Course guide
310181 - 310181 - Graphic Survey of the Existing Building

Unit in charge: Barcelona School of Building Construction
Teaching unit: 751 - DECA - Department of Civil and Environmental Engineering.
752 - RA - Departamento de Representación Arquitectónica.

Degree: MASTER'S DEGREE IN DIAGNOSIS AND INTERVENTION TECHNIQUES IN BUILDING CONSTRUCTION (Syllabus 2020). (Compulsory subject).

Academic year: 2022  ECTS Credits: 5.0  Languages: Spanish

LECTURER
Coordinating lecturer: Felipe Buill Pozuelo
Others: Jesus Esquinas Dessy

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific: CE4MUDITIE. To apply the advanced techniques of graphic elevations of buildings on the recognition of existing buildings.

Transversal: CT3MUDITIE. (ENG) Treball en equip. Ser capaç de treballar com a membre d’un equip interdisciplinar, ja sigui com un membre més o realitzant tasques de direcció, amb la finalitat de contribuir a desenvolupar projectes amb pragmatisme i sentit de la responsabilitat, assumint compromisos, tenint en compte els recursos disponibles.
CT4MUDITIE. (ENG) Ús solvent dels recursos de la informació. Gestionar l’adquisició, l’estructuració, l’anàlisi i la visualització de dades i informació en l’àmbit de la seva especialitat i valorar de forma crítica els resultats d’aquesta gestió.

Basic: CB7MUDITIE. For the students to know how to apply the knowledge acquired and their problem-solving capacity in new environments or slightly familiar, within wider contexts (or multidisciplinary) related to their area of study.

TEACHING METHODOLOGY

In the theoretical classes, the general learning objectives related to the basic concepts of the subject are introduced. Subsequently and through practical exercises, we try to motivate and involve the student to actively participate in their learning.

Support material is used through ATENEA: learning objectives by content, concepts, examples, programming of evaluation and directed learning activities and bibliography.

The specific learning objectives of each of the contents of the subject are worked on, by solving exercises or problems. In these problem sessions it is intended to incorporate some generic competences.

After each session, tasks outside the classroom are proposed, which must be worked on individually.

Other hours of autonomous learning must also be considered, such as those devoted to oriented reading and solving the problems proposed on the different contents, through the virtual campus ATENEA.
LEARNING OBJECTIVES OF THE SUBJECT

At the end of the course, the student must be able to:
- Know and use existing tools and resources for the graphic documentation of a building.
- Know and use the instruments and topographic and photogrammetric methods suitable for carrying out architectural surveys.
- Know, use and apply advanced techniques of graphic building surveys in the recognition of existing buildings (digital terrestrial photogrammetry, laser scanner ...).

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours large group</td>
<td>15,0</td>
<td>12.00</td>
</tr>
<tr>
<td>Hours small group</td>
<td>5,0</td>
<td>4.00</td>
</tr>
<tr>
<td>Guided activities</td>
<td>10,0</td>
<td>8.00</td>
</tr>
<tr>
<td>Hours medium group</td>
<td>5,0</td>
<td>4.00</td>
</tr>
<tr>
<td>Self study</td>
<td>90,0</td>
<td>72.00</td>
</tr>
</tbody>
</table>

Total learning time: 125 h

CONTENTS

1. Introduction. Concepts and fundamentals of the architectural survey.

Description:

Full-or-part-time: 3h
Theory classes: 3h

2.- Survey methodology

Description:

Full-or-part-time: 3h
Theory classes: 3h

3.- Lifting with simple instruments

Description:
Lifting with simple instruments. Tape measure, plumb line and level. Trilateration / Triangulation. Floor and elevation measurements. Measurement of inaccessible areas. Auxiliary instruments: poles, plumb bobs, etc.

Related activities:
1.- Survey with simple systems. Sketch of a small building or element. CAD drawing.

Full-or-part-time: 3h
Theory classes: 1h 30m
Guided activities: 1h 30m
4.- Topographic techniques

Description:

Related activities:

Full-or-part-time: 6h
Theory classes: 3h
Practical classes: 3h

5.- Photographic techniques

Description:

Related activities:

Full-or-part-time: 6h 30m
Theory classes: 1h 30m
Practical classes: 5h

6.- Principles of photogrammetry

Description:

Full-or-part-time: 9h
Theory classes: 3h
Laboratory classes: 3h
Guided activities: 3h

7.- Cabinet work

Description:
Cabinet work. Concatenation of lifting techniques. 2D / 3D drawing. Representation rules.

Full-or-part-time: 4h 30m
Theory classes: 1h 30m
Guided activities: 3h
8.- Coding of constructive solutions

**Description:**
Coding of constructive solutions, constructive-architectural details, representation of injuries, etc.

**Full-or-part-time:** 3h
Theory classes: 3h

9. Special lift

**Description:**
Lifting of a building.

**Related activities:**
5.- Lifting of a building.

**Full-or-part-time:** 7h
Practical classes: 1h 30m
Guided activities: 5h 30m

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**GRADING SYSTEM**

The final grade is the sum of the following partial grades:
Classroom activities: 50%
Final work report 30%
Defense of the final work 20%

Final work: Planning and execution of an architectural and/or archaeological survey. A report of all the works and detailed plans will be delivered. There will be an oral presentation of the topic developed.

**BIBLIOGRAPHY**

**Basic:**

**Complementary:**
RESOURCES

Hyperlink:
- ICOMOS. Título: Carta internacional sobre la conservación y la restauración de monumentos y de conjuntos histórico-artísticos, II Congreso Internacional de Arquitectos y Técnicos de Monumentos Históricos, Venecia 1964. Aprobada por ICOMOS el 1965.. 