

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:	Slides of the course and supplementary documents on iCampus
Prerequisites :	Géomatériaux (LAUCE1171) ; Mécanique des sols (LAUCE1172) ; Géotechnique (LAUCE2171) ; it is possible to follow LAUCE2171 and the present course simultaneously
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 behavior 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 :	Having regard to the Learning Outcome of the program Master Civil Engineering, this course contributes to the development and acquisition of the following Learning Outcomes : LO1.1, LO1.2, LO2.2, LO3.1, LO4.1, LO5.1, LO5.3, LO6.1, LO6.3. 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 the behaviour of offshore soils and identify potential issues. Identify the most significant parameters that affect the performance of offshore foundation elements Determine the capacity of specific types of foundation elements and anchors. <i>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".</i>
Evaluation methods :	Oral examination with written preparation.
Teaching methods :	Lectures will be given by means of slides and multimedia. Teaching material to support the learning process will be electronically available to all students.
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 different types of anchors Capacity of shallow foundation, spudcans Installation of pipelines and pipeline protection
Bibliography :	Slides of the course and supplementary documents on iCampus
Cycle and year of study :	> Master [120] in Civil Engineering
Faculty or entity in charge:	GC