

**DRAFT**

**DISASTER PREPAREDNESS AND PREVENTION CENTRE  
(DPPC)**

**TRAINING PROGRAM BOOKLET**

**SESSION 2021/2022**

**TABLE OF CONTENT**

Introduction

Message from DPPC Director

DPPC Training Overview

DPPC Training Calendar

Details of Training

DPPC Expertise

List of Stakeholders

FAQ

Summary

## INTRODUCTION

This DPPC Training Booklet contains basic information regarding the training programs offered, its objectives and outcomes, and course synopses applicable in the 2021/2022 session. This Booklet also provides the training calendar and monthly training schedule, together with list of our experts. It is hoped this Training Booklet can provide necessary information, especially to practitioners, about the training programs, the procedures of its programs and the benefits of choosing our programs. This Booklet will be useful for potential clients/participants as part of a learning plan for their collaboration/training, as well as being a reference for understanding the structure of courses or programs run by DPPC.

DPPC offers the internationally accredited scope of training and services in disaster preparedness and mitigation. Specification includes; Research, Master of Disaster Risk Management (MDRM) and short-term Certified Professional Training (CPT), Laboratory, and also Micro-credential Course (MC). All training courses are implemented by a lecture team consisting of prominent Malaysian and Japanese DRR experts who are selected from the Disaster Risk Management (DRM) Sub-Committee members of the Japan University Consortium (JUC) that consists of 29 top Japanese universities and research institutes. Our programmes are also offered by approved education partners amongst private higher institutions.

For integrating education/training with research and field practice activities, we offer opportunities for both potential collaborators and practitioners to

collaborate with any of the partner universities, research institutes, government department/agencies, NGOs/CBOs, international organizations and private companies in Malaysia, Japan and other countries throughout the Asia-Pacific region, beyond educational activities.

#### MESSAGE FROM DPPC DIRECTOR

Welcome to the Disaster Preparedness and Prevention Center, Malaysia-Japan International Institute of Technology, Universiti Teknologi Malaysia

Konnichiwa, Assalamualaikum and Greetings,

Dear All,

This is an exciting time to be at Disaster Preparedness and Prevention Center, also known as DPPC. I am extremely proud of the education, multi-disciplinary research and training we deliver, not only in Kuala Lumpur and online, but through our numerous corporate partnerships. DPPC aims to become a world-class research and training centre for building resilience to disasters and climate change. It is our mission to facilitate national and international collaboration in applied research, training and field practice for disaster resilience in collaboration with Japanese and other partners from the world.

As a premier global academic and research institution, excelling in science, technology and engineering, UTM is very proud to lead the world. DPPC is indeed one of its strong assets. I believe we should bring our resources and efforts together and engage in active dialogue with various stakeholders to contribute and embrace our similarity towards promoting evidence-informed decision-making at all levels of public policy, discourse and action.

Comfortable across all platforms, DPPC has established itself and has a distinguished, lengthy track record as, trainer, assessor, operator, mentor & coach. DPPC is proud to welcome all potential participants to be part of DPPC and we strive to give you our best throughout your training process here. We are truly honoured and appreciate the trust given to assist anyone in building resilience of communities at various levels. If you are looking for building resilience to disasters and climate change practices, your search ends here.

With the DPPC present in this vulnerable region, I hope that we can address multi-dimensional needs for rebuilding lives, livelihoods, socio-economic and communities in adaptation for resilience, and promote coherence of global agenda towards accelerating the achievement of the 2030 Agenda for Sustainable Development.

Dr. Khamarrul Azahari Razak

Director

Disaster Preparedness and Prevention Center

## DPPC TRAINING OVERVIEW

DPPC provides multidiscipline training programs that focus on disaster management for individuals and organizations. The main scope of DPPC Training is to support the public and private sector, industry players as well as communities to strengthen their knowledge in disaster management as well as providing capacity building and skill in order to meet the target of Sendai Framework. There are four categories namely Disaster Risk Management (DRM), Disaster Preparedness and Response (DPR), Applied Disaster Technology (ADT) and Module Development Training (MDT). The training

programs varied from Community to Professional Practice based training. The training programs will be conducted by our experts from university, local agencies, stakeholders as well as from international counterparts.

