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:

Coordination:
IGNACIO de CORRAL MANUEL DE VILLENA

Teaching staff:

Coordinator:
IGNACIO de CORRAL MANUEL DE VILLENA

Degree compeences to which the subject contributes

Specific:
4. (ENG) Comprendre i analitzar els problemes de implantació en el terreny de les infraestructures, construccions i edificacions projectades des de l'enginyeria en topografia, analitzar els mateixos i procedir a la seva implantació.
5. (ENG) Planificació, projecte, direcció, execució i gestió de processos de mesura, sistemes d'informació, explotació d'imatges, posicionament i navegació; modelització, representació i visualització de la informació territorial en, sota i sobre la superfície terrestre.
6. Knowledge about application of the geomatic methods and techniques in the the scope of the different enginneries.
7. Knowledge about security, health and labour risks inside the scope of this engineering and its application and development.

Transversal:
3. EFFECTIVE USE OF INFORMATION RESOURCES - Level 2. Designing and executing a good strategy for advanced searches using specialized information resources, once the various parts of an academic document have been identified and bibliographical references provided. Choosing suitable information based on its relevance and quality.
1. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.
2. SUSTAINABILITY AND SOCIAL COMMITMENT - Level 2. Applying sustainability criteria and professional codes of conduct in the design and assessment of technological solutions.

Teaching methodology:

Subject based in the practice on class. 
In this examples its is searched the most possible approximation 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 specialities of engineering. The surveying and metric control in projects of architecture and engineering.
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- Safety, health and labour risks in the professional environment of geomatics.
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<table>
<thead>
<tr>
<th>Study load</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total learning time: 150h</td>
<td>24h</td>
<td>16.00%</td>
</tr>
<tr>
<td>Hours large group:</td>
<td>36h</td>
<td>24.00%</td>
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<tr>
<td>Hours medium group:</td>
<td>90h</td>
<td>60.00%</td>
</tr>
<tr>
<td>Self study:</td>
<td></td>
<td></td>
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</tbody>
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# Content

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

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

**Related activities:**
- Field practice
- 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.
- 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:

