Last update: 17-03-2014

250148 - TFG - Bachelor's Thesis

Coordinating unit: 250 - ETSECCPB - Barcelona School of Civil Engineering

Teaching unit: 250 - ETSECCPB - Barcelona School of Civil Engineering

Academic year: 2013

Degree: BACHELOR'S DEGREE IN CIVIL ENGINEERING (Syllabus 2010). (Teaching unit Project)

ECTS credits: 12 Teaching languages: Catalan, Spanish, English

Teaching staff

Coordinator: GONZALO RAMOS SCHNEIDER

Others: GONZALO RAMOS SCHNEIDER

Opening hours

Timetable: The TFG must be developed under the supervision of a School professor. Therefore, interviews will be established as necessary for that purpose.

Degree competences to which the subject contributes

Specific:

3066. An original exercise to be done individually and presented and defended before a university tribunal consisting in a project in the sphere of the specific civil engineering technologies synthesising and integrating the competences acquired on the course.

Generical:

3104. Students will learn to identify, formulate and solve a range of engineering problems. They will be expected to show initiative in interpreting and solving specific civil engineering problems and to demonstrate creativity and decision-making skills. Finally, students will develop creative and systematic strategies for analysing and solving problems.

3108. Students will learn to identify and model complex systems and to identify the most suitable methods and tools for defining and solving the associated equations. They will acquire the knowledge and skills to perform qualitative analyses and approximations, estimate the uncertainty of results, formulate hypotheses and define experimental methods through which to validate them, establish compromises, identify principal components and prioritise their work. More generally, students will develop their capacity for critical thought.

3110. Students will learn to plan, design, manage and maintain systems suitable for use in civil engineering. They will develop a systematic approach to the complete life-cycle of a civil engineering infrastructure, system or service, which includes drafting and finalising project plans, identifying the basic materials and technologies required, making decisions, managing the different project activities, performing measurements, calculations and assessments, ensuring compliance with specifications, regulations and compulsory standards, evaluating the social and environmental impact of the processes and techniques used, and conducting economic analyses of human and material resources.

3114. Students will learn to identify market requirements and opportunities and to compile information from which to determine the ideal specifications of a new product, process or service. They will acquire the skills to prepare a basic business plan, define a new product, process or service, and plan and implement the different phases in the design process.

Transversal:

587. ENTREPRENEURSHIP AND INNOVATION - Level 3. Using knowledge and strategic skills to set up and manage projects. Applying systemic solutions to complex problems. Devising and managing innovation in organizations.

590. SUSTAINABILITY AND SOCIAL COMMITMENT - Level 3. Taking social, economic and environmental factors into account in the application of solutions. Undertaking projects that tie in with human development and sustainability.

593. 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.

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584. 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

The TFG may include:

- Construction project
- Basic
- Study or work on some aspect of civil engineering

In any case it must be original work of the student.

If the TFG is a basic project consist of:

1. Memory and Schedules
2. Planes
3. Tender Specifications (may not exist)
4. Budget (there will be at least an economic assessment)

Basic projects are considered, for example, studies of alternative routes, economic feasibility studies of works, background studies, etc ... Your basic character makes it unnecessary to reach the detail in all documents, as in a construction project, but require greater effort in specific aspects of the blueprint, as alternative studies or economic studies.

In case of a construction project will consist of:

1. Memory and Schedules
2. Planes
3. Specification
4. Budget

In this case will be assessed, in particular, that the project is complete in its documents and the student has applied knowledge of various branches of civil engineering: mapping, ground engineering, hydraulic engineering structures .... showing a global view of the fact constructive.

In case of a study must comprise at least:

Summary
Introduction and Objectives
Conclusions
References

Besides all those sections deemed necessary.

The estimated time of writing the TFG is 2 months full time.

The development of the TFG will always be guided by a tutor from the School. That guardian must perform a function of student guidance and advice throughout the writing process, from the time of the selection of the topic. It is also responsible for authorizing or not the presentation of the TFG in a public court. You may not submit any TFG without the express approval of the tutor. Additionally, the student may have an external fixator, not linked to the University.

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Learning objectives of the subject

Students will acquire the skills they need to carry out the final project.

1. Carry out a professionally relevant final project on civil engineering technologies in which they demonstrate the skills acquired on the degree course.

-Familiarize students with the projects as a basic tool professional ingenieros. vast majority of students-Provide an overview of studies, allowing integrate knowledge from all branches of engineering, and develop their creativity. -Deepen important skills an engineer such as decision making, the development of technical documents, work planning, drawing, writing and oral presentation, etc..

Study load

Total learning time: 300h	Hours large group:	0h	0.00%
	Hours medium group:	0h	0.00%
	Hours small group:	120h	40.00%
	Guided activities:	12h	4.00%
	Self study:	168h	56.00%

Content

TFG	Learning time: 120h Laboratory classes: 120h

Description:
TFG Development

Specific objectives:
TFG Development

Qualification system

The rating is decided by a panel of three professors from the School after the public presentation of the TFG.

Regulations for carrying out activities

See Regulation of TFG

Bibliography

Basic:

G. Ramos. Reglamento del TFG.