Course guide
310639 - 310639 - Gis Project Design and Management

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). (Optional subject).
Academic year: 2022  ECTS Credits: 4.5  Languages: Catalan, Spanish

LECTURER
Coordinating lecturer: Mercedes Sanz Conde
Others: Ramiro Marco Figuera
Neus Querol Vidal

PRIOR SKILLS
Solvent use of information with GIS. Deepen the capture, manipulation, analysis and representation of networked data. Expand Knowledge in the realization of a GIS project.

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
CE9EGG. (ENG) Coneixement, utilització i aplicació de les tècniques de tractament. Anàlisi de dades espacials. Estudi de models aplicats a l'enginyeria i arquitectura. (Mòdul comun a la branca Topografia)
CE11EGG. Design, production and diffusion of the basic cartography; implementation, management and explotation of Geographic Information Systems (SIG).
CE18EGG. Knowledge and management in interdisciplinary teams in Special Data of Infrastructures

Generical:
CG7EGG. Management and execution of investigation projects, developement and innovation inside the scope of this engineering.

Transversal:
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.

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.

CT5. FOREIGN LANGUAGE: Achieving a level of spoken and written proficiency in a foreign language, preferably English, that meets the needs of the profession and the labour market.

Basic:
CB4EGG. The students must know how to transmit information, ideas, problems and solutions to a specialized but also to a non-specialized public.
CB5EGG. The students have developed these knowledge abilities necessary to undertake later studies with a big grade of autonomy.
TEACHING METHODOLOGY

Master class
Laboratory
Team work

LEARNING OBJECTIVES OF THE SUBJECT

Deepen in the capture, manipulation, analysis and representation of data in network.
Develop a GIS project.

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self study</td>
<td>67.5</td>
<td>60.00</td>
</tr>
<tr>
<td>Hours medium group</td>
<td>27.0</td>
<td>24.00</td>
</tr>
<tr>
<td>Hours large group</td>
<td>18.0</td>
<td>16.00</td>
</tr>
</tbody>
</table>

Total learning time: 112.5 h

CONTENTS

Theme 1. Tools for tracking a project.

Description:
Learning different project management tools.

Specific objectives:
Project management software learning.

Related activities:
Activity 1

Full-or-part-time: 15h
Practical classes: 5h
Laboratory classes: 5h
Self study: 5h

Theme 2. Realization of the SIG I project.

Description:
Develop a raster GIS project with Python.

Specific objectives:
Using different Python modules to analyze and calculate parameters.

Related activities:
Activity 2

Full-or-part-time: 16h
Practical classes: 5h
Laboratory classes: 5h
Self study: 6h
Theme 3. Develop GIS II project.

Description:
Developing a project using QGIS.

Specific objectives:
Use of GIS specific modules for route analysis.

Related activities:
Activity 3

Full-or-part-time: 15h
Practical classes: 5h
Laboratory classes: 5h
Self study : 5h

Theme 4. Phases of a SIG project.

Description:
Study of the phases of a project to implement GIS.

Specific objectives:
Know and apply the main regulations governing the management of projects in general and GIS in particular.

Related activities:
Activity 4

Full-or-part-time: 16h
Practical classes: 4h
Laboratory classes: 4h
Self study : 8h

GRADING SYSTEM

GIS I project 35%
GIS II project 35%
Delivery practices and work 20%
Attend a class, technical conferences 10%

EXAMINATION RULES.

All tests are mandatory
BIBLIOGRAPHY

Basic:

RESOURCES

Computer material:
- ArcGIS. Software
- OpenProj. Software
- QGIS. Software