



## APPLICATION

1. The course fees are **fully sponsored** by the Government of Malaysia.
2. Applications should be made using the prescribed MTCP forms available <https://www.kln.gov.my/documents/8390448/8392184/MTCP+2022+-+APPLICATION+FORM.pdf/31506fe1-acea-44d1-88a2-7b4227e6bd2a>  
MTCP application forms can also be obtained from the nearest Malaysian Embassy/High Commission in recipient countries.
4. All application forms must be duly completed and endorsed by the Ministry of Foreign Affairs or National Focal/Aid Coordinator Agency in the respective countries and submitted **ONLY** through the diplomatic channel via the Embassy/High Commission of Malaysia
5. **Only successful applicants will receive the Official Invitation notification one (1) week from the course date, by the Training Institute via email.**

### CLOSING DATE OF NOMINATION

**10<sup>th</sup> JUNE 2022**



## TRAINING INSTITUTION

Universiti Tun Hussein Onn Malaysia (UTHM) is a public university located in Batu Pahat, Johor Malaysia. It was formerly known as Institute Teknologi Tun Hussein Onn (ITTHO) and Kolej Universiti Teknologi Tun Hussein Onn Malaysia (KUiTTHO). UTHM committed to generate and disseminate knowledge in order to meet the needs of the industry and the community and to nurture creative and innovative human capital, based on the tauhidic paradigm.

Centre for Continuous Learning and APEL (PPBA) is a lifelong learning provider in UTHM. PPBA provides various opportunities of lifelong learning and professional development programmes for local, national and international community.

Among the programmes offered include short-term courses, long-term courses and part-time master programmes.

### CONTACT DETAILS

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### MALAYSIAN TECHNICAL COOPERATION PROGRAMME

## LIFE CYCLE INITIATIVE TOWARDS SUSTAINABLE MANUFACTURING FOR CIRCULAR ECONOMY

**Date : 12<sup>th</sup> July 2022 – 16<sup>th</sup> July 2022**

**Time: 9:00 am – 17:00 pm Malaysia (GMT +8)**

### ABOUT MTCP

The Malaysian Technical Cooperation Programme (MTCP) was officially launched on 7 September 1980 at the Commonwealth Heads of State Meeting in New Delhi, India, to signify Malaysia's commitment to the South-South Cooperation, in particular, the Technical Cooperation among Developing Countries (TCDC).

The MTCP emphasizes on the development of human resources through the provision of training in various areas which are essential for a country's development such as agriculture, economy, finance, public management and administration, science & technology and ICT, health diplomacy, safety and security including cyber security, cultural diplomacy, social development, environment-related to SDG2030, education, industrial and technical training. Annually, Malaysia offered more than 60 technical and capacity-building programs under the MTCP, which have benefited more than 35,500 participants from 144 countries.

### OBJECTIVES OF MTCP

1. To share the development experience with other countries;
2. To strengthen bilateral relations between Malaysia and other developing countries;
3. To promote South-South Cooperation (SSC); and
4. To promote technical cooperation among Developing Countries.

## COURSE OVERVIEW

In recent years, the concept of sustainability has gradually evolved and begun receiving international attention. Sustainable manufacturing efforts generally aim to improve efficiency in manufacturing processes, eliminate unnecessary resource use, and decrease the amount of waste and emissions produced through manufacturing activities. Sustainable manufacturing is a useful strategy to help organizations perform well, not only environmentally, but also, socially and economically. In order to achieve sustainable manufacturing, life cycle approaches help us to find ways to generate the energy we need without depleting the source of that energy and without releasing greenhouse gases that contribute to climate change.

This course intended to give participants an overview of the evaluation on sustainability performance through the Life Cycle Approaches while developing understanding as to assess the impact in any given sustainability issue considering all of its life cycle stages. This course would meet the goal of KEGA 12 – Green Economy, Smart Technology and Systems in MySTIE, Sustainable Development Goals 12 as to ensure sustainable consumption and production patterns and Environment Priority Areas under Malaysian Technical Cooperation Programme (MTCP) Framework.

## TRAINING METHODOLOGY

An integrated teaching and learning methodology which include interactive online activities, discussions, simulation exercise and group work on a mini project. This course will be fully conducted in English.

## EXPECTED OUTCOME

At the end of course, the participants should be able to:

- Explain the main concepts of Sustainable Manufacturing
- Discuss the importance of Life Cycle Initiative and its application
- Communicate effectively and cooperate in a group to complete the task given

## MONITORING AND EVALUATION METHOD

- Presentation: 30%
- Participation in online class: 20%
- Assignments and Report: 50%

## COURSE OUTLINE

### 1.0 Introduction to Sustainability

- 1.1 Concept and Introduction to Sustainability
- 1.2 Concept and evolution of sustainable manufacturing
- 1.3 Category of sustainable manufacturing: Products, Processes and Systems.
- 1.4 Sustainable manufacturing for circular economy.

### 2.0 Product Life Cycle Management

- 2.1 Concept Product Life Cycle Management
- 2.2 Environmental Impact on PLCM
- 2.3 Concept of PLCM towards sustainable manufacturing
  - a. Reduce
  - b. Reuse
  - c. Recycle
  - d. Recover
  - e. Redesign
  - f. Remanufacture

### 3.0 Sustainability Assessment Methodology

- 3.1 Key Sustainability Measurement Principles
- 3.2 Sustainability Assessment Methodology
- 3.3 Life Cycle Thinking
- 3.4 Achieving Sustainability

### 4.0 Life Cycle Assessment

- 4.1 Principle of Life Cycle Assessment
- 4.2 International Standards and Protocols
- 4.3 Methods for assessing Life Cycle Assessment (LCA)  
LCA Simulation Technique.

### 5.0 Carbon Footprint

- 5.1 Green House Gases, Climate Change, Carbon and Energy
- 5.2 Principle of Carbon Footprint
- 5.3 International Standards and Protocols
- 5.4 Carbon Management
- 5.5 Calculating Carbon Footprint

### 6.0 Life Cycle Cost

- 6.1 Principle of Life Cycle Cost
- 6.2 International Standards and Protocols
- 6.3 Methods for assessing Life Cycle Cost (LCC)  
LCC Simulation Technique.

### 7.0 Cost Benefit Analysis

- 7.1 Principle of Cost Benefit Analysis
- 7.2 Methods for assessing costs and Benefits  
Structure of CBA
- 7.3 Total economic value

### 8.0 Social- Life Cycle Assessment

- 8.1 Principle of Social- Life Cycle Assessment
- 8.2 International Standards and Protocols
- 8.3 Methods for assessing Social- Life Cycle Assessment (S-LCA)

## COURSE OBJECTIVES

This course is designed to assist participants to be able to:

- Understand the concept of Product Life Cycle in Sustainable Manufacturing strategy.
- Extract the main concepts of Sustainable Manufacturing to be implemented in circular economy initiatives.
- Apply the fundamental of Life Cycle Initiative for circular economy growth.

## TARGETED PARTICIPANTS

The participants should be Middle and Top Management Officers nominated by their Government having the following prerequisites:

- A bachelor's degree in any field;
- 26-50 years of age;
- Three years or more of working experience;
- Have a good command of spoken and written English;
- Medically fit;
- Ability to work independently and in groups

## NOTE

- All participants need to prepare a presentation related to sustainable manufacturing implementation in their respective country.
- UTHM is one of Training Institution offered of Malaysian Technical Cooperation Programme (MTCP) scholarship.

