

VEB4133/VDB4133:Pipeline and Risers - May 2021



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Turn editing on

[Welcome to Pipelines and Risers :\)](#)

This course will educate you on the fundamentals concepts in Pipeline Engineering.

Online lectures will be conducted on Tuesdays and Thursdays from 10:00 am to 12:00 pm starting from Week 2 onwards.

Below is the Learning Materials Distribution Disclaimer:

“Students are reminded that any file or attachment shared with you by your course lecturer is SOLELY for educational purposes and/or your personal and private study ONLY, and therefore cannot be shared with or disseminated to anyone else or uploaded on any website without the permission or authorisation of the copyright owner”.

[A MARE Sponsored Undergraduate Course](#)



The course 'Pipelines and Risers' has been acknowledged as one of the courses under the banner of 'Marine Coastal and Delta Sustainability for Southeast Asia (MARE) (Project No. 610327-EPP-1-2019-1-DE-EPPKA2-CBHE-JP), which was recently awarded to UTP. There are 13 partner organisations involving 5 countries in this Erasmus+ project.

MARE program is co-funded by the Erasmus+ Programme of the European Union under the capacity building in higher education action. MARE program aims to promote sustainable governance and management of coastal, delta and marine socio-ecological systems in Malaysia and Vietnam as well as adjacent waters through ICT-enhanced tertiary education linked to labour markets and wider stakeholder circles.

The aim of MARE project will be achieved through the following objectives:

1. To revise and upgrade selected CDM-relevant for undergraduate and postgraduate CDM programs in making them end-user-oriented & policy-relevant, and develop 6 modules addressing CDM-related hotspots, that can be used interchangeably in tertiary & LLL education

education.

2. To develop shared MARE open education environment platform & online training services of the new generation for qualitative improvement of the education process & academic workflow support among universities & stakeholders across the PCs & EU.

3. To create sustainable feedback mechanisms to end-users, ensuring adaptive & practice-relevant teaching contents, knowledge co-production opportunities and stakeholder support to post-project course development & teaching.

4. To develop capacity for academic mobility, shared experimental facilities and joint research by PIs & beyond.

Details of MARE Project in UTP can be found here: <https://www.utp.edu.my/Pages/The-Latest-Detail.aspx?news=130>



Co-funded by the
Erasmus+ Programme
of the European Union



[Course Outline](#)



[E-book on 'Offshore Pipelines'](#)



[E-book on 'Offshore Pipelines', 2nd. ed.](#)



Week 1 Lecture - Intro. to Subsea Field Components



[Introduction to Subsea Field Components](#)



[Week 1 Lecture: Tues \(4 May, 8 am - 10 am\)](#)



[Week 1 Lecture: Thurs \(6 May, 2 pm - 4 pm\)](#)



[Week 1 Learning Satisfaction Poll](#)




[Week 1, Tues recording](#)



[Week 1, Thur recording](#)




Week 2 Lecture - Carbon Manganese Steel Pipeline, Pipeline Construction

-  [Carbon Manganese Steel Pipeline](#)
-  [Pipeline Construction](#)
-  [API 5L design standards](#)
-  [Week 2 Lecture: Tues \(11 May, 10 am - 12 pm\)](#)
-  [Week 2 Learning Satisfaction Poll](#)
-  [Week 2, Tues recording](#)









Week 3 Lecture - Pipeline Route Selection

-  [Pipeline Route Selection](#)
-  [Week 3 Lecture: Tues \(18 May, 10 am - 12 pm\)](#)
-  [Week 3 Learning Satisfaction Poll](#)
-  [Week 3, Tues recording](#)







Project (Deadline: 10th July 2021)

-  [Grouping list](#)
-  [Project Question \(deadline 10th July\)](#)
-  [Project Drawings](#)

