Course guide
310636 - 310636 - Geomatic Projects

Unit in charge: Barcelona School of Building Construction
Teaching unit: 751 - DECA - Department of Civil and Environmental Engineering.
Degree: BACHELOR'S DEGREE IN GEOINFORMATION AND GEOMATICS ENGINEERING (Syllabus 2016).
(Compulsory subject).
Academic year: 2022  ECTS Credits: 6.0  Languages: Catalan, Spanish

LECTURER

Coordinating lecturer:

Others: Carlos Gràcia Gómez

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

General:
CG10EGG. Plannification, project, direction, execution and mangement of processes and products of application in the environment, agronomy, forest and miner 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 develope 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.

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.

TEACHING METHODOLOGY

Expository method for blocks 1 and 2, but with a clear orientation of participatory expository class incorporating spaces for student participation and intervention.
Short-term classroom activities will be used, such as direct questions and dialogue with students on the topics presented.
For blocks 3 and 4, a case study methodology is proposed, since it will preferably start with visits to or professionals specialized in the different fields of Geomatics.

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

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours large group</td>
<td>24,0</td>
<td>16.00</td>
</tr>
<tr>
<td>Hours medium group</td>
<td>36,0</td>
<td>24.00</td>
</tr>
<tr>
<td>Self study</td>
<td>90,0</td>
<td>60.00</td>
</tr>
</tbody>
</table>

Total learning time: 150 h

CONTENTS

1. Projects

Description:
- The project: Definition and purpose. Documents and Projects. Reports, opinions and expert opinions. Types of projects: Professional projects, Academic projects and Research projects.

Related activities:
Activity 1. Documentary analysis of projects.

Full-or-part-time: 40h
Theory classes: 15h
Self study : 25h

2. Projects management

Description:
- Planning: Entities involved in a project. Planning and control tools. Planning and monitoring techniques.. PERT method.
- Cost analysis.

Related activities:
Activity 2. Public tenders.

Full-or-part-time: 40h
Theory classes: 15h
Self study : 25h
3. Business organization

Description:
- Organization in construction companies.
- Organization in a private company.
- Professional Colleges and Associations. Accreditations.

Related activities:
Activity 4. Report visits from or to specialized professionals.

Full-or-part-time: 23h
Practical classes: 8h
Self study: 15h

4. Projects and multidisciplinary applications in geomatic engineering.

Description:
- Mapping
- Photogrammetry
- Geometric Control (Infrastructures, industry, cartography)
- Geodetic networks
- BIM
- GIS
- Teledetection

Related activities:
Activity 4. Report visits from or to specialized professionals.

Full-or-part-time: 47h
Practical classes: 22h
Self study: 25h

GRADING SYSTEM

Partial exam 1 of the contents of blocks 1 and 2: 25%
Partial exam 2 of the contents of blocks 3 and 4: 25%
Delivery of activity reports: 40%
Active class participation: 10%

BIBLIOGRAPHY

Basic:

Complementary:
RESOURCES

Hyperlink:
- https://contrataciondelestado.es. State public tender platform
- https://contractacio.gencat.cat/ca/inici. Public tender portal Generalitat de Catalunya