



Course guide

240222 - 240AU062 - Legislation and Homologation

Last modified: 16/05/2023

Unit in charge: Barcelona School of Industrial Engineering
Teaching unit: 712 - EM - Department of Mechanical Engineering.

Degree: MASTER'S DEGREE IN INDUSTRIAL ENGINEERING (Syllabus 2014). (Optional subject).
MASTER'S DEGREE IN AUTOMOTIVE ENGINEERING (Syllabus 2019). (Compulsory subject).

Academic year: 2023 **ECTS Credits:** 4.5 **Languages:** Spanish

LECTURER

Coordinating lecturer: Mª Antonia de los Santos

Others: Carles Luján Tutusaus

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

CEAU 1. (ENG) Realitzar models d'enginyeria, aplicar mètodes innovadors en la resolució de problemes i aplicacions informàtiques adequades, per al disseny, simulació, optimització i control de processos i sistemes.

General:

CGAU 1. Ability to apply appropriate knowledge of mathematical aspects, analytical, scientific, instrumental, technological and management, the resolution of the problems of the automotive

Basic:

CB 8. (ENG) Que els estudiants siguin capaços de d'integrar coneixements i enfrentar-se a la complexitat de formular judicis a partir d'una informació que, essent incompleta o limitada, inclogui reflexions sobre les responsabilitats socials i ètiques vinculades a l'aplicació del seus coneixements i judicis.

TEACHING METHODOLOGY

Master classes
Guided autonomous learning
Cooperative learning

LEARNING OBJECTIVES OF THE SUBJECT

General objectives:

- Provide generic knowledge of the regulations applicable to the approval and certification of vehicles.

Specific objectives:

- Understand the regulatory framework applicable to the approval of vehicles, in their different variants and applied to different regions worldwide.
- Understand the procedures for approval and certification, as well as the roles and responsibilities of the actors involved.
- Understand the mechanisms for generating regulations applicable to vehicle approval and certification.



STUDY LOAD

| Type | Hours | Percentage |
|-------------------|-------|------------|
| Hours large group | 27,0 | 24.00 |
| Self study | 72,0 | 64.00 |
| Hours small group | 13,5 | 12.00 |

Total learning time: 112.5 h

CONTENTS

Introduction

Description:

Introduction to the concepts of approval and certification

Specific objectives:

- Know the concepts and definitions associated with homologation and certification
- Get to know the actors involved in the procedures of approval and certification and their roles and responsibilities

Related activities:

- Interactive classes

Related competencies :

CGAU 1. Ability to apply appropriate knowledge of mathematical aspects, analytical, scientific, instrumental, technological and management, the resolution of the problems of the automotive

CEAU 1. (ENG) Realitzar models d'enginyeria, aplicar mètodes innovadors en la resolució de problemes i aplicacions informàtiques adequades, per al disseny, simulació, optimització i control de processos i sistemes.

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Full-or-part-time: 8h

Theory classes: 3h

Self study : 5h



Homologation types

Description:

Vehicles homologation in accordance with the applicable regulations in the EU

Specific objectives:

- Know the regulations applicable to the European type homologation, as well as the different possible alternatives.
- Analyze the procedures from the point of view of the different actors involved in the process

Related activities:

- Interactive classes, methodology LbP (Learning by Projects).

Related competencies :

CGAU 1. Ability to apply appropriate knowledge of mathematical aspects, analytical, scientific, instrumental, technological and management, the resolution of the problems of the automotive

CEAU 1. (ENG) Realitzar models d'enginyeria, aplicar mètodes innovadors en la resolució de problemes i aplicacions informàtiques adequades, per al disseny, simulació, optimització i control de processos i sistemes.

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Full-or-part-time: 16h

Theory classes: 6h

Self study : 10h

Homologation of functions, systems and components

Description:

- Regulations applicable to the approval and certification of functions, systems and components related to:

- o Active Security
- o Passive security
- o Environment

Specific objectives:

- Know the technical and administrative requirements applicable to the approval of the different functions, systems and components.
- Analyze, for different types of vehicle, the applicability of the regulatory requirements.
- Elaborate the procedures and define the technical means necessary for the homologation of certain functions, systems and components.
- To analyze, from the point of view of a car manufacturer, the implications in the design of the regulations studied.
- Compare comparatively the requirements applicable in different regions of the world

Related activities:

- Interactive classes, methodology LbP (Learning by Projects).

Related competencies :

CGAU 1. Ability to apply appropriate knowledge of mathematical aspects, analytical, scientific, instrumental, technological and management, the resolution of the problems of the automotive

CEAU 1. (ENG) Realitzar models d'enginyeria, aplicar mètodes innovadors en la resolució de problemes i aplicacions informàtiques adequades, per al disseny, simulació, optimització i control de processos i sistemes.

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Full-or-part-time: 84h

Theory classes: 27h

Self study : 57h



GRADING SYSTEM

NEP: Partial exam mark

NEF: Final Exam mark

NLL: mark of deliveries during the course

NT: mark of the rapord and defense work

Final Note: Max (0.3NEF + 0.1NEP; 0.4NEF) + 0.1NLL + 0.5NT

The reassessment exam will replace the NEF and NEP mark