

SUBJECT TEACHING GUIDE

G601 - Fuel Technology

Degree in Energy Resources Engineering First Degree in Energy Resources Engineering

Academic year 2024-2025

1. IDENTIFYING DATA					
Degree	Degree in Energy Resources Engineering First Degree in Energy Resources Engineering			Type and Year	Compulsory. Year 3 Compulsory. Year 3
Faculty	School of Mines and Energy Engineering				
Discipline	Subject Area: Technology of Mineral and Energy Resources Module: Training in Energy Resources, Fuels and Explosives				
Course unit title and code	G601 - Fuel Technology				
Number of ECTS credits allocated	6	Term	Semester based (2)		
Web					
Language of instruction	Spanish	English Friendly	Yes	Mode of delivery	Face-to-face

Department	DPTO. TRANSPORTES Y TECNOLOGIA DE PROYECTOS Y PROCESOS				
Name of lecturer	JAVIER SEDANO CIBRIAN				
E-mail	javier.sedano@unican.es				
Office	E.P. de Ingeniería de Minas y Energía. Planta: + 2. DESPACHO (232)				
Other lecturers					

3.1 LEARNING OUTCOMES

- Once the course has been passed, students will have learnt both theoretical and practical aspects on the different available options of fuels, their distinctive features, main applications, suitable alternatives, use specifications, procurement processes and commercial framework.

4. OBJECTIVES

The objectives are the acquisition theoretical and practical aspects about the different fuels, their distinctive features, main applications, suitable alternatives, use specifications, procurement processes and knowledge trade framework.

6. SUBJECT PROGRAM	
CONTENTS	
1	CHAPTER I: Fuels. Definition. Origin. Classification.
2	CHAPTER II: Solid fuels. Coal Science and Technology. Genesis and petrography. Coal preparation. Carbon storage. Coal properties. Theory of combustion processes. Theory of flame. Studies and calculations of the reactions during combustion.
3	CHAPTER III: Gaseous fuels. Oil. Origin and composition. General aspects. Gasolines. Naphtha. Kerosene. Diesel and fuel oils. Tests and regulations. Transport and storage.

7. ASSESSMENT METHODS AND CRITERIA				
Description	Type	Final Eval.	Reassessn	%
Final exam	Written exam	Yes	Yes	60,00
Individual essay	Work	No	Yes	20,00
Individual essay/ group work	Work	No	Yes	20,00
TOTAL				100,00
Observations				
<p>The student must get a minimum score of 4.5/10. If those mandatory conditions were not obtained, the final score would be calculated as the minimum between 4.9 and the weighted average of the different evaluation items. Any passed item would be kept for the extraordinary evaluation.</p> <p>The final exam will be held on-site. However, if Health and Educational Authorities suspended in-class activities, it will be developed through Moodle, and monitored by means of Skype Business.</p>				
Observations for part-time students				
Part-time students will be evaluated according to the Regulations of the University of Cantabria. In addition to passing the final exam, they will be offered the possibility to hand the essays individually, on a date to be agreed with them.				

8. BIBLIOGRAPHY AND TEACHING MATERIALS
BASIC
Apuntes de la asignatura. Ciencia y Tecnología del Carbón. Andrés Pulgar Díaz y María del Rosario Olay Lorenzo. Universidad de Oviedo (2003) Ciencia y Tecnología de los Combustibles Derivados del Petróleo. Andrés Pulgar Díaz. Universidad de Oviedo (2003)
Apuntes de la asignatura. Facilitados por el profesor.