

SUBJECT TEACHING GUIDE

G1675 - Energy in the World Today

Degree in Early Childhood Education
Degree in Primary Education Teaching

Academic year 2021-2022

1. IDENTIFYING DATA			
Degree	Degree in Early Childhood Education Degree in Primary Education Teaching		Type and Year Optional. Year 3 Optional. Year 3
Faculty	School of Teacher Training		
Discipline	SUBJECT: ENERGY IN THE WORLD TODAY Module: Complementary or Specialised Training		
Course unit title and code	G1675 - Energy in the World Today		
Number of ECTS credits allocated	6	Term	Semester based (1)
Web			
Language of instruction	English	Mode of delivery	Face-to-face

Department	DPTO. FISICA APLICADA		
Name of lecturer	ALFREDO FRANCO PEREZ		
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Other lecturers	ANDREA FERNANDEZ PEREZ		

3.1 LEARNING OUTCOMES

- Acquisition of physical concept of energy in all its forms. Understanding the meaning, value and quantification of the "sources of energy." Understanding the current situation regarding reserves, use and perspectives of different current and alternative energy proposals and socioeconomic implications involved.
- Knowledge of energy units and operational knowledge and ability to calculate the transformations between them.

4. OBJECTIVES

Acquisition of the physical concept of energy in all its forms. Understanding the meaning, value and quantification of "energy sources". Understanding the current situation regarding resources, use and perspectives of the various current and alternative energy proposals and related socio-economic implications.

6. COURSE ORGANIZATION

CONTENTS

1	1. Energy comes in many forms: mechanical, thermal, chemical, nuclear, electromagnetic ... energy. Forces, work and heat: expressions and most common units.
2	2. Transformation of energy: major processes of transformation of energy. Thermal and electrical machines.
3	3. Fossil fuels: coal, oil, gas, shale Origin and consumption. Advantages and disadvantages.
4	4. Nuclear energy: nuclear fission and fusion. Advantages and disadvantages.
5	5. Renewable energy: hydro, solar, wind, biomass, tidal, ocean thermal. Expectations, advantages and disadvantages.
6	6. The energy in the world: economy and politics, environment, public perception, sustainability expectations.

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
The practical work will consist of different oral presentations, individual and / or in group, with the subsequent debate, made during the class hours, related to the contents that are being taught. By its very nature, therefore, it is not recoverable.	Others	No	No	20,00
The continuous evaluation will consist of a set of tests and written and / or verbal exercises, carried out during the class hours, in which the student will show the conceptual, vocabulary and operative level that will be acquired as the program is deliv	Others	No	No	30,00
Students will take a final written exam as scheduled on the school calendar.	Written exam	Yes	Yes	50,00

TOTAL 100,00

Observations

PLAGIARISM:

In case of fraudulent (plagiarism) of the evaluation tests, the fraudulent accomplishment of the tests or evaluation activities will directly suppose the qualification of suspense '0' in the subject. It also implies to consider invalid any mark related to any assessment activity considered for an extraordinary assessment. Such situation will be informed to the Academic Center, as stated in ther article number 32 of the University of Cantabria regulations for assessment methods.

CITATION RULES:

Finally, the School Board approved that the Faculty assumes the APA RULES for all academic work as citation criteria . Although these standards have different editions, as an initial reference we attach the BUC link, hoping that this will be helpful and a reference for its development: <http://web.unican.es/buc/recursos/guias-y-tutoriales/guia ? g = 28>

MARKS IN CASE THAT THE MINIMUM MARK IS NOT REACHED IN A TEST.

If a student does not get the minimum required mark to approve an assessment test, then the subject global mark will be the minimum between 4,9 and the arithmetic mean of all the assessment tests, as it is stated in the article 35 of University of Cantabria regulations for assessment methods.

CONTINUOUS EVALUATION.

As it is stated in the assessment methods section, the students will be able to get, at least, the 40% of their final marks before the last lecture of the course, considering both the laboratory sessions and the works developed during the classes. In such a way, the article 17 of the University of Cantabria regulations for assessment methods is accomplished (at the end of the lectures period, the students had to be completed, at least, 40% of all the assessment activities involved in the subject final mark).

Observations for part-time students

In agreement with article 24 of the University of Cantabria regulation for assessment methods, part-time students have the right to a unique assessment. Part-time students may be subject of a unique assessment process. The unique assessment allows the part-time student to get the same marks than the students under continuous evaluation. The unique assessment may be exam and/or deliverable works. In some exceptional circumstances may be required to be present and to show proficiency in some face-to-face acitivities (laboratory sessions, clinical activities, seminars, etc.).

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

- ¿How much bioenergy can Europe produce without harming the environment?. / 2006. -- Luxemburgo. : OPOCE.
- World energy outlook 2011 / International Energy Agency ; [directed by Fatih Birol]. -- Paris : Organization for Economic Co-operation and Development (OECD) :International Energy Agency. 2011.
- Energy : physical, environmental, and social impact / Gordon J. Aubrecht. -- 3rd ed. -- Upper Saddle River : Pearson Prentice Hall, cop. 2006.
- ENERGY : readings from scientific american / with introductions by S. Fred Singer. -- San Francisco : W. H. Freeman, cop. 1979.
- ENERGY resources and the environment / general editors, John Lenihan and William W. Fletcher. -- Glasgow ; London : Blackie, cop. 1975.
- Ciencia ambiental : un estudio de interrelaciones / Eldon D. Enger, Bradley F. Smith ; con contribuciones de Anne Todd Bockarie - México, D.F. : McGraw-Hill, 2006.
- Energías renovables / Jaime González Velasco. -- Barcelona : Reverté, [2009]
- Energías renovables / Francisco Jarabo Friedrich, Nicolás Elortegui Escartín. -- 2ª ed. -- Madrid : S.A.P.T. Publicaciones Técnicas, 2000.
- Energía y conflictos internacionales : política, tecnología y cooperación / Emilio Menéndez Pérez, Andrés Elías Feijóo Lorenzo. -- [Oleiros (La Coruña)] : Netbiblo, [2005]
- <http://www.eia.gov/energyexplained/>