

## 28611 - Topography and Layout

### Información del Plan Docente

Academic Year	2017/18
Faculty / School	175 - Escuela Universitaria Politécnica de La Almunia
Degree	422 - Bachelor's Degree in Building Engineering
ECTS	6.0
Year	2
Semester	First semester
Subject Type	Compulsory
Module	---

### **1.General information**

#### **1.1.Introduction**

#### **1.2.Recommendations to take this course**

#### **1.3.Context and importance of this course in the degree**

#### **1.4.Activities and key dates**

### **2.Learning goals**

#### **2.1.Learning goals**

#### **2.2.Importance of learning goals**

### **3.Aims of the course and competences**

#### **3.1.Aims of the course**

#### **3.2.Competences**

### **4.Assessment (1st and 2nd call)**

#### **4.1.Assessment tasks (description of tasks, marking system and assessment criteria)**

### **5.Methodology, learning tasks, syllabus and resources**

#### **5.1.Methodological overview**

Presentation general methodology

The learning process designed for this subject is based on the following:

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Strong interaction between the teacher/student. This interaction is brought into being through a division of work and responsibilities between the students and the teacher. Nevertheless, it must be taken into account that, to a certain degree, students can set their learning pace based on their own needs and availability, following the guidelines set by the teacher.

The current subject is conceived as a stand-alone combination of contents, yet organized into three fundamental and complementary forms, which are: the theoretical concepts of each teaching unit, the solving of problems or resolution of questions and laboratory work, at the same time supported by other activities

The organization of teaching will be carried out using the following steps:

— **Theory Classes** : Theoretical activities carried out mainly through exposition by the teacher, where the theoretical supports of the subject are displayed, highlighting the fundamental, structuring them in topics and or sections, interrelating them.

— **Practical Classes** : The teacher resolves practical problems or cases for demonstrative purposes. This type of teaching complements the theory shown in the lectures with practical aspects.

— **Laboratory Workshop** : The lecture group is divided up into various groups, according to the number of registered students, but never with more than 20 students, in order to make up smaller sized groups.

— **Individual Tutorials** : Those carried out giving individual, personalized attention with a teacher from the department. Said tutorials may be in person or online.

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### 5.2.Learning tasks

The programme offered to the student to help them achieve their target results is made up of the following activities...

Involves the active participation of the student, in a way that the results achieved in the learning process are developed, not taking away from those already set out, the activities are the following:

– **Face-to-face generic activities :**

• **Theory Classes :** The theoretical concepts of the subject are explained and illustrative examples are developed as support to the theory when necessary.

• **Practical Classes :** Problems and practical cases are carried out, complementary to the theoretical concepts studied.

• **Laboratory Workshop :** This work is tutored by a teacher, in groups of no more than 20 students.

– **Generic non-class activities :**

• Study and understanding of the theory taught in the lectures.

• Understanding and assimilation of the problems and practical cases solved in the practical classes.

• Preparation of seminars, solutions to proposed problems, etc.

• Preparation of laboratory workshops, preparation of summaries and reports.

Programmed learning activities

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• Preparation of the written tests for continuous assessment and final exams.

The subject has 6 ECTS credits, which represents 150 hours of student work in the subject during the trimester, in other words, 10 hours per week for 15 weeks of class.

A summary of a weekly timetable guide can be seen in the following table. These figures are obtained from the subject file in the Accreditation Report of the degree, taking into account the level of experimentation considered for the said subject is moderate.

<b>Activity</b>	<b>Weekly school hours</b>
Lectures	3
Laboratory Workshop	1
Other Activities	6

Nevertheless the previous table can be shown into greater detail, taking into account the following overall distribution:

– 40 hours of lectures, with 50% theoretical demonstration and 50% solving type problems.

– 10 hours of laboratory workshop, in 1 or 2 hour sessions.

– 6 hours of written assessment tests, one hour per test.

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&mdash; 4 hours of PPT presentations.

&mdash; 90 hours of personal study,  
divided up over the 15 weeks of the 2<sup>nd</sup> semester.

There is a tutorial calendar timetable set by the teacher that can be requested by the students who want a tutorial.

### 5.3.Syllabus

The program that the student is offered to help you achieve the expected results includes the following activities. These activities involve the active participation of students, so as to achieve the learning outcomes will be developed, non redundant to the above, the following activities:

- Face generic Activities:

Theoretical classes: theoretical concepts of the subject will be explained and illustrative practical examples to support the theory will be developed when deemed necessary.

Practical classes: problems and case studies to complement the theoretical concepts studied will be made.

Practices: Students will be divided into several groups of no more than 20 students / as, being tutored by the teacher.

- Non-contact Generic activities:

Study and assimilation of the theory presented in lectures.

Understanding and assimilation of problems and solved in practical classes practical cases.

Preparation of seminars, solving proposed problems, etc.

