LAUCE2167

2015-2016

Offshore Geotechnics

3.0 credits	20.0 h	2q	This biannual course is taught on years 2015-2016, 2017-2018, ...

Teacher(s) :	Verástegui Flores Ramiro Daniel ;
Language :	Anglais
Place of the course	Louvain-la-Neuve
Inline resources:	iCampus : LAUCE2167
Prerequisites :	Basic concepts of soil classification, effective stress, compressibility, shear strength, laboratory and site investigation, design of shallow and deep foundations.
Main themes :	The objective of the course is to provide an introduction to current geotechnical engineering practice in offshore conditions. Over the last decades, offshore geotechnical engineering has grown up as an independent branch of geotechnical engineering due to significant differences in the scale of foundation elements dealt with but also due to the challenging soil behaviour characterization. The course will cover site exploration techniques, soil characterization, and basic design approaches for a number of foundation elements often used in offshore structures, such as suction caissons, piles, anchors and spudcans.
Aims :	Contribution of the course to the program objectives (N°) AA1.1, AA1.2, AA3.1, AA6.1 Specific learning outcomes of the course At the end of the course, the student will be able to: ' Describe the current techniques of offshore site investigation and their fields of application. ' Describe behaviour issues of offshore soils and identify potential issues. ' Identify the most significant parameters that affect the performance of offshore foundation elements ' Determine the capacity of foundation elements and anchors. *The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".*
Evaluation methods :	Oral exam with written preparation.
Teaching methods :	Lectures will be given by means of slides in classroom. Teaching material to support the learning process will be electronically available.
Content :	The topics covered in the lecture sessions include: -- Offshore site investigation: geophysical and geotechnical methods and their interpretation. -- Behaviour of calcareous sands, cemented soils, impact of cyclic loading. -- Installation of suction caissons, and evaluations of their capacity. -- Installation and capacity of anchors (suction anchors, VLA). -- Capacity of shallow foundation, spudcans. -- Installation of pipelines and pipeline protection.
Bibliography :	Slides, lecture notes and supplementary documentation (available online).
Other infos :	/
Faculty or entity in charge:	GC

Programmes / formations proposant cette unité d'enseignement (UE)				
Intitulé du programme	Sigle	Credits	Prerequis	Acquis d'apprentissage
Master [120] in Civil Engineering	GCE2M	3	-	