Course guides
250809 - 250809 - Seminars

Unit in charge: Barcelona School of Civil Engineering
Teaching unit: 751 - DECA - Department of Civil and Environmental Engineering.
Degree: MASTER'S DEGREE IN GEOTECHNICAL ENGINEERING (Syllabus 2015). (Optional subject).
Academic year: 2020 ECTS Credits: 5.0 Languages: Catalan, English, Spanish

LECTURER
Coordinating lecturer: ANNA RAMON TARRAGONA
Others: ANTONIO LLORET MORANCHO, ANNA RAMON TARRAGONA

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

General:
13300. To apply advanced knowledge in sciences and technology to the professional or research practice.
13302. To identify and design solutions for geo-engineering problems within ethical, social and legislative frameworks.
13303. To evaluate the impact of Geo-engineering on environment, sustainable social development and the significance of working within reliable and conscientious professional environment.
13304. To incorporate new technologies and advanced tools in Geo-engineering into professional and research activities.
13305. To conceive Geo-engineering as a multi-disciplinary field that includes relevant aspects from geology, sismology, hydrogeology, geotechnical and earthquake engineering, geomechanics, physics of porous media, geophysics, geomatics, natural hazard, energy and climate interactions.
13306. To promote innovation for the development of methodology, analyses and solutions in Geo-engineering

TEACHING METHODOLOGY

Channels of dissemination of scientific and technical information, techniques for oral and written presentations, tools for bibliographic search and reference management are presented in the lectures.

The student attends seminars and must write a summary of each one. Moreover, each student must write a scientific paper and present it orally in class.

Support material in the form of a detailed teaching plan is provided using the virtual campus ATENEA: content, program of learning and assessment activities conducted and literature.
LEARNING OBJECTIVES OF THE SUBJECT

To conceive soils and rocks as porous media governed by Solid and Fluid Mechanics.
To interpret laboratory tests and field observations so as to identify the mechanisms responsible for soil response. To propose laboratory testing programmes.
To formulate and implement Finite Element and Finite Differences numerical models with the objective to analyze the processes that govern ground response, to interpret field information and to predict soil response.

* To apply oral presentation techniques.
* To use advanced calculation tools to analyze Civil Engineering problems, design big-scale models and suggest design solutions for prototypes.
* To know and be able to use advanced techniques to geo-referentially represent data.
* To have powerful tools for the geospatial analysis of geo-referentiated data.

The student attends a series of seminars on Geo-Engineering, presents orally a critical analysis of both the content and the form of the presentation and delivers a report of the work. Seminars can be organized on a regular basis in the educational institution or seminars available online in the web of reknown institutions of (Webinars).

* Apply techniques of oral and written presentations
* Know the media for diffusion of scientific and technical information
* Know and use tools for management of bibliographic references
* Know and use databases to search for scientific and technical information relating to geotechnical engineering.

The student attends a series of seminars on Geotechnical Engineering. They include seminars organized regularly in the educational institution or seminars available online on the web of renowned institutions (Webinars). He presents a critical analysis of both the content and form of presentation and delivery a written work in the format of a scientific article.

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guided activities</td>
<td>6,0</td>
<td>4.80</td>
</tr>
<tr>
<td>Hours large group</td>
<td>19,5</td>
<td>15.59</td>
</tr>
<tr>
<td>Hours medium group</td>
<td>9,8</td>
<td>7.83</td>
</tr>
<tr>
<td>Self study</td>
<td>80,0</td>
<td>63.95</td>
</tr>
<tr>
<td>Hours small group</td>
<td>9,8</td>
<td>7.83</td>
</tr>
</tbody>
</table>

Total learning time: 125.1 h

CONTENTS

Introduction

Description:
Course presentation

Specific objectives:
Introducing the course

Full-or-part-time: 7h 11m
Theory classes: 3h
Self study: 4h 11m
<table>
<thead>
<tr>
<th>Course Description</th>
<th>Full-or-part-time:</th>
<th>Theory classes:</th>
<th>Laboratory classes:</th>
<th>Self study:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation of written documents</td>
<td>28h 47m</td>
<td>9h</td>
<td>3h</td>
<td>16h 47m</td>
</tr>
<tr>
<td>Search of bibliographic information</td>
<td>7h 11m</td>
<td>3h</td>
<td></td>
<td>4h 11m</td>
</tr>
<tr>
<td>Reference Management</td>
<td>7h 11m</td>
<td>3h</td>
<td></td>
<td>4h 11m</td>
</tr>
<tr>
<td>Preparation of oral presentations</td>
<td>21h 36m</td>
<td>6h</td>
<td>3h</td>
<td>12h 36m</td>
</tr>
<tr>
<td>Preparation of proposals for research projects</td>
<td>21h 36m</td>
<td>6h</td>
<td>3h</td>
<td>12h 36m</td>
</tr>
</tbody>
</table>
**GRADING SYSTEM**

The mark of the course is obtained from the ratings of continuous assessment.

Continuous assessment consist in several activities, both individually and in group, of additive and training characteristics, carried out during the year (both in and out of the classroom).

The final grade is established with the following weights:

0.30 [Average weekly summaries]
0.30 [Oral presentation (25 min)]
0.30 [Paper (20 pages)]
0.05 [Oral presentation (5 min)]
0.05 [Summary (1 page)]

**EXAMINATION RULES.**

Failure to perform a continuous assessment activity in the scheduled period will result in a mark of zero in that activity.

**BIBLIOGRAPHY**

**Basic:**