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INTRODUCTION TO OIL & GAS INDUSTRY AND SUSTAINABLE DEVELOPMENT (LECTURE NOTES)

CREATED BY: IR. HAIZATUL HAFIZAH HUSSAIN



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UNIVERSITI TEKNOLOGI PETRONAS

PDB1012/PEB1012 Introduction to Oil & Gas Industry and Sustainable Development

Marine Pollution Control and Management

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Introduction to Oil & Gas Industry and Sustainable Development



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BIOGRAPHY OF AUTHOR

Haizatul Hafizah Hussain is a lecturer and doctoral candidate from Department of Mechanical Engineering, Universiti Teknologi PETRONAS (UTP), Malaysia. She graduated in Bachelor of Engineering (Honours) in Mechanical from UTP in year 2011. In year 2015, she obtained a Master of Science (MSc) in Petroleum Production Engineering from Robert Gordon University Aberdeen in Scotland, United Kingdom. Hafizah has been working as a mechanical engineer in an oil and gas company in Malaysia, primarily involved in the EPCC projects, consisting of engineering design of mechanical equipment, firefighting and lifesaving equipment, as well as technical safety on offshore platforms. She has also involved in projects locally and internationally in academia and the oil and gas industry.

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PREFACE

Introduction to Oil and Gas Industry & Sustainable Development course is a university requirement course, which is compulsory for all first-year undergraduate students of Universiti Teknologi PETRONAS (UTP). This 3 ECTS (approximately 2 credit hours) course aspire to introduce the oil and gas industry environment added with sustainable development perspectives. There are nine topics altogether in this course, where six topics are related to the oil and gas industry, whereas three topics are covered under the sustainable development area. One MARE topic, Marine Pollution Control and Management is also added in this course.

In the Marine Pollution Control and Management topic, it includes topics on the impacts of oil and gas activities to the marine ecosystem, awareness on the effects of hydrocarbon exploration, and an overview of the rules and regulations in marine pollution management. Students are introduced with environmental impact assessment (EIA) when dealing with oil and gas projects and potential marine pollution on marine ecosystems during exploration, production, and decommissioning phases. In the awareness on the effects of hydrocarbon exploration, a case study on Deepwater Horizon is presented to the students. This allows students to relate the impacts of marine pollution with the real case in the oil and gas industry. Lastly, in the overview of the rules and regulations in marine pollution management, students are introduced with the Environmental Quality Act 1974, which comprises of offences related to the marine pollution and its respective legal penalties.

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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

Marine Pollution Control and Management

- Impacts of oil and gas activities on the marine ecosystem
- Awareness on the effects of hydrocarbon exploration
- An overview of the rules and regulations in marine pollution management

(b) Video / MOOC

1. What happens after an oil spill?
2. Oil Pollution in Our Oceans
3. How do We Clean Up Oil Spills?
4. BP Oil Spill 5 Years Later (part 1)
5. BP Oil Spill 5 Years Later (part 2)

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