

2018年 海洋開発サマースクール オランダ クラススケジュール (2018年4月9日現在)

“Offshore Engineering Summer School” 場所：DOB Academy

日にち	内容
8/12(日)	現地集合・安着確認
8/13	オリエンテーション (オランダ文化・現地での注意事項など)
8/13-14	<p data-bbox="279 383 1460 421"><b>INTRODUCTION TO OFFSHORE WIND</b></p> <p data-bbox="279 427 1460 465"><u>Learning objectives</u></p> <ul data-bbox="279 472 1460 891" style="list-style-type: none"> <li>• Comprehending what wind is and how it can be used to generate electricity</li> <li>• Understanding the effect of policy and societal needs in the development of offshore wind energy</li> <li>• Calculating the energy yield of a wind turbine at an arbitrary location</li> <li>• Understanding the principles and parameters in the design of an offshore wind turbine support structure</li> <li>• Gaining insight into the life cycle of a typical wind farm including design, construction, installation, operation and maintenance</li> </ul>
8/15	<ul data-bbox="279 904 1460 1008" style="list-style-type: none"> <li>• 企業訪問：Shell</li> <li>• Westermeer Windfarm 見学 (2016年に運転開始した144MWの湖上風力発電(着床)をヨットで見学)</li> </ul>
8/16	<p data-bbox="279 1021 1460 1059"><b>INTRODUCTION TO OFFSHORE OIL AND GAS</b></p> <p data-bbox="279 1066 1460 1104"><u>Learning objectives</u></p> <ul data-bbox="279 1111 1460 1473" style="list-style-type: none"> <li>• Gaining insight in the lifecycle of oil and gas production facilities</li> <li>• Understanding the process of formation, extracting and processing oil and gas in a typical field</li> <li>• Attaining knowledge about the technical aspects of the design, installation and operation of an oil and gas project</li> <li>• Comprehending the complete offshore playing field from technical engineering aspects to the political and societal context</li> </ul>
8/17	<p data-bbox="279 1487 1460 1525"><b>INTRODUCTION TO OFFSHORE OIL AND GAS (続き)</b></p> <p data-bbox="279 1532 1460 1635">企業訪問：AllSeas (オイル・ガスの海底パイプライン敷設工事を行う。世界最大級のパイプライン敷設船を数隻と、それを支援する特殊作業船数隻を所有)</p>
8/18(土)	
8/19(日)	
8/20-21	<p data-bbox="279 1756 1460 1794"><b>BOTTOM FOUNDED OFFSHORE STRUCTURES (講義と風車設計・構造解析実習)</b></p> <p data-bbox="279 1800 1460 1839"><u>Learning objectives</u></p> <p data-bbox="279 1845 1460 2056">The overall aim for this course is for participants to learn how to design a bottom founded offshore structure (BFOS). This includes the structural analysis of existing structures and the ability to improve the design of these structures based on the structural analysis.</p> <ul data-bbox="279 2063 1460 2101" style="list-style-type: none"> <li>• Perform a design-cycle as a part of the BFOS design process</li> </ul>

	<ul style="list-style-type: none"> <li>Assemble the structural configuration of an offshore platform substructure</li> <li>Assess the permanent, variable and environmental loads on BFOS</li> <li>Analyse and evaluate the structural configuration of BFOS</li> <li>Evaluate the influence of life-cycle aspects on the design of BFOS, including fabrication, transport, installation, operations management &amp; decommissioning</li> <li>Design the (pile) foundation for BFOS</li> <li>Analyse the structural dynamics of, and assess fatigue in, BFOS</li> </ul>
8/22-23	<b>OFFSHORE WIND FARM DEVELOPMENT 1</b> (自分だけの「洋上風力ファーム」開発プロジェクト)
	<u>Learning objectives</u> <ul style="list-style-type: none"> <li>Understanding all the different aspects encountered when designing a typical wind farm</li> <li>Gaining insight into working or leading a team in the development of an offshore wind farm</li> </ul>
8/24	企業訪問：Fuguro (地盤工学、調査、海底、及び地球科学に関するサービスを提供)
	現地日本企業訪問
8/25(土)	
8/26(日)	
8/27	<b>OCEAN ENERGY TECHNOLOGIES</b>
	<u>Learning objectives</u> <ul style="list-style-type: none"> <li>Asses the resource potential for wave and tidal energy</li> <li>Get insights in the physical principles for ocean energy conversion</li> <li>Understand the design considerations and technical challenges for current ocean energy technologies</li> <li>Evaluate the environmental and economic aspects of ocean energy</li> </ul>
8/28	<b>SURVEY OF OFFSHORE ENGINEERING PROJECTS</b> (グループでの調査プロジェクト)
	<u>Learning objectives</u> <ul style="list-style-type: none"> <li>Be aware of the diversity of facets involved in the development of an offshore oil or gas project</li> <li>Learn about an hydrocarbon discovery and the wide range of issues governing decision making including a focus on the major building blocks requiring design of structures for offshore oil and gas production.</li> <li>Understand how conflicting requirements must be accommodated in an offshore design environment.</li> <li>Be a more effective worker in teams and individually.</li> <li>Be able to utilize simple project analysis and management techniques.</li> <li>Be aware of the economic constraints imposed on industrial projects.</li> </ul>
8/29	<b>OFFSHORE WIND FARM DEVELOPMENT 2</b>
8/30	企業訪問：SiF (洋上風車用モノパイル／基礎の専門メーカー)

8/31	OFFSHORE WIND FARM DEVELOPMENT 3 Offshore installation at the Beach (ビーチでの洋上風車ファーム開発ゲーム) The outdoor installation game is an inspiring team activity that combines science and technology for a sustainable energy project. The case empowers the participants to build a wind turbine from different perspectives and roles from the supply chain. This applies the gained understanding of the installation concepts into practice. The teams are required to invest in the essential materials and services to build the turbine. The activity is time and resource constrained, to simulate the real-world environment.
9/1(土)	
9/2(日)	
9/3	SURVEY OF OFFSHORE ENGINEERING PROJECTS (グループでの調査プロジェクト) 続き
9/4	SURVEY OF OFFSHORE ENGINEERING PROJECTS (グループでの調査プロジェクト) 続き 企業訪問：Heerema (海洋土木工事のコントラクター。クレーン船を多く所有)
9/5	OFFSHORE WIND FARM DEVELOPMENT 3 (自分だけの「洋上風力ファーム」開発プロジェクト)
9/6	OFFSHORE WIND FARM DEVELOPMENT 4 (自分だけの「洋上風力ファーム」開発プロジェクト) ロッテルダム港 見学
9/7	プロジェクト発表・修了式
9/8(土)	

※この他に現地学生との交流イベント等を予定しています。

※このクラススケジュールは現地の状況を踏まえ、予告なく変更する可能性があります