

## 330300 - PAEN - Drillings Applied to Engineering

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|---------------------|--|
| Coordinating unit:  | 330 - EPSEM - Manresa School of Engineering  |
| Teaching unit:      | 750 - EMIT - Department of Mining, Industrial and ICT Engineering  |
| Academic year:      | 2019   |
| Degree:             | BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Teaching unit Optional)<br>BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)<br>BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)<br>BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)<br>BACHELOR'S DEGREE IN ENERGY AND MINING RESOURCE ENGINEERING (Syllabus 2012). (Teaching unit Optional)<br>BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2016). (Teaching unit Optional)<br>BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2016). (Teaching unit Optional)<br>BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2016). (Teaching unit Optional) |
| ECTS credits:       | 6  |
| Teaching languages: | Catalan  |

### Teaching staff

Coordinator: JOSE FONT SOLDEVILA

### Degree competences to which the subject contributes

Specific:

1. (ENG) Tècniques de perforació aplicades a obres subterrànies i superficials, aplicades a l'enginyeria en general.
2. (ENG) Diferents tipus de perforacions i especialment la perforació Horitzontal Dirigida.

Transversal:

3. TEAMWORK - Level 3. Managing and making work groups effective. Resolving possible conflicts, valuing working with others, assessing the effectiveness of a team and presenting the final results.
4. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.

### Learning objectives of the subject

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### Study load

|                           |                     |     |        |
|---------------------------|---------------------|-----|--------|
| Total learning time: 150h | Hours large group:  | 30h | 20.00% |
|                           | Hours medium group: | 0h  | 0.00%  |
|                           | Hours small group:  | 30h | 20.00% |
|                           | Guided activities:  | 0h  | 0.00%  |
|                           | Self study:         | 90h | 60.00% |

### Content

|   |  |
|---|--|
| (ENG) 1. Coneixements bàsics de geologia i de materials | Learning time: 40h<br>Theory classes: 6h<br>Practical classes: 4h<br>Self study : 30h    |
| (ENG) 2. Sondejos verticals                             | Learning time: 50h<br>Theory classes: 9h<br>Laboratory classes: 11h<br>Self study : 30h  |
| (ENG) 3. Perforacions Horitzontal Dirigida (PHD)        | Learning time: 60h<br>Theory classes: 15h<br>Laboratory classes: 15h<br>Self study : 30h |

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### Planning of activities

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|---|---|
| (ENG) 1. SORTIDES I VISITES A CASOS REALS                                   | Hours: 20h<br>Theory classes: 20h   |
| (ENG) 2. RESOLUCIÓ D'EXERCICIS DE CASOS REALS DE FORMA INDIVIDUAL O EN GRUP | Hours: 28h<br>Laboratory classes: 10h<br>Self study: 18h                      |
| (ENG) 3. PROVA INDIVIDUAL ESCRITA   | Hours: 22h<br>Theory classes: 4h<br>Laboratory classes: 8h<br>Self study: 10h |

### Bibliography

#### Basic:

López Jimeno, C., editor. Manual de sondeos. Vol. 2, Aplicación. Madrid: Carlos López Jimeno, 2006. ISBN 8496140180.

López Jimeno, C., editor. Manual de sondeos. Vol. 1, Tecnología de perforación. Madrid: Carlos López Jimeno, 2006. ISBN 8496140180.

Bourgoyne, Adam T. Applied drilling engineering. Richardson: Society of Petroleum Engineers, 1986. ISBN 9781555630010.

#### Complementary:

Toraño, J.; Torno, S. Manual de perforaciones y sondeos. Oviedo: Universidad de Oviedo, 2011. ISBN 9788483178522.

#### Others resources: