

Course guide

330537 - LMN - Legislation and Regulatory Framework

Last modified: 04/05/2023

Unit in charge: Manresa School of Engineering
Teaching unit: 750 - EMIT - Department of Mining, Industrial and ICT Engineering.

Degree: BACHELOR'S DEGREE IN AUTOMOTIVE ENGINEERING (Syllabus 2017). (Optional subject).

Academic year: 2023 **ECTS Credits:** 3.0 **Languages:** Catalan, Spanish

LECTURER

Coordinating lecturer: Vives Costa, Jordi

Others: Alberto Fernández Benítez

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

CE12. Knowledge and use of materials resistance principles and ability to calculate structures of a vehicle.
CE14. Knowledge of and a capacity for project organisation and management. Knowledge of the organisational structures and the functions of the automobile industry.

Generical:

CG1. Ability to write and develop projects in the field of automotive engineering for the construction, renovation, repair, maintenance, recycling, manufacture, installation, assembly or operation of: structures, mechanical equipment, energy installations, electrical and electronic installations, plants and industrial plants and manufacturing and automation processes.
CG10. The ability to work in a multilingual and multidisciplinary environment.
CG11. Ability to write and develop projects for vehicles and/or their components.
CG6. Ability to handle specifications, regulations and mandatory standards, as well as the specific legislation applicable to this area.
CG7. A capacity for analysing and assessing the social and environmental impact of technical solutions.

Transversal:

02 SCS N3. 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.
05 TEQ N3. TEAMWORK - Level 3. Managing and making work groups effective. Resolving possible conflicts, valuing working with others, assessing the effectiveness of a team and presenting the final results.
06 URI N3. EFFECTIVE USE OF INFORMATION RESOURCES - Level 3. Planning and using the information necessary for an academic assignment (a final thesis, for example) based on a critical appraisal of the information resources used.

Basic:

CB1. Students will be able to demonstrate their knowledge of a field of study that builds on secondary education and is usually found at a level that, while supported by advanced textbooks, also includes aspects that involve knowledge of the latest developments in the field of study.
CB2. Students will be able to apply their knowledge to their work or vocation in a professional manner and demonstrate that they possess the competencies that are typically demonstrated by elaborating and defending arguments and solving problems in the field of study.
CB3. That students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical issues.
CB4. Students can transmit information, ideas, problems and solutions to a specialized and non-specialized audience.

TEACHING METHODOLOGY

MD1 Master class or conference (EXP)
MD2 Problem solving and case studies (PR)
MD5 Project, activity or reduced workload (PR)
MD7 Evaluation activities (EV)

LEARNING OBJECTIVES OF THE SUBJECT

The course aims to provide basic knowledge about the regulations to be complied with as well as the procedures to be followed in the processes to obtain:

- the approval of a vehicle
- the type-approval of functional units
- the approval of components and/or parts of a vehicle
- the major reform of a vehicle

STUDY LOAD

Type	Hours	Percentage
Hours small group	15,0	20.00
Hours large group	15,0	20.00
Self study	45,0	60.00

Total learning time: 75 h

CONTENTS

Content 1 - Vehicle classification criteria. The vehicle identification documents.

Description:

Definitions, classification and regulatory criteria for vehicle fleet regulation.
Degrees of completion: 1st and 2nd phase manufacturers.
The Technical Data Sheet, the MOT Card and the Road Traffic Licence.

Specific objectives:

Know the legislative framework that classifies, orders and regulates the different types of vehicles.
Knowing the identification and control documentation associated with a vehicle.

Related activities:

Specific work on content (Activity 1)
Individual Test (Activity 5)

Related competencies :

CG1. Ability to write and develop projects in the field of automotive engineering for the construction, renovation, repair, maintenance, recycling, manufacture, installation, assembly or operation of: structures, mechanical equipment, energy installations, electrical and electronic installations, plants and industrial plants and manufacturing and automation processes.
CG6. Ability to handle specifications, regulations and mandatory standards, as well as the specific legislation applicable to this area.

Full-or-part-time: 10h

Theory classes: 2h
Laboratory classes: 2h
Self study : 6h



Content 2 - Approvals

Description:

Type-approval and regulatory acts. EU directives and regulations on type-approval.
Procedure for the approval of complete vehicles.

