

4.0 crédits	20.0 h + 15.0 h	1q
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Enseignants:	Verástegui Flores Ramiro Daniel ;
Langue d'enseignement:	Anglais
Lieu du cours	Louvain-la-Neuve
Préalables :	Géomatériaux (LAUCE1171) ; Mécanique des sols (LAUCE1172) ; Géotechnique (LAUCE2171) ; it is possible to follow LAUCE2171 and the present course simultaneously
Thèmes abordés :	Laboratory testing of soils is an essential part of geotechnical projects. A laboratory test program is required to assess, select, and test soil specimens collected during field investigation to provide soil index and performance properties for design and construction. This course covers basics and standards in soil laboratory testing. Moreover, a review of the most commonly used behaviour models and their input parameters is given.
Acquis d'apprentissage	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, LO3.1, LO5.3, LO5.4, LO6.1 At the end of the course students will be able to : Understand the principles and precautions in soil testing Describe in detail the procedures of the most common geotechnical laboratory test Evaluate the repeatability and accuracy of experimental results. Identify parameters that may affect the results of mechanical tests. Evaluate input parameters for common soil behaviour models in geotechnical software Interpret / prepare geotechnical reports of soil characterization. <i>La contribution de cette UE au développement et à la maîtrise des compétences et acquis du (des) programme(s) est accessible à la fin de cette fiche, dans la partie « Programmes/formations proposant cette unité d'enseignement (UE) ».</i>
Modes d'évaluation des acquis des étudiants :	The evaluation will consists of 2 parts : Exercises (40%). Oral exam with written preparation (60%)
Méthodes d'enseignement :	The teaching is organized in lecture sessions and exercise sessions. The lectures will be given by means of slides and demonstrations. The exercise sessions will make use of available facilities like laboratory installations and computer class rooms. Teaching material to support the learning process (e.g. a syllabus and additional documents) will be electronically available to all students.
Contenu :	The contents of the course include : Particle size distribution, determination and interpretation of results. Soil identification based on physical and chemical properties. Determination of hydraulic conductivity coefficient. Determination of compressibility and consolidation parameters. Determination of shear strength parameters, drained and undrained parameters. Soil behaviour models in geotechnical software. Features, differences and input parameter evaluation. Impact of soil behaviour models on the analysis of geotechnical problems.
Bibliographie :	-- Slides of the course; -- Documentation on iCampus; -- ASTM Testing Standards for Soil Testing
Autres infos :	Most of the exercise sessions will take place in the Geotechnical Laboratory of GCE and will include hands-on activities.
Cycle et année d'étude :	> Master [120] : ingénieur civil des constructions

Faculté ou entité en charge:	GC
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