Last update: 04-11-2015

250463 - ENGSOSDESE - Sustainability and Development Engineering

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

Teaching unit: 751 - DECA - Department of Civil and Environmental Engineering

Academic year: 2015

Degree: MASTER'S DEGREE IN CIVIL ENGINEERING (RESEARCH TRACK) (Syllabus 2009). (Teaching unit Optional)
MASTER'S DEGREE IN CIVIL ENGINEERING (PROFESSIONAL TRACK) (Syllabus 2012). (Teaching unit Optional)

ECTS credits: 5 Teaching languages: Catalan, Spanish, English

Teaching staff

Coordinator: AGUSTÍ PÉREZ FOGUET

Others: AGUSTÍ PÉREZ FOGUET

Opening hours

Timetable: Wednesday 12h to 14h. C2 206.

Degree competences to which the subject contributes

Specific:

8208. The ability to analyse and interpret the regulation and impact of infrastructure and their repercussions for sustainable development, taking into account economic, environmental, social and cultural factors.

Teaching methodology

The course consists of 3 hours per week of classroom activity.

Support material in the form of a detailed teaching plan is provided using the virtual campus ATENEA: content, program of learning and assessment activities conducted and literature.

Learning objectives of the subject

Specialization subject in which knowledge on specific competences is intensified.

Knowledge and skills at specialization level that permit the development and application of techniques and methodologies at advanced level.

Contents of specialization at master level related to research or innovation in the field of engineering.

Acquire a general knowledge of the roles that technology and engineering play in development processes, with special emphasis on sustainability and human development approaches.
Acquire capacities to integrate the requirements of sustainability in engineering practice and in the process of technological innovation.

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Study load

Total learning time: 125h	Theory classes:	19h 30m	15.60%
	Practical classes:	9h 45m	7.80%
	Laboratory classes:	9h 45m	7.80%
	Guided activities:	6h	4.80%
	Self study:	80h	64.00%

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Content

Development

Learning time: 18h

Theory classes: 6h
Laboratory classes: 1h 30m
Self study : 10h 30m

Description:
Approach to the state of the world.
Concepts, theories and strategies.
International cooperation and humanitarian continuous.

Sustainability

Learning time: 18h

Theory classes: 6h
Laboratory classes: 1h 30m
Self study : 10h 30m

Description:
Approach to the state of the world.
Concepts, theories and strategies.
Systems.

Human development

Learning time: 18h

Theory classes: 6h
Laboratory classes: 1h 30m
Self study : 10h 30m

Description:
Needs approach.
Capability approach.
Human and social capital.

Engineering

Learning time: 18h

Theory classes: 6h
Laboratory classes: 1h 30m
Self study : 10h 30m

Description:
Infrastructure.
Professional sectors.
Management and decision making.

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Science and technology	Learning time: 21h 36m Theory classes: 6h Laboratory classes: 3h Self study : 12h 36m

Description:
Concepts and classifications.
Society and Environment.
Science and Technology for Sustainability.

Qualification system

The mark of the course is obtained 50% from of continuous assessments (activities A01 to A05) and 50% from the final exam (activity A06).

Regulations for carrying out activities

Failure to perform continuous assessment activity in the scheduled period will result in a mark of zero in that activity.

Bibliography

Basic:

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Mulder, K.. Desarrollo sostenible para ingenieros. Barcelona: Edicions UPC, 2007.

Boni, A., Pérez-Foguet, A.. Construir la ciudadanía global desde la universidad. Barcelona: Intermón OXFAM, 2006.

Pérez-Foguet, A., Morales, M., Saz-Carranza, A.. Introducción a la Cooperación al Desarrollo para las Ingenierías. Barcelona: ISF - UPC, 2005.

Fukuda-Parr, S., Lopes, C., Malik, K.. Capacity for Development: New solutions to old problems. Earthscan, 2002.

UNDP. Human Development Report. New York: Ediciones Mundi-Prensa, (annual report).

World Bank. World Development Report. New York: Ediciones Mundi-Prensa, (annual report).