Specific objectives:

Knowing the regulatory framework for approvals of vehicles and their components

Related activities:

Specific work on content (Activity 2)
Individual Test (Activity 5)

Related competencies :

CG1. Ability to write and develop projects in the field of automotive engineering for the construction, renovation, repair, maintenance, recycling, manufacture, installation, assembly or operation of: structures, mechanical equipment, energy installations, electrical and electronic installations, plants and industrial plants and manufacturing and automation processes.

CG7. A capacity for analysing and assessing the social and environmental impact of technical solutions.

CG11. Ability to write and develop projects for vehicles and/or their components.

CE14. Knowledge of and a capacity for project organisation and management. Knowledge of the organisational structures and the functions of the automobile industry.

02 SCS N3. 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.

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CB4. Students can transmit information, ideas, problems and solutions to a specialized and non-specialized audience.

Full-or-part-time: 20h

Theory classes: 4h

Laboratory classes: 4h

Self study : 12h



Content 3 - The vehicle modifications

Description:

Typification of vehicle refurbishment. RD 866/2010. Refurbishment manual. The technical project. The final work certificate. Technical services. The conformity report. The garage certificate.

Specific objectives:

Knowing the regulatory framework that governs vehicle refurbishment and its adaptation to certain uses.

Related activities:

Specific work on content (Activity 3)

Individual Test (Activity 5)

Related competencies :

CG10. The ability to work in a multilingual and multidisciplinary environment.

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CG6. Ability to handle specifications, regulations and mandatory standards, as well as the specific legislation applicable to this area.

CG11. Ability to write and develop projects for vehicles and/or their components.

CE14. Knowledge of and a capacity for project organisation and management. Knowledge of the organisational structures and the functions of the automobile industry.

CE12. Knowledge and use of materials resistance principles and ability to calculate structures of a vehicle.

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CB3. That students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical issues.

Full-or-part-time: 20h

Theory classes: 4h

Laboratory classes: 4h

Self study : 12h



Content 4 - Calculation and justification of reforms

Description:

Most common reforms in cars. Masses and dimensions. Chassis calculation. Calculation of the fixings. Vehicle stability. Dump truck. Truck crane. Vehicles with coupling devices. Trailers. Truck with lifting platform. Exterior and interior bodywork reforms. Refurbishment of suspension system. Tyres. Housing vehicles.

Specific objectives:

To know the basis of calculation for the justification of reforms.

Related activities:

Specific activity on contents (Activity 4)
Individual Test (Activity 5)

Related competencies :

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Full-or-part-time: 25h

Theory classes: 5h

Laboratory classes: 5h

Self study : 15h

GRADING SYSTEM

10 % Activity 1
20 % Activity 2
10 % Activity 3
40 % Activity 4
20 % Activity 5

RESOURCES

Hyperlink:



- EUR-Lex [en línia]. Luxemburgo: Oficina de Publicaciones Oficiales de las Comunidades Europeas, 2020. [Consulta: 3 setembre 2020]. Disponible a "><https://eur-lex.europa.eu/homepage.html?locale=es>>. EU Law Portal
- Espanya. Real Decreto 750/2010, de 4 de junio, por el que se regulan los procedimientos de homologación de vehículos de motor y sus remolques, máquinas autopropulsadas o remolcadas, vehículos agrícolas, así como de sistemas, partes y piezas de dichos vehículos. A: Boletín oficial del Estado [en línia]. Madrid: BOE, 24 junio 2010, no. 153, p. 1 a 157 [Consulta: 3 setembre 2020]. Disponible a: "><https://www.boe.es/buscar/pdf/2010/BOE-A-2010-9994-consolidado.pdf>>. RD 750/2010
- Espanya. Real Decreto 866/2010, de 2 de julio, por el que se regula la tramitación de las reformas de vehículos [en línia]. Madrid: BOE, 14 julio 2010, no. 170, p. 61860 a 61869 [Consulta: 3 setembre 2020]. Disponible a: ">https://www.boe.es/diario_boe/txt.php?id=BOE-A-2010-11154>. RD 866/2010

Other resources:

On the ATENEA digital campus