Week 4 Lecture - Pipeline Installation Method, Pipeline Designs

-  [Pipeline Installation Method](#)
-  [Pipeline Design](#)
-  [Week 4 Lecture: Mon \(24 May, 4 pm - 5 pm\)](#)
-  [Week 4 Lecture: Thurs \(27 May, 10 am - 12 pm\)](#)
-  [How to appreciate pressure in pipelines?](#)
-  [Week 4 Learning Satisfaction Poll](#)
-  [Week 4, Mon recording](#)
-  [Week 4, Thurs recording](#)

Week 5 Lecture - Pipeline Designs (Governing data)

-  [Pipeline Design \(copy\)](#)
-  [Week 5 Lecture: Tues \(1 Jun, 10 am - 12 pm\)](#)
-  [Adjunct Lecture \(Mdm Shazwina Abdul Rahman, PETRONAS\): Thurs \(3 Jun, 10 am - 12 pm\)](#)
-  [Week 5 Learning Satisfaction Poll](#)
-  [Week 5, Tues recording](#)
-  [Week 5, Thurs Adjunct Lecture recording](#)

An Adjunct Lecture session by Mdm Shazwina Abdul Rahman on 'From Cradle to Grave of Offshore Oil and Gas Pipelines and Risers'



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UTP
UNIVERSITI TEKNOLOGI PETRONAS

ADJUNCT LECTURE

From Cradle to Grave of Offshore Oil and Gas Pipelines and Risers

Shazwina Binti Abdul Rahman

MANAGER PROJECT IMPLEMENTATION, PRODUCTION OPERATION MANAGEMENT, MALAYSIA PETROLEUM MANAGEMENT PETRONAS



Offshore pipelines are a main part of any offshore oil and gas project. Marine pipelines transport oil and gas from subsea wells to the platform and subsequently gas or oil from the platform to the coast for further process and distribution. There are also large pipeline for the transportation of gas or oil from one country to another. Various challenges encounter with high cost involve in the process to design, to install, to maintain and to decommission these pipelines throughout its life cycle.

This session will provide an overview about the introduction about offshore pipelines and risers, basic information about factors to be consider during design stage for pipelines and risers, brief info about the installation process of pipelines and risers, what will happen to the pipelines and risers towards end of its lifespan.

By the end this session, participants will be able to equip themselves with overview process involve in real oil and gas industry related to pipelines and risers and directly help to support building their strong base in preparing themselves for future career.

All are INVITED

Date : 3rd June 2021 (Thursday)

Time : 1000 - 1200

Microsoft Teams Link:

<https://bit.ly/3tnFfQy>

Organised by:
Department of Civil and Environmental Engineering & Centre for Academic Excellence (CAdeX).



Test 1 (4 June 2021, 8:30 pm -9:30 pm)



[VDB/VEB 4133: Pipelines and Risers - Online Test 1 \(MCQ\)](#)



Restricted Available from **4 June 2021, 8:30 PM**

INSTRUCTIONS TO CANDIDATES (MCQ)

1. This **ONLINE TEST** contains **FOURTY (40) Multiple Choice Questions (MCQ) ONLY**.
2. Answer **ALL** questions in **ONE (1) HOUR**.
3. Only **SINGLE** attempt for this test is **ALLOWED**.
4. **EACH** question needs to be **ANSWERED** before proceeding to the **NEXT** one. Going back to the previous question is **NOT ALLOWED**.

Declaration Statements

Before I click the button to start Online Test, I hereby agree to the following conditions :

- I understand that Plagiarism (copying / cheating) is not permitted, and if caught and found guilty, I will receive an F grade for this Online Test, and will be subjected to the Academic Disciplinary Committee.
- I hereby certify that all answers submitted for this Online Test is my own original work.