## DPPC TRAINING CALENDAR

CATEGORY	TRAINING TITLE	Code No.	2022					
			JAN	FEB	MAR	APR	MAY	JUN
DISASTER PREPAREDNESS AND RESPONSE	Pilot Training of Trainers (ToT) for Dam Related Disasters (TNBR) *CBDRM	P-22-01						
	Yayasan Petronas: Sentuhan Kasih *CBDRM	P-22-02						
	Investigation of Fire Damaged Structures	P-22-03						
	Flood Risk Estimation	P-22-04						
DISASTER RISK MANAGEMENT	Certified Professional Training (MDRM courses) - Control Measures and Mitigation Planning	R-22-01						
	Land-Use Planning for Mitigation Measures	R-22-02						
	Project Management for Post-Disaster Reconstruction	R-22-03						
	Quantitative Data Analysis for Disaster Risk Management	R-22-4						
APPLIED DISASTER TECHNOLOGY	PPE Training	T-22-01						
	YSI EXO2 Multi-Parameter Water Quality Sonde Training	T-22-02						
	ABEM Terrameter LS2 Hands-On Training	T-22-03						
	Basic 1D/2D Dam Breach Modelling Using HEC-RAS	T-22-04						
	Basic 1D/2D Flood Modelling Using HEC-RAS	T-22-05						
	Earthquake Analysis and Design of Buildings using Eurocode 8	T-22-06						

**CATEGORY: DISASTER PREPAREDNESS AND RESPONSE**

A Stakeholder Engagement Programme (SEP) for Dam Related Disasters in collaboration with Tenaga Nasional Berhad Research (TNBR) - Pilot Training of Trainers (ToT) for Dam Related Disasters	
Code. No.	P-22-01
Synopsis	<p>Aim the stakeholders and community for disaster risk reduction of TNB's Hydro Dams particularly dealing with the dam safety and emergency response plans for TNB's dams. The proposed Public Early Warning System (PEWS) has been developed to increase the synergy between three major stakeholders: the communities, relevant authorities and TNB towards reducing human- and economic losses.</p> <p>In the SEP project, a vertical- and horizontal concept of stakeholders will be collaboratively developed and explored. A vertical-type covers the top-down and bottom-up approach particularly dealing with the federal, state, district, sub-district and local stakeholders, whereas the horizontal-type stakeholder approach involves the engagement across the agencies, organizations and entities horizontally.</p>
Objectives	<ul style="list-style-type: none"> <li>i) To establish sustainable engagement mechanisms with multi-sectoral stakeholder's and vulnerable communities in Dam-related Disaster (DRD)</li> <li>ii) To harness the multi-stakeholders capacity for effective and efficient risk management in Dam-related Disaster (DRD)</li> <li>iii) To deliberate on the action required to ensure the community-led disaster risk reduction in Dam-related Disaster (DRD) through a transdisciplinary approach</li> <li>iv) To provide a set of key recommended actions to strengthen policy, technical solution and advocacy based on science and technology for building DRD resilience society.</li> </ul>
Outcomes	Disaster Awareness

Yayasan Petronas: Sentuhan Kasih – Disaster Relief 2021	
Code. No.	P-22-02
Synopsis	<p>The Community-based Disaster Risk Management (CBDRM) of Sentuhan Kasih Disaster Relief (SKDR) is a new pre-disaster initiative by YP to increase capacity and capability of affected communities to mitigate potential disasters and are more resilient to the future climatic risk.</p> <p>The proposed project entitled "Revolutionizing Community-based Disaster Risk Management" with theme of "Living with Water: Embracing Nature, People and Knowledge.</p>
Objectives	Promoting a private-civil society-public-academia partnership in conducting a high-impact community-led disaster risk reduction (DRR) program, to be held in Gugusan Kepulauan, Tumpat, Kelantan and Pekan, Pahang given their highly vulnerable to floods, and element-at-risks.
Outcomes	Disaster Awareness

Investigation of Fire Damaged Structures
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Code. No.	P-22-03
Synopsis	Investigation of Fire Damaged Structures. It is often confused with fire safety engineering. This topic relates to the understanding of specific aspects of fire resistance due to thermal effects of fires on the structural elements and design protocol of structural elements for sufficient load bearing resistance and to restraint spread of fire. Fire resistance of structure are designed to maintained its stability for a reasonable period of time as stated in most building codes. However, recent demands in innovation of construction materials and structural challenge the conventional structure design subjected to elevated temperature. Therefore, there a needs to understand of basic fire engineering strategies for buildings are required to respond to such demands. The talk will be about "How do fire damaged structure?". It will cover basics of fire science, structural fire engineering and investigation of fire damaged structure.
Objectives	<ol style="list-style-type: none"> <li>1. Construction material at elevated temperatures</li> <li>2. Fire resistance of structure at elevated temperature</li> <li>3. Investigation and testing of fire damaged structures</li> </ol>
Outcomes	<ol style="list-style-type: none"> <li>1. Understanding of construction material performance at elevated temperature</li> <li>2. Technical skill subjected to forensic of fire damaged structure</li> </ol>

