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CHALLENGES FOR THE THIRD MILLENNIUM

Collaborative workshop: sustainable civil engineering proposals for real settings

E. Roca*, Villares, M. * and Oller, E.*

* Civil Engineering School of Barcelona.
Universitat Politècnica de Catalunya
c/Jordi Girona, 1-3, 08034 Barcelona

elisabet.roca@upc.edu, miriam.villares@upc.edu, eva.oller@upc.edu
<https://camins.upc.edu/>

ABSTRACT

The objective is to familiarize students with real civil engineering problems as posed by social agents (e.g. a city council, a neighbourhood association, etc.) and to foster social responsibility, active and cooperative learning, teamwork and sustainability [1]. A multidisciplinary team accompanies students in finding solutions to problems affecting a region, with the goal of training them in how to sensitively deal with complex urban realities and understand the possible impacts and conflicts of their projects for their region and society.

Methodologically, this training strategy is based on active teamwork and cooperation applied to a real case [2]. It is also influenced by service learning in that local stakeholders explain their problems to the students and ask for solutions.

This initiative is not part of any study plan but is a complementary teaching activity organized by the Civil Engineering School of Barcelona and worth 3 ECTS for participating students. In 2016-2017, the workshop —covering problems related to harbour design, water quality, pedestrian bridges and retaining walls— was conducted in Marina d’Empuriabrava on the Costa Brava, proving to be a very satisfactory experience for students, teachers and local stakeholders in terms of learning and proposals. In 2017-2018 the workshop will be held in El Vendrell (Tarragona). It is planned to make ongoing improvements in terms of time organization and teamwork evaluation.

REFERENCES

- [1] Tilbury, D. *Education for Sustainable Development: An Expert Review of Processes and Learning*. UNESCO: Paris, France.
- [2] R.M. Felder, D.R. Wooks J.E. Stice, A. Rugarcia, The future of engineering education II. Teaching methods that work, *Chem. Engr. Education*, 2000, Vol. 34(1), pp. 26-39.