COURSE: Foundations and retaining structures			
ACADEMIC YEAR: 2017-2018			
TYPE OF EDUCATIONAL ACTIVITY: Characteristic			
TEACHER: Vincenzo Caputo			
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phone: +39 0971 205987		mobile (optional): 329 3606176	
Language: Italian			
ECTS: 12 Lessons: 9; tutorials: 3	n. of hours: 108 Lessons: 81 tutorials: 27	Campus: Potenza School of Engineering Program: Degree in Civil Engineering	Semester: First & Second

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The course deals with two major practical issues of Geotechnical Engineering: Foundations and Retaining Structures. The main goals of the course are to provide the students with the fundamentals of the behavior and the design of these structures , encompassing all the steps of the design process within the framework provided by building codes.

The main outcomes will be:

- the skill to develop a program of geotechnical investigations aimed at the definition of a geotechnical model suitable for the problem to analyze;
- the skill of designing foundations and retaining structures.

PRE-REQUIREMENTS

It is mandatory to have a working knowledge of the principles of the following courses: Calculus I & II; Geometry; Physics I & II; Mathematical Physics; Theory of structures; Structural Design; Geotechnical Engineering.

SYLLABUS

Shallow foundations: bearing capacity, settlement, soil-structure interaction;

Pile foundations: construction techniques, bearing capacity, settlement, soil-structure interaction;

Retaining walls: construction techniques and design procedures;

Sheet walls: construction techniques and design procedures

TEACHING METHODS

Theoretical lessons and classroom tutorials.

EVALUATION METHODS

The examination is split in two parts, each devoted to one of the themes of the course: (I) Foundations; (II) Retaining Structures. Both parts of the examination are oral, and consist of the discussion of three topics presented during the course, and start with the discussion of one of the classroom tutorials.

Each part of the examination lasts approximately 40 minutes and provides a mark, expressed as a fraction of 30.

It is possible to enter for the latter part of the examination only after passing the former; the overall mark results from the average of the marks obtained.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- Fondazioni, Author: C. Viggiani, Edizioni Hevelius.
- La spinta delle terre e le opere di sostegno. Authors: C.R.I. Clayton, J. Milititsky, R.I. Woods, Edizioni Hevelius. (also available in English):
- Earth pressure and earth retaining structures. Authors: C.R.I. Clayton, J. Milititsky, R.I. Woods, Publisher: Blackie Academic and Professional.
- PowerPoint slides prepared by the teacher and provided during the course.

INTERACTION WITH STUDENTS

At the beginning of the course the teacher describes the goals and the syllabus of the course and the evaluation methods which will be followed. The teacher also prepares the list of the students who plan to attend the course, and performs a preliminary evaluation of their compliance with pre-requirements.

The teacher informs the students about the textbooks and about his reception hours, which are as follows:

- Tuesday: 16:00 – 17:00; Wednesday: 12:30 – 13:30

EXAMINATION SESSIONS (FORECAST)[1]

21/02/19; 28/02/19; 02/04/19; 07/05/19; 04/06/19; 02/07/19; 23/07/19; 10/09/19; 08/10/19; 12/11/19; 03/12/19.

SEMINARS BY EXTERNAL EXPERTS YES □

FURTHER INFORMATION

[1] Subject to possible changes: for updates, check the list of the examinations published on-line by the Teacher.