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PIPELINES AND RISERS (LECTURE NOTES)

CREATED BY: ASSOC. PROF. IR. DR. ZAHIRANIZA MUSTAFFA

The screenshot shows the ULearn LMS interface. On the left is a dark blue navigation sidebar with icons for Course sections, Participants, Badges, Competencies, Home, Dashboard, Calendar, My courses, Private files, and More... The main content area has a header with the course title "VEB4133/VDB4133: Pipeline and Risers - May 2022" and a breadcrumb trail: Home > Courses > Open Educational Resources (OER) Archiving > Faculty of Engineering > Civil Engineering > 2022 > May. A "Download course content" button is visible. Below the breadcrumb, there are two announcement items:

- Announcements**
- Legal Disclaimer Notification** (with a checkbox)

The text of the Legal Disclaimer Notification reads: "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 authorization of the copyright owner".

- Welcome to Pipelines and Risers :)**

The text of the Welcome announcement reads: "This course will educate you on the fundamentals concepts in Pipeline Engineering."

Below is the Learning Materials Distribution Disclaimer:
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- Course sections
- Participants
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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.
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>



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BIOGRAPHY OF AUTHOR

Ir. Dr. Zahiraniza Mustaffa is an Associate Professor at the Department of Civil and Environmental Engineering, Universiti Teknologi PETRONAS (UTP) for nearly 20 years. She obtained her PhD majoring in Pipeline Reliability from Delft University of Technology, The Netherlands (2011), Master of Science in Water Resources Engineering, from the University of Alberta, Canada (2003) and Bachelor of Engineering (Hons.) in Civil Engineering from the Universiti Teknologi Malaysia (2000). Dr. Zahira specializes in the field of pipeline engineering as well as hydraulic engineering, covering the aspects of urban hydraulics and probabilistic structural designs. She involves in activities in the Women Engineers Section of the Institute of Engineers (IEM), Malaysia. She is a Chartered Engineer of the Engineering Council, UK, Graduate Member of Board of Engineer Malaysia (BEM), Member of Institute of Engineer Malaysia (IEM), Member of Institute of Marine Engineering, Science and Technology (IMarEST) and Member of the American Society of Civil Engineers (ASCE).

PREFACE

This course will cover the fundamental concept of pipeline and riser designs. The scope of the course is further elaborated into the knowledge of pipeline route selection and installation methods.

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LIST OF THE TLM AVAILABLE:

The course is delivered online, via two methods, i.e. self-learning with video presentations, and guided learning by course lecturers.

(a) List of Lecture Notes

1. Pipelines and Risers
2. Adjunct Lecture (RISERS FOR FIXED AND FLOATING OFFSHORE STRUCTURES)
3. Adjunct Lecture (Flexible Pipeline Technology and Applications for Deepwater Pipeline/Riser and Sand Erosion Mitigation)
4. Adjunct Lecture (Pipeline Engineering Solutions (P-PiES) and Application for Kasawari Carbon Capture & Storage (CCS))

(b) Video

1. Subsea Components
2. Pipeline fabrication
3. Pipeline Installation
4. Pipeline Route Selection
5. Pipeline Designs
6. Problems Associated with Pipelines

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