Course guides
310610 - 310610 - Observation Adjustment in Geomatics

Unit in charge: Barcelona School of Building Construction
Teaching unit: 749 - MAT - Department of Mathematics.
Degree: BACHELOR’S DEGREE IN GEOINFORMATION AND GEOMATICS ENGINEERING (Syllabus 2016).
(Compulsory subject).

Academic year: 2021    ECTS Credits: 6.0    Languages: Catalan, English

LECTURER
Coordinating lecturer: Joan J. Rodríguez Jordana

Others:

PRIOR SKILLS
It is essential to have basic knowledge of lineal algebra, infinitesimal calculus in one and various variables, descriptive statistics, probability and random variables.

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. Knowledge, use and application of instruments and fotogrametric methods and topographic adequated to the realization of non-cartographic raisings.
2. Knowledge and application of methods of minimum adjust quadratic in the scope of topo-geodesic observations, photogrametric and cartographic.

Transversal:
5. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.

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

Total learning time: 150 h
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<thead>
<tr>
<th>CONTENTS</th>
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<tbody>
<tr>
<td><strong>C1. Inductive Statistics</strong></td>
</tr>
<tr>
<td><strong>Description:</strong></td>
</tr>
<tr>
<td><strong>Specific objectives:</strong></td>
</tr>
<tr>
<td><strong>Related activities:</strong></td>
</tr>
<tr>
<td><strong>Full-or-part-time:</strong> 16h</td>
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<tr>
<td>Theory classes: 3h</td>
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<tr>
<td>Practical classes: 3h</td>
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<tr>
<td>Self study: 10h</td>
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</tbody>
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| **C3. Variance-Covariance Matrix** |
| **Description:** |
| **Specific objectives:** |
| **Related activities:** |
| **Full-or-part-time:** 16h |
| Theory classes: 3h |
| Practical classes: 3h |
| Self study: 10h |

| **C3. Indirect Observations. Linear Model** |
| **Description:** |
| **Specific objectives:** |
| **Related activities:** |
| **Full-or-part-time:** 27h |
| Theory classes: 4h 30m |
| Practical classes: 7h 30m |
| Self study: 15h |
C4. Indirect Observations. Non Linear Model

Description:

Specific objectives:

Related activities:

Full-or-part-time: 37h
Theory classes: 4h 30m
Practical classes: 7h 30m
Self study: 25h

C5. Robust Methods in Geomatics

Description:

Specific objectives:

Related activities:

Full-or-part-time: 27h
Theory classes: 4h 30m
Practical classes: 7h 30m
Self study: 15h

C6. Condition Equation Model and General Least Squares Model

Description:

Specific objectives:

Related activities:

Full-or-part-time: 27h
Theory classes: 4h 30m
Practical classes: 7h 30m
Self study: 15h

ACTIVITIES

Coursework

Description:

Specific objectives:

Delivery:

Full-or-part-time: 8h
Theory classes: 4h
Self study: 4h
## (ENG) COMPETÈNCIA GENÈRICA EN LLENGUA ANGLESA

### Activity L1

**Description:**

**Delivery:**

**Full-or-part-time:** 2h  
Theory classes: 2h

### Activity L2

**Description:**

**Full-or-part-time:** 2h  
Theory classes: 2h

### Activity L4

**Description:**

**Specific objectives:**

**Material:**

**Full-or-part-time:** 2h  
Theory classes: 2h

### Activity L3

**Description:**

**Full-or-part-time:** 2h  
Theory classes: 2h

### Activities T1 and T2

**Full-or-part-time:** 1h  
Theory classes: 1h

### Activities Q1 and Q2

**Full-or-part-time:** 5h  
Theory classes: 5h

## GRADING SYSTEM
BIBLIOGRAPHY

Basic:

Complementary:

RESOURCES

Audiovisual material:
- Nom recurs. Resource

Other resources:
The course has a space in the virtual campus ATENEA where you can find
A link to the teaching guide
A PDF document where you can follow the activities while being developed
A repository of practices to resolve