#### Flood Risk Estimation

Code. No.	P-22-04
Synopsis	Flood Risk Estimation
Objectives	<ol style="list-style-type: none"> <li>1. To introduce participants to the important and components of flood risk model</li> <li>2. To introduce participants to the calculation steps of measuring flood risk</li> </ol>
Outcomes	Participants are able to understand the importance of flood risk assessment and compute flood risk indexes.

### CATEGORY: DISASTER RISK MANAGEMENT

#### Certified Professional Training (MDRM courses) - Control Measures and Mitigation Planning

Code. No.	R-22-01
Synopsis	This course addresses the international policies, frameworks, and milestones of Disaster Risk Reduction (DRR). It provides insight into DRR approaches and strategies for reducing current risk and preventing future risk. It focuses on understanding water-, sediment-, and climate-based disaster and control measures to reduce risk through mitigation planning in all phases in the disaster management cycle. The concept of investing in DRR for resilience will be explored. This course explains about links of disaster risks with factors including climate change, development practices and public awareness including theoretical and practical ways in which resilience to disasters can be built at the local levels. Assessment for planning DRR and options for taking structural and non-structural measures will be discussed. As a case study,

	lessons from the 2011 Great East Japan Earthquake and Tsunami will be featured.
Objectives	
Outcomes	

Land-Use Planning for Mitigation Measures	
Code. No.	R-22-02
Synopsis	
Objectives	
Outcomes	

Project Management for Post-Disaster Reconstruction	
Code. No.	R-22-03
Synopsis	
Objectives	
Outcomes	

Quantitative Data Analysis for Disaster Risk Management	
Code. No.	R-22-4
Synopsis	Quantitative analysis aims to interpret the data collected for the phenomenon through numeric variables and statistics. Quantitative analysis includes computational and statistical methods of analysis. Quantitative data analysis turns raw numbers into meaningful data through the application of rational and critical thinking. Quantitative data analysis may include the calculation of frequencies of variables and differences between variables. A quantitative approach is usually associated with finding evidence to either support or reject hypotheses you have formulated at the earlier stages of the research process. A set of analytical software can be used to assist with analysis of quantitative data like Microsoft Excel and SPSS.
Objectives	
Outcomes	

## CATEGORY: APPLIED DISASTER TECHNOLOGY

PPE Training	
Code. No.	T-22-01
Synopsis	PPE includes such equipment as chemical resistant gloves, safety shoes, hard hats, safety glasses, respirators, and clothing such as gowns and aprons depending on the requirement of the workplace. This training assists department and work units in completing hazard assessment surveys for PPE selection. The training also provides resources for employee information and training.
Objectives	1. To provide knowledge to staff/students in UTM in proper protection ourselves from exposure to workplace hazards and the risk of injury.

	2. To give basic knowledge to staff/students in identifying the need for Personal Protective Equipment (PPE) in the workplace.
Outcomes	<ol style="list-style-type: none"> <li>1. Identify the requirements for PPE</li> <li>2. Reduce and prevent possible hazard accidents at the workplace</li> <li>3. Recognize why and when PPE is needed</li> </ol>

YSI EXO2 Multi-Parameter Water Quality Sonde Training	
Code. No.	T-22-02
Synopsis	The advanced sonde platform offers a wide range of capabilities to those dedicated to monitoring natural aquatic environments such as oceans, estuaries, rivers, lakes, and groundwater. The training provides theoretical background of Water Quality Parameters and hands-on training using Multiparameter Sonde.
Objectives	<ol style="list-style-type: none"> <li>1. Advanced water quality monitoring platform includes the versatile multiparameter for oceanographic, estuarine, or surface water applications. Sensors are tested in a variety of rigorous field conditions as well as lab conditions to ensure accuracy and response times.</li> <li>2. Hands on training at Sungai Bunus</li> </ol>
Outcomes	Knowledge about water quality monitoring platform

