun Kin LEE
	10:15 – 10:45	Tea Break	
	10:45 – 11:35	✚ Choice and ingredients of detergents ✚ Acidic, neutral, alkaline and enzymatic detergents	Mr. Samuel Tat Hong LAW
	11:35 – 11:45	Short Break	



	11:45 – 13:00	<ul style="list-style-type: none"> ✚ Importance of water quality on cleaning and sterilization ✚ Water treatment plant ✚ Reverse Osmosis System ✚ Monitoring and Control of water quality 	Mr. Teddy Chun Kin LEE
	13:00 – 14:00	Lunch Break	
	14:00 – 15:15	<ul style="list-style-type: none"> ✚ Standard of Washer Disinfector (WD) ISO 15883 ✚ Design and Type of WD 	Dr. Gerhard KIRMSE
	15:15 – 15:45	Tea Break	
	15:45 – 17:00	<ul style="list-style-type: none"> ✚ Validation test for WD ✚ Thermometric test ✚ Process monitoring of WD <ul style="list-style-type: none"> ➢ Cleaning Efficacy Test ➢ Protein Residue test ➢ Soil Test ➢ ATP Test ✚ WD Water (Pump) Pressure test 	Dr. Gerhard KIRMSE
Date	Time	Day 3 Topic	Speaker
14 Jul 2023 Friday Day 3	09:00 – 09:15	✚ Course Recap	Mr. Samuel Tat Hong LAW
	09:15 – 10:15	<ul style="list-style-type: none"> ✚ Choice of Packing Method /Care of fine instrument ✚ Shelf life, Event related expiry date 	Mr. Samuel Tat Hong LAW
	10:15 – 10:45	Tea Break	
	10:45 – 11:35	<ul style="list-style-type: none"> ✚ Design and Finish of Surgical Instrument ✚ Type of Surgical Instrument ✚ Care of Surgical Instrument ✚ Surgical Instrument Checking 	Dr. Gerhard KIRMSE
	11:35 – 11:45	Short Break	
	11:45 – 13:00	<ul style="list-style-type: none"> ✚ Sterile Barrier System ISO 11607 ✚ Various type of Sterile Barrier System ✚ Validation of Sterile Barrier System 	Dr. Gerhard KIRMSE
	13:00 – 14:00	Lunch	
	14:00 – 15:00	✚ Research Study on Sterile Barrier System	Mr. Samuel Tat Hong LAW
	15:00 – 15:30	Tea Break	
	15:30 – 16:00	✚ Course Assessment	Mr. Samuel Tat Hong LAW
	16:00 – 16:15	Short Break	
	16:15 – 17:00	<ul style="list-style-type: none"> ✚ Course Evaluation ✚ Question and Answer ✚ Group Photo 	Mr. Samuel Tat Hong LAW



Module II – Steam kinetics, clean steam system, steam sterilization and validation, Quality Management System, Supply and Store Management, Research Study, Planning and construction of CSSD

Date	Time	Day 4 Topic	Speaker
Wednesday Day 4	09:00 – 09:15	✚ Introduction and course overview	
	09:15 – 10:15	✚ Physical properties of Steam <ul style="list-style-type: none"> ➤ Specific heat capacity ➤ Latent heat and change of state ➤ Ideal Gas Law ✚ Log Reduction Concept ✚ D-value, Z-value & F ₀ value ✚ Thermal Death Curve ✚ Sterility Assurance Level (SAL)	
	10:15 – 10:45	Tea Break	
	10:45 – 11:35	✚ Theory of Steam Sterilization ✚ The Imagination Micro-organism concept ✚ The Overkill principle ✚ Critical parameters in steam sterilizations	
	11:35 – 11:45	Tea Break	
	11:45 – 13:00	✚ Steam quality ✚ Saturated steam table ✚ Clean Steam System <ul style="list-style-type: none"> ➤ Orbit welding ➤ Dead space of steam pipe ➤ Deaeration of reverse osmosis water 	
	13:00 – 14:00	Lunch	
	14:00 – 15:15	✚ Design and construction of steam generators ✚ Steam supply and steam pipe system ✚ Components of a steam sterilizer	
	15:15 – 15:45	Tea Break	
	15:45 – 17:00	✚ International standards for steam sterilizer EN 285 ✚ Air removal and Steam Penetration ✚ Type of Sterilization Cycles ✚ Physical mechanism throughout steam sterilization processes	
Date	Time	Day 5 Topic	Speaker
Thursday Day 5	09:00 – 09:15	✚ Course Recap	
	09:15 – 10:15	✚ Common types of steam generators ✚ Design and construction steam supply system ✚ Validation of Steam quality	



	10:15 – 10:45	Tea Break	
	10:45 – 11:35	<ul style="list-style-type: none"> ✚ Routine monitoring and control of steam sterilization ✚ Process Challenge device ✚ Process Monitoring System ✚ Classification of Chemical indicators ✚ Issues on Biological indicators 	
	11:35 – 11:45	Tea Break	
	11:45 – 13:00	✚ Validation test for steam sterilizer ISO 14937	
	13:00 – 14:00	Lunch	
	14:00 – 15:15	<ul style="list-style-type: none"> ✚ Quality Management System ISO 13485 ✚ Tracking and Tracking System 	
	15:15 – 15:45	Tea Break	
	15:30 – 17:00	<ul style="list-style-type: none"> ✚ Procurement and Material Management in CSSD ✚ Supply Chain management ✚ Store and Supply Management 	
Date	Time	Day 6 Topic	Speaker
Friday Day 6	09:00 – 09:15	✚ Course Recap	
	09:15 – 10:15	<ul style="list-style-type: none"> ✚ Planning and construction of CSSD ✚ Health Building Note 13 (HBN13) 	
	10:15 – 10:45	Tea Break	
	10:45 – 11:35	<ul style="list-style-type: none"> ✚ Environmental requirements ✚ Segregation of dirt and clean ✚ Segregation of sterile and un-sterile ✚ Clean room ISO 14644 ✚ Environmental Control and validation 	
	11:35 – 11:45	Tea Break	
	11:45 – 13:00	✚ Research Study on Bowie Dick Test	
	13:00 – 14:00	Lunch	
	14:00 – 15:00	<ul style="list-style-type: none"> ✚ Near Missed Case Management ✚ Continue Quality Improvement ✚ Prevention of Wet Load 	
	15:00 – 15:30	Tea Break	
	15:30 – 16:00	✚ Course Assessment	
	16:00 – 16:15	Tea Break	
	16:15 – 17:00	<ul style="list-style-type: none"> ✚ Course Evaluation ✚ Question and Answer ✚ Group Photo 	

Note: The course curriculum may have minor change without prior notice.