310636 - Geomatic Projects

Degree competences to which the subject contributes

Basic:
- CB3EGG. The students must have the capacity to gather and interpret relevant data (normally inside the field of study) to emit judgements that include a reflection into relevant social, scientific or ethical contents.

General:
- CG10EGG. Planning, project, direction, execution and management of processes and products of application in the environment, agronomy, forest and mining engineering inside the geomatic field.
- CG4EGG. Capacity to take decisions, leadership, management of human resources and direction of interdisciplinary teams related with the special information.
- CG1EGG. Design and develop geomatic and topographic projects.

Transversal:
- CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.
- CT3. TEAMWORK: Being able to work in an interdisciplinary team, whether as a member or as a leader, with the aim of contributing to projects pragmatically and responsibly and making commitments in view of the resources that are available.

Learning objectives of the subject

At the end of the subject the student must be capable of:
- Know the necessary documents for the elaboration of a project.
- Know the multidisciplinary applications of geomatics.
- Know the planning techniques.
- Manage a project of geomatic engineering.
# Study load

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<tr>
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<th>Hours large group:</th>
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<tr>
<td><strong>Total learning time:</strong></td>
<td>150h</td>
<td>24h</td>
<td>16.00%</td>
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<td>Hours medium group:</td>
<td>36h</td>
<td>24.00%</td>
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<tr>
<td>Self study:</td>
<td>90h</td>
<td>60.00%</td>
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### Content

#### Phases for the elaboration of a project

**Learning time:** 200h  
**Theory classes:** 80h  
**Self study:** 120h

**Description:**  
It will be treated from the definition of the initial ideal, passing by the study of alternatives, the basic project until finally get to the ultimate project.  
It will be developed the different documents that have to be in a project:  
- Memory and annexes.  
- Drawings.  
- Scope statement.  
- Budgets.  
- Study of health and safety.

**Related activities:**  
Study of real projects.

#### BIM applied to infrastructures

**Learning time:** 100h  
**Theory classes:** 40h  
**Self study:** 60h

**Description:**  
The BIM as an information modelling of construction: Interrelation of the geometry with the different types of information typical in a project of infrastructure, from measurements, costs and programs of work from specifications and manufacturer details.

#### Projects and multidisciplinary applications in geomatic engineering.

**Learning time:** 150h  
**Theory classes:** 60h  
**Self study:** 90h

**Description:**  
- Projects and applications of the aerial, terrestrial and convergent photogrametry.  
- Projects and applications of SIG for the management of data and resources that interact with the territory.  
- Projects and applications of Remote Sensing in the management of the territory, environment, forest, agricultural.

**Related activities:**  
Visits from or to specialized professionals.
### Management of a project

**Learning time:** 150h  
- Theory classes: 60h  
- Self study: 90h

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| - Team and structure of the company.  
- Structure of decomposition of the project (EDP).  
- Planning methods (PERT, GANTT and CPM).  
- Analysis of costs.  
- Quality management.  
- Risk management. |  |

**Related activities:**  
Visits from or to specialized professionals.

### Bibliography