ABEM Terrameter LS2 Hands-On Training	
Code. No.	T-22-03
Synopsis	The instrument can be equipped with up to 12 measurement channels for greater efficiency and productivity in the field via 2D or 3D surveys. The instrument can be used for resistivity and IP surveying which is a versatile geophysical method that is suitable for a broad range of applications and environments, such as groundwater prospecting, mineral exploration, geological mapping and geotechnical investigations. The training provides the skill to operate the standalone solution featuring multiple measure channels, current transmitter, electrode selector, computer and a graphical user interface all built-in.
Objectives	<ol style="list-style-type: none"> <li>1. Versatile geophysical method suitable for a broad range of applications and environments such as groundwater prospecting, mineral exploration, geological mapping and geotechnical investigations</li> <li>2. Hands on training at Padang UTMKL</li> </ol>
Outcomes	Knowledge about geo-physics

Basic 1D/2D Dam Breach Modelling Using HEC-RAS	
Code. No.	T-22-04
Synopsis	This two-day basic HEC-RAS training workshop provides participants with an introduction to using the HEC-RAS program for performing unsteady one-dimensional (1-D) and two-dimensional (2-D) flow water surface modeling for dam break event. The training emphasizes hands-on practice on HEC-RAS software with brief lectures and ad-hoc specific problems. The

	target audience is engineers who may have minimum background with hydraulic analysis with no or less familiar with using the HEC-RAS software.
Objectives	<ol style="list-style-type: none"> <li>1. To introduce 1-D and 2-D HEC-RAS with their respective advantages and limitations.</li> <li>2. To understand the fundamental theory and equations for 1-D and 2-D flow calculations</li> <li>3. To learn the basic functions and requirements of HECRAS in developing 1-D and 2-D model of a river system and floodplain area.</li> <li>4. To conduct a dam breach analysis using HEC-RAS.</li> </ol>
Outcomes	Participants should be able to independently complete basic, unsteady-flow water surface profile analyses. They will also become familiar with the capabilities and analysis of unsteady 1D and unsteady 2-D analysis. In addition, this session provides practical training in unsteady flow modeling for dam break studies. Participants will learn how to approach and conduct a dam breach problem, estimate breaching parameters, construct unsteady flow model of the dam breach, and mitigate instabilities in the model run.

Basic 1D/2D Flood Modelling Using HEC-RAS	
Code. No.	T-22-05
Synopsis	This two-day basic HEC-RAS training workshop provides participants with an introduction to using the HEC-RAS program for performing unsteady one-dimensional (1-D) and two-dimensional (2-D) flow water surface modeling for flood event. The training emphasizes hands-on practice on HEC-RAS software with brief lectures and ad-hoc specific problems. The target audience is engineers who may have minimum background with hydraulic analysis with no or less familiar with using the HEC-RAS software.
Objectives	<ol style="list-style-type: none"> <li>1. To introduce 1-D and 2-D HEC-RAS with their respective advantages and limitations.</li> <li>2. To learn the basic functions and requirements of HECRAS in developing 1-D and 2-D model of a river system and floodplain area.</li> </ol>
Outcomes	Participants should be able to independently complete basic, unsteady-flow water surface profile analyses. They will also become familiar with the capabilities and analysis of unsteady 1-D and unsteady 2-D analysis. Participants will learn how to construct unsteady flow flood model, construct a structure such as bridge, culvert and levee and mitigate instabilities in the model run.

Earthquake Analysis and Design of Buildings using Eurocode 8	
Code. No.	T-22-06
Synopsis	This short course seeks to address the issue related to the implementation of National Annex under Eurocodes 8 on buildings in Malaysia. This short course will provide participants vast knowledge in the related areas besides the opportunity to learn from leading scholars in earthquake engineering studies. The step by step procedure of seismic design will be illustrated such that participant finally will be able to design a building in accordance to the requirements of Eurocode 8. The introduction on application of seismic isolator are also discussed. This course also will introduce application of structural software for seismic design of buildings. The content of this course

	is very beneficial for practicing engineers, architects and academicians in Malaysia.
Objectives	The main aim of this short course is to explain in detail fundamental concepts of seismic design and show how such concepts are included in seismic design codes.
Outcomes	At the end of this session participants should be able to: <ol style="list-style-type: none"> <li>1. Describe the risk of earthquake effects on structures;</li> <li>2. Identify the main parameters and basic principles of building design against earthquakes;</li> <li>3. Perform basic calculations and used of commercial softwares of static and dynamic linear analysis based on Eurocode 8; and</li> <li>4. Design reinforced concrete elements such as beams, columns and its connection using Eurocodes 8.</li> </ol>

