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PROFESSIONAL TRAINING



26 - 28 AUGUST 2026
3 DAYS



SCHOOL OF INDUSTRIAL TECHNOLOGY,
UNIVERSITI SAINS MALAYSIA, PENANG

HERBAL TECHNOLOGY AND PRODUCT DEVELOPMENT



HRDC TRAINING PROGRAMME NO: 10001392223

LIST OF MODULES

- 1 HERBAL EXTRACTION & CHROMATOGRAPHY TECHNOLOGY
- 2 ENCAPSULATION & ELECTROSPINNING TECHNOLOGY
- 3 QUALITY CONTROL: CHEMICAL MARKER & BIOLOGICAL ANALYSIS
- 4 LABELLING, PACKAGING & REGULATION



register now

REGISTRATION & FEE
RM800 PER MODULE
RM2000 FOR 4 MODULES
HRDC CLAIMABLE (FULL COURSE)

BACKGROUND & PROGRAM DESCRIPTION

School of Industrial Technology, USM offers a professional training on herbal technology (HerbalTech 2.0) which empowers participants with right skills to be knowledgeable herbal product developer and people who wish to make the first leap into herbal industry. Enjoy hands-on herbal product development strategies to boost your science and technology driven product quality and leave the competition behind.

- **INDUSTRY** - Start-up - SME - Product Founder - Herbal Practitioner - Product Formulator - R&D Scientist & Technologist - Quality Control Personnel
- **ACADEMIA** - Lecturer - Research officers - Postgraduates
- **PUBLIC** - Individuals who wish to create a nutraceutical & cosmetic product

Enquiry: shazeli@usm.my | 011-16371633

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**TS CHM DR
MOHAMAD SHAZELI CHE ZAIN**
HRDC ACCREDITED TRAINER
PHYTOCHEMIST



**ASSOC PROF DR
TAN THUAN CHEW**
HRDC ACCREDITED TRAINER
FOOD TECHNOLOGIST

Herbal Technology and Product Development Workshop

School of Industrial Technology, USM | 26 - 28 August 2026

TIME	VENUE	TENTATIVE AGENDA	SPEAKER/FACILITATOR
DAY 1			
0800 am – 0930 am	Lobby Seminar Room 171, Level 1	Registration Morning Tea & Networking Ice-Breaking Pre-Course Quiz	Dr Shazeli & Facilitator
0930 am – 1100 am	Seminar Room 171, Level 1	M1: Herbal Extraction Technology	Dr Shazeli
1100 am – 1300 pm	Seminar Room 171, Level 1	M2: Encapsulation & Electrospinning Technology	Dr Shazeli
1300 pm – 1400 pm	Lunch & Break		Facilitator
1400 pm – 1700 pm	MUDA Laboratory, Level 3	Hands-on M1: Preparation of Bioactive Extract	Dr Shazeli & Facilitator
		Hands-on M2: Encapsulation Demonstration	Dr Shazeli & Facilitator
1700 pm – 1730 pm	Seminar Room 171, Level 1	Tea Break & Networking	Facilitator
1730 pm	End of Day 1		
DAY 2			
0800 am – 0900 am	Seminar Room 171, Level 1	Morning Tea & Networking	Facilitator
0900 am – 1100 am	Seminar Room 171, Level 1	M3: Quality Control & Safety - Part 1	Dr Shazeli
1100 am – 1300 pm	Seminar Room 171, Level 1	M3: Quality Control & Safety - Part 2	Dr Shazeli
1300 pm – 1400 pm	Lunch & Break		Facilitator
1400 pm – 1700 pm	MUDA Laboratory, Level 3	Hands-on M3: Chemical and Bioassay Evaluation	Dr Shazeli & Facilitator
1700 pm – 1730 pm	Seminar Room 171, Level 1	Tea Break & Networking	Facilitator
1730 pm	End of Day 2		
DAY 3			
0800 am – 0830 am	Seminar Room 171, Level 1	Morning Tea & Networking	Facilitator
0830 am – 1030 am	Seminar Room 171, Level 1	M4: Knowing the mandatory and optional labelling requirement	AP Dr Thuan Chew
1030 am – 1300 am	Seminar Room 171, Level 1	M4: Recognizing the available guidelines related to the Food Regulations 1985	AP Dr Thuan Chew
1300 pm – 1400 pm	Lunch & Break		Facilitator
1400 pm – 1700 pm	Seminar Room 171, Level 1	M4: Describing the DO's and Don'ts in food labelling complying to regulations	AP Dr Thuan Chew
1700 pm – 1730 pm	Seminar Room 171, Level 1	Post-Course Quiz & Tea Break Closing	Dr Shazeli & Facilitator
1730 pm	End of Day 3		

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**TS CHM DR
MOHAMAD SHAZELI
CHE ZAIN**

AUGUST 2026
26-28
WED-FRI



Shazeli Zain has a research background in phytochemistry with specialization in herbal product standardization. Currently, he is a senior lecturer at School of Industrial Technology, USM. He is a professional chemist and technologist recognized by Malaysian Institute of Chemistry and Malaysia Board of Technologist, respectively with eclectic academic and industrial experiences. He is a certified trainer by Human Resource Development Corporation. He was listed as top fifteen young scientist by Young Scientist Network-Academy of Science Malaysia in 2020. His significant research on the development of highly advanced sustainable herbal standardization technology on bioactive compounds with therapeutic values has resulted in multiple high impact factor journal publications, patent applications and innovation awards.



SCAN TO KNOW
MORE ABOUT HIM



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**ASSOC PROF DR
TAN THUAN CHEW**

AUGUST 2026
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Assoc Prof Dr Tan Thuan Chew is a professor madya at School of Industrial Technology, Universiti Sains Malaysia with a specialization in food technology. He holds a Doctor of Philosophy, a Master of Science, and a Bachelor of Technology, all from USM. Dr. Chew has undergone professional training in areas such as food defense coordination and train-the-trainer programs. With six years of training experience and eight years as a senior lecturer, he conducts sessions on food regulations and labeling requirements, demonstrating his expertise in food safety and regulatory compliance. He is currently a HRDC accredited trainer under Human Resource Development Corporation.



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MORE ABOUT HIM



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WEDNESDAY
26 AUGUST 2026

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MODULE 1
EXTRACTION &
CHROMATOGRAPHY
TECHNOLOGY

HERBAL STANDARDIZATION PROTOCOL



HRDC CLAIMABLE (FULL COURSE)

Module 1 introduces the definition and importance of herbal standardization technology for targetting different classes of bioactive compounds in various plant materials. The trainees will be exposed to the first-hand knowledge and experience from the selection of raw materials, pre-processing steps to the selection of extraction media and methods including conventional and innovative extraction and chromatography technology. The module also covers the important factors affecting herbal extraction process and ways to obtain the optimized conditions. The session is designed with hands-on herbal extraction activity for producing high value botanical extract.


Definition and importance
of herbal standardization
protocol

Selection of suitable extraction
media and innovative extraction
and chromatography techniques

Strategies targetting different
classes of compounds in
herbal materials

Trouble shooting important
factors affecting extraction
process

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WEDNESDAY
26 AUGUST 2026



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MODULE 2

ENCAPSULATION TECHNOLOGY



SPRAY DRYING | ELECTROSPINNING TECHNOLOGY

HRDC CLAIMABLE (FULL COURSE)

Module 2 covers encapsulation technology using state of the art spray drying and electrospinning techniques. The trainees will get the first-hand knowledge and experience on the definition, principle and importance of microencapsulation of active nutraceutical and cosmaceutical ingredient. The module also covers the selection of suitable encapsulating agents and operating conditions. The session is designed with hands-on activity on handling spray dryer and electrospinning for producing microcapsule powder and nanofiber.



Microencapsulation of active nutraceutical & cosmaceutical ingredient



Advantages, disadvantages and spray drying & electrospinning operating principles



Selection of encapsulating agents and pre-formulation methods



Powder technology and factors affecting encapsulation process

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 THURSDAY
27 AUGUST 2026


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MODULE 3

QUALITY CONTROL:
CHEMICAL MARKER &
BIOLOGICAL ANALYSIS

SAFETY PROFILE & EFFICACY STUDIES



HRDC CLAIMABLE (FULL COURSE)

Module 3 starts off with the definition of adulteration and importance of quality control in herbal active ingredient and its products. The trainees will be exposed to the overview and important parameters listed in Certificate of Analysis (CoA). Subsequently, the first-hand knowledge and experience on several quality control parameters will be discussed including sensory inspection, physico-chemical, compound release profile, and biochemical properties evaluation. The module also covers the safety profile and efficacy studies on bioactive ingredient and its herbal products. The session is designed with hands-on quality control activity such as preparation of chemical assays and chemical profiling analysis.



Definition of adulteration
and importance of quality
control



Physical, sensory inspection,
chemical and biochemical
properties evaluation



Overview of Certificate of
Analysis (CoA)



Safety and efficacy of bioactive
ingredient and its herbal
product

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FRIDAY
28 AUGUST 2026



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MODULE 4

PRODUCT LABELLING REQUIREMENTS

PRODUCT LABELLING, PACKAGING & REGULATION



HRDC CLAIMABLE (FULL COURSE)

Module 4 is designed to provide an in-depth understanding of the regulatory requirements for food labelling particularly for nutraceutical ingredients. It covers the legal obligations for labelling, the types of information that must be included, and how to ensure compliance with relevant legislation. The course will explore food labelling trends, including health and nutrition claims. Throughout the course, participants will learn about the various aspects of food labelling, including ingredient lists, allergen information, nutrition facts, and country of origin labelling. They will also gain insight into the importance of accuracy and clarity in food labelling and how to avoid misleading consumers.



Knowing the mandatory and optional labelling requirements



Describing the DO's and DON'Ts in food labelling complying to regulations



Recognizing the available guidelines related to the Food Regulations 1985



Identifying mistakes on food label in accordance with regulations

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