310628 - Surveying in Civil Engineering

Degree competences to which the subject contributes

- Definition of geometry, in planimetry and altimetry, of projects about linear sketches and infrastructures.
- Application of the topography in the different specialties of engineering. The surveying and metric control in projects of architecture and engineering.
- Measurements and cubage techniques.
- Safety, health and labour risks in the professional environment of geomatics.

Others:

Coordinating unit: 310 - EPSEB - Barcelona School of Building Construction
Teaching unit: 751 - DECA - Department of Civil and Environmental Engineering
Academic year: 2019
Degree: BACHELOR'S DEGREE IN GEOINFORMATION AND GEOMATICS ENGINEERING (Syllabus 2016).
ECTS credits: 6
Teaching languages: Spanish

Teaching staff

Coordinator: IGNACIO de CORRAL MANUEL DE VILLENA
Others: IGNACIO de CORRAL MANUEL DE VILLENA

Teaching methodology

Subject based in the practice on class.
In this examples its is searched the most possible aproximation to the reality.
The work is done in small groups.
The attendance is mandatory in order to acquire the stablished competences.

Learning objectives of the subject

- Definition of geometry, in planimetry and altimetry, of projects about linear sketches and infrastructures.
- Application of the topography in the different specialties of engineering. The surveying and metric control in projects of architecture and engineering.
- Measurements and cubage techniques.
- Safety, health and labour risks in the professional environment of geomatics.
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## Study load

<table>
<thead>
<tr>
<th></th>
<th>Hours large group</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Total learning time</td>
<td>24h</td>
<td>16.00%</td>
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<tr>
<td></td>
<td>36h</td>
<td>24.00%</td>
</tr>
<tr>
<td>Self study:</td>
<td>90h</td>
<td>60.00%</td>
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</tbody>
</table>

**Total learning time:** 150h
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## Content

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<thead>
<tr>
<th>Surveying concept</th>
<th>Learning time: 1h</th>
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<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Theory classes: 1h</td>
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<table>
<thead>
<tr>
<th>Geometric fittings</th>
<th>Learning time: 21h</th>
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<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Theory classes: 1h</td>
</tr>
<tr>
<td></td>
<td>Practical classes: 7h</td>
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<td></td>
<td>Self study: 13h</td>
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<table>
<thead>
<tr>
<th>Surveying methods</th>
<th>Learning time: 7h</th>
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</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Theory classes: 1h</td>
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<tr>
<td></td>
<td>Laboratory classes: 2h</td>
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<tr>
<td></td>
<td>Self study: 4h</td>
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<table>
<thead>
<tr>
<th>Alineation definition in floor plan</th>
<th>Learning time: 33h</th>
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<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Theory classes: 3h</td>
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<tr>
<td></td>
<td>Practical classes: 8h</td>
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<tr>
<td></td>
<td>Laboratory classes: 2h</td>
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<tr>
<td></td>
<td>Self study: 20h</td>
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## Surveying methods for polars, by intersection and by horizontals and verticals

### Related activities:
- Field practice
### Alineation definitions in elevation

**Description:**
- Vertical deals. Intersections and fitting.
- Longitudinal profiles

**Related activities:**
- Practices in class

**Learning time:** 10h
- Theory classes: 2h
- Practical classes: 2h
- Self study: 6h

### Definition of the transverse section

**Description:**
- Transverse profiles.
- Type section. Elements and conditionings.
- Resgulation aspects.
- The relation with the floor plant and elevation longitudinals

**Related activities:**
- Practices in class

**Learning time:** 50h
- Theory classes: 3h
- Practical classes: 17h
- Self study: 30h

### Measurements and cubage

**Description:**
- Measurement of longitudinal elements.
- Measurements of surfaces and volumes.
- Resgulation aspects.

**Related activities:**
- Practices in class

**Learning time:** 28h
- Theory classes: 2h
- Practical classes: 9h
- Self study: 17h
Qualification system

Continuous evaluation by small theoretical tests.
Practical exams that have a great importance in the final mark.
Valoration of the deliveries.
The attendance is valorated in the final mark.

Bibliography

Basic: