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.

Degree: BACHELOR'S DEGREE IN GEOINFORMATION AND GEOMATICS ENGINEERING (Syllabus 2016).
(Teaching unit Compulsory)

ECTS credits: 6  Teaching languages: Spanish

Teaching staff

Coordinator: IGNACIO de CORRAL MANUEL DE VILLENA

Others: IGNACIO de CORRAL MANUEL DE VILLENA

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.

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.
### Study load

<table>
<thead>
<tr>
<th></th>
<th>Hours large group:</th>
<th>Hours medium group:</th>
<th>Self study:</th>
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</thead>
<tbody>
<tr>
<td><strong>Total learning time:</strong></td>
<td>150h</td>
<td>24h</td>
<td>36h</td>
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<td>24h</td>
<td>36h</td>
<td>90h</td>
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<td>16.00%</td>
<td>24.00%</td>
<td>60.00%</td>
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<tr>
<td>Content</td>
<td>Learning time</td>
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<tr>
<td><strong>Surveying concept</strong></td>
<td>1h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description:</td>
<td></td>
<td></td>
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<tr>
<td><strong>Geometric fittings</strong></td>
<td>21h</td>
<td></td>
<td></td>
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<tr>
<td>Description:</td>
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<tr>
<td><strong>Surveying methods</strong></td>
<td>7h</td>
<td></td>
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<tr>
<td>Description:</td>
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<tr>
<td><strong>Alineation definition in floor plan</strong></td>
<td>33h</td>
<td></td>
<td></td>
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<tr>
<td>Description:</td>
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Surveying concept

Learning time: 1h
Theory classes: 1h

Geometric fittings

Learning time: 21h
Theory classes: 1h
Practical classes: 7h
Self study: 13h

Surveying methods

Learning time: 7h
Theory classes: 1h
Laboratory classes: 2h
Self study: 4h

Alineation definition in floor plan

Learning time: 33h
Theory classes: 3h
Practical classes: 8h
Laboratory classes: 2h
Self study: 20h

Description:
Surveying methods for polars, by intersection and by horizontals and verticals

Related activities:
Field practice

Description:
Straights, circles and transition alineations.

Related activities:
Practices in class
Field practices
### 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.
- Regulation 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.
- Regulation aspects.

**Related activities:**
- Practices in class.

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

