UNIVERSIDAD DE CASTILLA - LA MANCHA

GUÍA DOCENTE

1. General information

Course: DESIGN OF POWER STATIONS BASED ON SOURCES OF RENEW
Code: 56425
Type: ELECTIVE
ECTS credits: 6
Degree: 355 - UNDERGRADUATE DEGREE PROGRAMME IN ELECTRICAL ENGINEERING (AB)
Academic year: 2023-24
Center: 605 - SCHOOL OF INDUSTRIAL ENGINEERS. AB
Group(s): 10
Year: Sin asignar
Duration: First semester
Main language: Spanish
Second language: English
Use of additional languages:
English Friendly: Y
Web site:
Bilingual: N

Lecturer: **SERGIO MARTIN MARTINEZ** - Group(s): **10**

Building/Office	Department	Phone number	Email	Office hours
Infante Don Juan Manuel -0C4	INGENIERÍA ELÉCTRICA, ELECTRÓNICA, AUTOMÁTICA Y COMUNICACIONES	926053631	sergio.martin@uclm.es	

2. Pre-Requisites

Not established

3. Justification in the curriculum, relation to other subjects and to the profession

Not established

4. Degree competences achieved in this course

Course competences

Code	Description
A03	To have the capability to gather and interpret relevant data (normally within the area of study) to make judgements that include a reflection on themes of a social, scientific or ethical nature.
A04	To be able to transmit information, ideas, problems and solutions to both a specialist and non-specialist audience.
A10	Ability to produce and develop projects in the field of Electrical Engineering aimed at, and in accordance with the knowledge acquired as established in section 5 of Order CIN/351/2009, the construction, remodelling, repair, conservation, demolition, manufacturing, installation, assembly or use of: structures, mechanical equipment, power installations, electrical and electronic installations, industrial plants and installations and processes of manufacture and automatization.
A13	Ability to take the initiative to solve problems, take decisions, creativity, critical reasoning and ability to communicate and transmit knowledge, skills and abilities in Electrical Engineering.
A15	Ability to work to specifications and comply with obligatory rules and regulations.
A16	Ability to analyse and evaluate the social and environmental impact of technical solutions.
F07	Ability to design power plants, especially those based on renewable energy sources.

5. Objectives or Learning Outcomes

Course learning outcomes

Description

Analyze the viability of projects and how they are carried out

6. Units / Contents

Unit 1:
Unit 2:
Unit 3:
Unit 4:

7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures	A03 A04 A10 A13 A15 A16 F07	1.08	27	Y	N	
Problem solving and/or case studies [ON-SITE]	Project/Problem Based Learning (PBL)	A03 A04 A10 A13 A15 A16 F07	0.5	12.5	Y	N	
Class Attendance (practical) [ON-SITE]	Practical or hands-on activities	A03 A04 A10 A13 A15 A16 F07	0.52	13	Y	Y	
Writing of reports or projects [OFF-SITE]	Case Studies	A03 A04 A10 A13 A15 A16 F07	1.8	45	Y	N	
Final test [ON-SITE]	Assessment tests	A13 A15 A16 F07	0.3	7.5	Y	Y	

Writing of reports or projects [OFF-SITE]	Project/Problem Based Learning (PBL)	A10 A13 A15 A16 F07	1.8	45	Y	N
		Total:	**6**	**150**		
		Total credits of in-class work: 2.4				**Total class time hours: 60**
		Total credits of out of class work: 3.6				**Total hours of out of class work: 90**

As: Assessable training activity
Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

8. Evaluation criteria and Grading System

Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Laboratory sessions	40.00%	40.00%	
Theoretical exam	60.00%	60.00%	
Total:	**100.00%**	**100.00%**	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject , an ordinary and an extraordinary one (evaluating 100% of the competences).

9. Assignments, course calendar and important dates

Not related to the syllabus/contents

Hours	**hours**

Unit 1 (de 4):

Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	8
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	2
Class Attendance (practical) [PRESENCIAL][Practical or hands-on activities]	3
Writing of reports or projects [AUTÓNOMA][Case Studies]	10
Final test [PRESENCIAL][Assessment tests]	1.5
Writing of reports or projects [AUTÓNOMA][Project/Problem Based Learning (PBL)]	5

Unit 2 (de 4):

Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	6
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	4
Class Attendance (practical) [PRESENCIAL][Practical or hands-on activities]	4
Writing of reports or projects [AUTÓNOMA][Case Studies]	15
Final test [PRESENCIAL][Assessment tests]	2.5
Writing of reports or projects [AUTÓNOMA][Project/Problem Based Learning (PBL)]	20

Unit 3 (de 4):

Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	9
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	4.5
Class Attendance (practical) [PRESENCIAL][Practical or hands-on activities]	4
Writing of reports or projects [AUTÓNOMA][Case Studies]	10
Final test [PRESENCIAL][Assessment tests]	1.5
Writing of reports or projects [AUTÓNOMA][Project/Problem Based Learning (PBL)]	10

Unit 4 (de 4):

Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	2
Class Attendance (practical) [PRESENCIAL][Practical or hands-on activities]	2
Writing of reports or projects [AUTÓNOMA][Case Studies]	10
Final test [PRESENCIAL][Assessment tests]	2
Writing of reports or projects [AUTÓNOMA][Project/Problem Based Learning (PBL)]	10

Global activity

Activities	**hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	27
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	12.5
Class Attendance (practical) [PRESENCIAL][Practical or hands-on activities]	13
Writing of reports or projects [AUTÓNOMA][Case Studies]	45
Final test [PRESENCIAL][Assessment tests]	7.5
Writing of reports or projects [AUTÓNOMA][Project/Problem Based Learning (PBL)]	45
Total horas:	150

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	City	ISBN	Year	Description
Antonio Gómez Expósito	Análisis y operación de sistemas de energía eléctrica	McGraw-Hill			2002	

FERNANDEZ SALGADO, JOSE Mª	COMPENDIO DE ENERGIA SOLAR: FOTOVOLTAICA, TERMICA Y TERMOELECTRICA		9788484764007	2010
J.L. Rodríguez, J.C. Burgos, S. Arnalte Gómez	Sistemas eólicos de producción de energía eléctrica	Rueda	84-7202-139-1	2003
Manuel-Alonso Castro Gil, Roque Calero Pérez, José Antonio Carta González, Antonio Colmenar Santos.	Centrales de energías renovables : generación eléctrica con energías renovables	UNED Pearson Educación	978-84-8322-600-1	2009
	Apuntes de la asignatura			