SUBJECT TEACHING GUIDE

G1675 - Energy in the World Today

Double Degree in Teaching in Early Childhood Education and Primary Education
Degree in Early Childhood Education
Degree in Primary Education Teaching
Academic year 2023-2024

1. IDENTIFYING DATA				
Degree	Double Degree in Teaching in Early Childhood Education and Primary Education		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
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Other lecturers	GUILLERMO SERRERA PARDUELES

3.1 LEARNING OUTCOMES
- To understand and assimilate the basic concepts and principles related to energy in all its facets , its economic and social importance and its prospects in the immediate future.
- To understand and know the qualitative and quantitative measurement methods and procedures related to the different forms of energy and their equivalences.
- To value, through this subject, the mutual influence between science, society and technological development to ensure a sustainable future.

4. OBJECTIVES
Acquisition of the physical concept of energy in all its forms.
To understand the meaning, value and quantification of the "energy resources".
To understand the current situation regarding to the reserves , use and perspectives of the current different energy proposals and their alternatives, as well as their corresponding 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, carried out during the class hours, related to the contents that are being taught. Due to its nature, it is not recoverable.	Others	No	Yes	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 taugh	Others	No	Yes	30,00
Students will take a final written exam on the date scheduled by the university.	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).

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.

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 delivered.

EXTRAORDINARY CALL:
Students who do not pass the subject in the ordinary call will have an extraordinary exam similar to the final exam of the ordinary call, whose value will be 100% of the final grade.

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

- MacKay, D. (2008). Sustainable Energy-without the hot air. UIT Cambridge.
- Muller, R. A. (2012). Energy for future presidents: the science behind the headlines. WW Norton & Company.
- Davis, L. (2018). Body physics: Motion to metabolism. Open Oregon Educational Resources.