



Guía docente

220043 - 220043 - Sostenibilidad en el Entorno Construido

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Unidad responsable: Escuela Superior de Ingenierías Industrial, Aeroespacial y Audiovisual de Terrassa
Unidad que imparte: 758 - EPC - Departamento de Ingeniería de Proyectos y de la Construcción.

Titulación: GRADO EN INGENIERÍA EN TECNOLOGÍAS INDUSTRIALES (Plan 2010). (Asignatura optativa).
GRADO EN INGENIERÍA EN TECNOLOGÍAS AEROESPACIALES (Plan 2010). (Asignatura optativa).
GRADO EN INGENIERÍA EN VEHÍCULOS AEROESPACIALES (Plan 2010). (Asignatura optativa).
GRADO EN INGENIERÍA MECÁNICA (Plan 2009). (Asignatura optativa).

Curso: 2020 **Créditos ECTS:** 3.0 **Idiomas:** Inglés

PROFESORADO

Profesorado responsable: MARTA GANGOLELLS SOLANELLAS

Otros:

METODOLOGÍAS DOCENTES

The course is divided into parts:

- Theory classes
- Practical classes
- Self-study for doing exercises and activities.

In the theory classes, teachers will introduce the theoretical basis of the concepts, methods and results and illustrate them with examples appropriate to facilitate their understanding.

In the practical classes (in the classroom), teachers guide students in applying theoretical concepts to solve problems, always using critical reasoning. We propose that students solve exercises in and outside the classroom, to promote contact and use the basic tools needed to solve problems.

Students, independently, need to work on the materials provided by teachers and the outcomes of the sessions of exercises/problems, in order to fix and assimilate the concepts.

The teachers provide the syllabus and monitoring of activities (by ATENEA).

OBJETIVOS DE APRENDIZAJE DE LA ASIGNATURA

HORAS TOTALES DE DEDICACIÓN DEL ESTUDIANTADO

| Tipo | Horas | Porcentaje |
|----------------------------|-------|------------|
| Horas grupo grande | 30,0 | 40.00 |
| Horas aprendizaje autónomo | 45,0 | 60.00 |

Dedicación total: 75 h



CONTENIDOS

(CAST) Energy certification and energy saving measures applied to the built environment

Descripción:

(CAST) Introduction to energy consumption in the built environment
Introduction to the legal framework related to the energy efficiency in buildings
Limitation of buildings' energy demand. Software LIDER.
Energy certification of buildings. Software CALENER.
Energy saving measures
Real experiences on the integration of smart technologies (energy metering and sensor-actuator networks) in residential and tertiary buildings.

Actividades vinculadas:

(CAST) Project developed in small groups related to an energy certification and proposal of energy performance improvements. Each group will choose the building object of analysis.
During some sessions, small exercises will be conducted in the class individually or in small groups and some others will be virtual.

Dedicación: 75h

Grupo grande/Teoría: 30h

Aprendizaje autónomo: 45h

SISTEMA DE CALIFICACIÓN

The final grade depends on the following assessment criteria:

- Project (part 1), weight: 35 %
- Project (part 2), weight: 35 %
- Class activities, weight: 30 %

Non-satisfactory results in the project will be able to be redirected by improving the project individually after highlighting weak points. All the students have the right to improve the project. The improved project will have to be delivered the day scheduled by the school within the period of final exams. Marks in the improved project can range from 0 to 10. Only the best mark will be taken into account.