Assignment 1 (20 June 2021)

 [Assignment 1](#)



Week 6 Lecture - Pipeline Designs (Wall thickness, Spanning)

 [Pipeline notes on: Dimensions and Pressures](#)



 [Pipeline Design_revised notes](#)



 [Example on wall thickness calculations](#)



 [Example on spanning calculations](#)



 [Week 6 Lecture: Tues \(8 Jun, 10 am - 12 pm\)](#)



 [Week 6 Lecture: Thurs \(10 Jun, 10 am - 12 pm\)](#)



 [Week 6 Learning Satisfaction Poll](#)










 [Week 6, Tues recording](#)



 [Week 6, Thurs recording](#)



Week 7 Lecture - Pipeline Designs (Stability, Cathodic Protection)

-  [Pipeline Design_revised notes \(copy\).](#)
-  [Pipeline Design_Cathodic Protection](#)
-  [Week 7 Lecture: Tues \(15 Jun, 10 am - 12 pm\).](#)
-  [Adjunct Lecture \(Mr I Wayan Eka Putra, PETRONAS\): Thurs \(17 Jun, 10 am - 12 pm\)](#)
-  [Week 7 Learning Satisfaction Poll](#)
-  [Week 7 \(Tues recording\)](#)
-  [Week 7, Thurs Adjunct Lecture](#)

An Adjunct Lecture session by Mr I Wayan Eka Putra and team on Deepwater [Pipeline Design](#) & Installation in Malaysia'



PETRONAS



ADJUNCT LECTURE

Deepwater Pipeline Design & Installation in Malaysia

I Wayan Eka Putra

STAFF PIPELINE ENGINEER – OFFSHORE DESIGN
PROJECT DELIVERY & TECHNOLOGY (PD&T)
PETRONAS



I Wayan Eka Putra has twenty (20) years' experience in pipeline. He was involved in various engineering design, including feasibility study, conceptual design basic engineering/front end engineering design (FEED), detail design, procurement, construction/fabrication, installation, operation, inspection, maintenance repair and rehabilitation for oil and gas pipelines, either as consultant, contractor (2001 -2008) or as oil & gas operating company (PETRONAS, 2008 - now).

He is currently a Staff (Specialist) Pipeline Engineer, Offshore Design, in Group Technical Solutions (GTS) PETRONAS, discipline resources person (DRP) for pipeline skill group (SKG), and appointed as Technical Authority for pipeline projects within PETRONAS group, Malaysian and international operation, including Joint Ventures (JV) projects. During his 13 years tenures in PETRONAS (since 2008 till date), he has been involved in handling various pipeline projects in Malaysia (Peninsular, Sabah, Sarawak), South East Asian region, Turkmenistan, and various other PETRONAS pipelines or worldwide. In addition, he is also DRP for Geotechnical Skill Group.

All are INVITED

Date : 17th June 2021 (Thursday)
Time : 10:00 am – 12:00 noon
Microsoft Teams Link: <https://bit.ly/3eo2Fkl>

Organised by:
Department of Civil and Environmental Engineering & Centre for Academic Excellence (CAdeX).



Self-Learning Assignment (Not to be submitted)

Week 8 Lecture - Pipeline Innovation and Technology

 [Week 8 Lecture: Tues \(22 Jun, 10 am - 12 pm\) Composite pipelines design and testing](#)

 [Week 8 Lecture: Tues \(24 Jun, 10 am - 12 pm\) Smart pipelines](#)

 [Week 8 Learning Satisfaction Poll](#)

Week 9 - Problems Associated with Pipelines

 [Week 9 Lecture: Tues \(29 Jun, 10 am - 12 pm\)](#)

 [Adjunct Lecture \(Dr Arianta Legowo, Universitas Pertamina\): Thurs \(1 Jul, 10 am - 12 pm\)](#)

 [Week 9 Learning Satisfaction Poll](#)

Week 10 - Pipeline Riser Designs

 [Week 10 Lecture: Tues \(6 Jul, 10 am - 12 pm\)](#)

 [Adjunct Lecture \(Mr Tg Shahru Azlan, PETRONAS\): Thurs \(8 Jul, 10 am - 12 pm\)](#)

 [Week 10 Learning Satisfaction Poll](#)

Virtual Site Visit to PETRONAS Facilities (end July/early Aug)

Test 2 (9 July 2021, 8:30 pm - 10:00 pm)

Extended Assignment





Stay in touch


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 Data retention summary

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