Preparation of practices, development of scripts and reports.

Preparation of the written tests of continuous assessment and final examinations.

- Tutored autonomous Activities: Although have more of a face character have been taken into account partly for their idiosyncrasies, they will be focused mainly on seminars and tutorials under the supervision of the teacher.

- Reinforcement activities: In marked distance character through a virtual learning portal (Moodle) various activities that reinforce the basic contents of the subject be addressed. These activities can be customized or not, controlling their realization through it.

The subject consists of 6 ECTS credits, which represents 150 hours of work the student / a in the subject during the semester, ie 10 hours per week for 15 weeks of lessons.

A summary of the indicative temporal distribution of a school week can be seen in the following table. These values &#8203;&#8203;are obtained from the record of the subject of Memory Verification degree, taking into account the degree of experimentalism considered for this subject is low.

Activity

Notwithstanding the above table it may be more detailed, taking into account the global distribution following:

- 26 hours of lectures, with 40% of theoretical presentation and 60% resolution of such problems.

- 30 hours of practice sessions 2 hours.

- 4 hours of tests evaluatorias written, at two hour test.

- 6 Hours seminars and group tutorials.

- 32 hours of exercises and tutored projects, spread over the 15-week semester.

- 50 hours of personal study, spread over the 15-week semester.

In the following table, the indicative schedule which includes the development of the activities presented above, may vary depending on the development of teaching shown.

Content

Topic 1: The graphic expression and Topography

Practice 1: Sketching

Topic 1: The graphic expression and Topography

Practice 2: Guidance from the National Geodetic Network

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Practice 3: cartographic resources IDEs  
Item 2: Notions of geodesy: Coordinates.  
Practice 4: Identification of surveying equipment  
Item 2: Notions of geodesy: Coordinates.  
Practice 5: Managing teams: Parking  
Examination items 1 and 2  
Practice 6: Managing teams: Establishing local reference system  
Item 3: Instruments and measuring elements in the surveys and stakeout.  
Practice 7: Handling equipment: Lift ET  
Item 3: Instruments and measuring elements in the surveys and stakeout. problems  
Practice 8: Importing data for digital terrain modeling.  
Item 4: Methods in topographic surveys and stakeout.  
Practice 9: Generation of surfaces with survey data.  
Item 4: Methods in topographic surveys and stakeout. Examples and problems  
Practice 10: Generation and export stakeout files from modified digital model.  
Item 5: topographical applications in building works with GNSS systems.  
Practice 11: Leveling.  
Item 5: topographical applications in building works. GNSS systems.  
Practice 12: stakeout ET  
Item 6: Stakeout  
Practice 13: stakeout Level  
Item 6: Stake: problems  
Practice 14: Survey and stakeout with GNSS  
Practical tests evaluation.

### 5.4.Course planning and calendar

Planning & timetable

Class hall sessions & work presentations  
timetable

The dates of the final exams will be those  
that are officially published at  
<http://www.eupla.es/secretaria/academica/examenes.html>.

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The planning orientation shown below

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&mdash; Week 1, 2, 3 and 4: Topic 1.

&mdash; Week 5 and 6: Topic 2.

&mdash; Week 7, 8 and 9 : Topic 3.

&mdash; Week 10: Topic 4.

&mdash; Week 11: Topic 5.

&mdash; Week 11 and 12: Topic 6.

&mdash; Week 13: Topic 7.

&mdash; Week 14 and 15: Topic 8.

Resources

Materials.

### Material

### Format

Topic theory notes

Paper/repository

Topic problems

Topic theory notes

Digital/Moodle

Topic presentations

E-Mail

Topic problems

Related links

Educational software

Web page

### 5.5. Bibliography and recommended resources

- Domínguez García-Tejero, Francisco. Topografía general y aplicada / Francisco Domínguez García-Tejero . - 8a. ed. corr. y aum. Madrid : Dossat, 1984
- Problemas resueltos de topografía / Mercedes Delgado Pascual... [et al.] Salamanca : Ediciones Universidad de Salamanca, 2000
- Muñoz San Emeterio, Carlos. Problemas básicos de topografía : planteados y resueltos / Carlos Muñoz San Emeterio. - 1ª edición Madrid : Bellisco, 2005
- Santamaría Peña, Jacinto.. Manual de prácticas de Topografía y Cartografía / Jacinto Santamaría Peña, Teófilo Sanz Mendez . - 1ª edic. Logroño : Universidad de La Rioja, Servicio de Publicaciones, 2005.
- González Cabezas, Antonio Miguel. Lecciones de topografía y replanteos / Antonio Miguel González Cabezas . - 4ª ed. San Vicente (Alicante) : Club Universitario, D. L. 2008
- Crespell i Serra, Josep. Replanteo de obras de edificación/ Josep Crespell i Serra. - 1ª edición Madrid : Tornapunta, 2012