250809 - Seminars

**Coordination unit:** 250 - ETSECCPB - Barcelona School of Civil Engineering

**Teaching unit:** 751 - DECA - Department of Civil and Environmental Engineering

**Academic year:** 2019

**Degree:** MASTER'S DEGREE IN GEOTECHNICAL ENGINEERING (Syllabus 2015). (Teaching unit Optional)

**ECTS credits:** 5

**Teaching languages:** Catalan, Spanish, English

### Teaching staff

**Coordinator:** ANTONIO LLORET MORANCHO

**Others:** ANTONIO LLORET MORANCHO, ANNA RAMON TARRAGONA

### Opening hours

**Timetable:** Meetings can be arranged through e-mail or "Atena forum".

### 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 (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>Total learning time: 125h</th>
<th>Hours large group: 19h 30m</th>
<th>15.60%</th>
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<tbody>
<tr>
<td></td>
<td>Hours medium group: 9h 45m</td>
<td>7.80%</td>
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<tr>
<td></td>
<td>Hours small group: 9h 45m</td>
<td>7.80%</td>
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<td></td>
<td>Guided activities: 6h</td>
<td>4.80%</td>
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<td></td>
<td>Self study: 80h</td>
<td>64.00%</td>
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## Content

| Introduction | Learning time: 7h 11m  
Theory classes: 3h  
Self study: 4h 11m |
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<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Course presentation</td>
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<tr>
<td><strong>Specific objectives:</strong></td>
<td>Introducing the course</td>
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</table>
| Preparation of written documents | Learning time: 28h 47m  
Theory classes: 9h  
Laboratory classes: 3h  
Self study: 16h 47m |
| **Description:** | Preparation of written documents  
Review of scientific and technical documents |
| Search of bibliographic information | Learning time: 7h 11m  
Theory classes: 3h  
Self study: 4h 11m |
| **Description:** | Search of bibliographic information |
| Reference Management | Learning time: 7h 11m  
Theory classes: 3h  
Self study: 4h 11m |
| **Description:** | Reference Handling (Mendeley) |
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)]

**Qualification system**

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

**Bibliography**

**Basic:**