## DPPC EXPERTISE

No.	Name	Position / Affiliation	Affiliation
1	Prof. Dr. Ali Selamat	Dean	MJIIT, UTM KL
2	Assoc. Prof. Siti Hamidah Mohd Setapar	Deputy Dean	MJIIT, UTM KL
3	Assoc. Prof. Dr. Shohei Matsuura	JICA Expert	MJIIT, UTM KL
<b>Ahli Tetap</b>			
1	Dr. Khamarrul Azahari Razak	Full Member/Director	MJIIT, UTM KL
2	Dr. Siti Uzairiah Mohd Tobi	Associate Member	Razak Faculty, UTM KL
3	Dr. Liew Wai Loan	Full Member/MDRM Program Coordinator	MJIIT, UTM KL
4	Dr. Abd Halim Md Ali	Full Member/MDRM Course Coordinator	MJIIT, UTM KL
5	Dr. Faizah Che Ros	Full Member/MDRM Course Coordinator	MJIIT, UTM KL
<b>Ahli Felo Bersekutu</b>			
1	Dato' Zakaria Mohamad	Associate Fellow	President, Institute of Geology Malaysia (IGM)
2	Prof. Dr. Roslan Zainal Abidin	Associate Fellow	Vice Chancellor, Nilai University
3	Roslan Abd Ghani	Associate Fellow	President National Disaster Management Association (NADIM)

<b>Ahli Bersekutu (UTM)</b>			
1	Prof. Dr. Masafumi Goto	Associate Member	MJIIT, UTM KL
2	Prof. Ir. Dr. Azlan Adnan	Associate Member	SKA-FE, UTM JB
3	Prof. Dr. Zulkifli Yusop	Associate Member	SKA-FE, UTM JB
4	Assoc. Prof. Dr. Aznah Nor Anuar	Associate Member	CCIN-TNCPI/MJIIT, UTM KL
5	Assoc. Prof. Dr. Samira Albatl Kamaruddin	Associate Member	Razak Faculty, UTM KL
6	Assoc. Prof. Dr. Muhammad Zulkarnain Abd Rahman	Associate Member	FABU, UTM JB
7	Dr. Shuib Rambat	Associate Member	MJIIT, UTM KL
8	Dr. Sumiaty Ambran	Associate Member	MJIIT, UTM KL
9	Dr. Aizul Nahar Harun	Associate Member	MJIIT, UTM KL
10	Dr. Azura Hamzah	Associate Member	MJIIT, UTM KL
11	Dr. Pramila A/P Tamunaidu	Associate Member	MJIIT, UTM KL
12	Dr. Khairul Hisyam Kamarudin	Associate Member	Razak Faculty, UTM KL
13	Dr. Mohammad Ali Tareq	Associate Member	MJIIT, UTM KL
14	Dr. Mohamad Syazli Fathi	Associate Member	Razak Faculty, UTM KL
15	Dr. Rozaimi Che Hasan	Associate Member	Razak Faculty, UTM KL
16	Dr. Siti Hasliah Salleh	Associate Member	Razak Faculty, UTM KL
17	Ts. Dr. Mohd Zamri Ramli	Associate Member	SKA-FE, UTM JB
18	Dr. Nor Eliza Alias	Associate Member	SKA-FE, UTM JB
19	Ir. Dr. Sitti Asmah Hassan	Associate Member	SKA-FE, UTM JB
20	Ts. Dr. Mariyana Aida Ab. Kadir	Associate Member	SKA-FE, UTM JB
21	Dr. Kogila Vani A/p Annammala	Associate Member	SKA-FE, UTM JB
22	Dr. Doris Toe Hooi Chyee	Associate Member	FABU, UTM JB
23	Dr. Tania Islam	Associate Member	University of Malaya, KL
24	Ar. Ts. Dr. Yong Kum Weng	Associate Member	KW Yong Architect

## LIST OF STAKEHOLDERS

## FAQ

## SUMMARY

Disaster Preparedness and Prevention Center takes pride in all our deliverables, and we passionately continue to strive to maintain our hard-earned reputation and credibility through what we provide. By doing what we do best, we expect develop practices of local DRR resilience strategies towards rejuvenating DRR investment, and promoting a quintuple helix innovation model on public-private-academia-civil society characterized by environmental disaster and systemic risk. A multi-sectoral engagement, benchmarking good practices, and field reconnaissance are the focus of our training with the great support of various strategic partners.

We have an excellent working knowledge of industry standards and best practices, as we are not consigned to the classroom, but regularly in the field. We will not compromise on standards and are not in the business of ticking boxes for safety or wasting your time and money. We thank you for your time and look forward to future training opportunities.

Contact us: