Course guides
310640 - 310640 - Terrestrial and Uav Photogrammetry

Unit in charge: Barcelona School of Building Construction
Teaching unit: 751 - DECA - Department of Civil and Environmental Engineering.
Degree: BACHELOR'S DEGREE IN GEOPHYSICS AND GEOMATICS ENGINEERING (Syllabus 2016). (Optional subject).
Academic year: 2020  ECTS Credits: 4.5  Languages: Spanish

LECTURER

Coordinating lecturer: FELIPE BUILL POZUELO

Others:

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Generical:
5. Use of teams and instrumental: Capacity to select the necessary resources to achieve the planned goals according to the quality requirements. Use of teams, in adequate conditions, with professional efficiency and taking into account the limitations of the instruments and its context of use, in relation with the required precisions.

Transversal:
1. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.
2. TEAMWORK - Level 1. Working in a team and making positive contributions once the aims and group and individual responsibilities have been defined. Reaching joint decisions on the strategy to be followed.
3. TEAMWORK - Level 2. Contributing to the consolidation of a team by planning targets and working efficiently to favor communication, task assignment and cohesion.
4. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Hours large group</td>
<td>18,0</td>
<td>16.00</td>
</tr>
<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>
</tbody>
</table>

Total learning time: 112.5 h
## INTRODUCTION. NON-CARTOGRAPHIC PHOTOGRAMMETRY

**Description:**
[ENG] Introducción al caso fotogramétrico terrestre. Aplicación en levantamientos arquitectónicos y arqueológicos. Casos especiales

**Full-or-part-time:** 18h  
Theory classes: 6h  
Self study : 12h

## (ENG) FUNDAMENTOS GEOMÉTRICOS

**Description:**
[ENG] Fundamentos geométricos de la fotografía. Características principales de la fotogrametría denominada terrestre o no topográfica. Coberturas fotográficas

**Full-or-part-time:** 15h  
Theory classes: 5h  
Self study : 10h

## (ENG) INSTRUMENTOS

**Description:**
[ENG] Instrumentación utilizada en los diferentes métodos fotogramétricos terrestres

**Full-or-part-time:** 5h  
Theory classes: 2h  
Self study : 3h

## [ENG] FOTOGRAMETRÍA CON UAV

**Description:**
[ENG] Aplicación de sistemas UAV (Unmanned Aerial Vehicle) para la captura de fotografías con fines fotogramétricos. Aplicación en levantamientos arqueológicos, ingeniería civil, geología...

**Full-or-part-time:** 4h  
Theory classes: 1h  
Practical classes: 1h  
Self study : 2h

## (ENG) PRODUCTOS DERIVADOS

**Description:**
[ENG] Obtención de modelos 3D de objetos arquitectónicos, arqueológicos... Plantas, alzados, secciones...

**Full-or-part-time:** 6h  
Theory classes: 3h  
Self study : 3h
Caso práctico. Levantamiento fotogramétrico

Description:
[ENG] Proyecto y ejecución de un levantamiento fotogramétrico de pequeña superficie y gran escala

Related activities:
[ENG] Actividad 1

Full-or-part-time: 41h
Practical classes: 15h
Laboratory classes: 9h
Self study: 17h

Grading system
The final qualification is the addition of the following partial qualification:
Class activities: 30%
Memory of the final project: 50%
Defense of the final project: 20%
Final project: Doing a photogrametric project related with the arquitectonic and/or archeologic surveying (associated concepts to the goals of learning of the subject). It will be delivered a memory of all the projects and drawings of detail. It will be carried out an oral exposition of the developed topic.

Examination rules.
It is mandatory to do all the practices in order to have an average mark

Bibliography

Basic:

Complementary: