UNIVERSIDAD DE CASTILLA - LA MANCHA

GUÍA DOCENTE

1. General information

Course: POWER STATIONS
Code: 56413
Type: CORE COURSE
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: 3
Duration: First semester
Main language: Spanish
Second language:
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
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Lecturer: **RAQUEL VILLENA RUIZ** - Group(s): **10**

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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
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.
D09	Ability to design power stations.

5. Objectives or Learning Outcomes

Course learning outcomes

Description
Ability to interpret and design protection systems in a power station
Ability to apply mandatory legislation and regulations that regulate the design and construction of power stations
Knowledge of the constructive aspects of installations allocated to the production of electrical energy
Knowledge of the mechanisms for the technical and economic mangement of a power station

Additional outcomes

6. Units / Contents

Unit 1:
Unit 2:
Unit 3:
Unit 4:
Unit 5:

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	A15 A16 D09	1.52	38	N	-	
Laboratory practice or sessions [ON-SITE]	Practical or hands-on activities	A15 A16 D09	0.56	14	Y	Y	
Study and Exam Preparation [OFF-SITE]	Self-study	A15 A16 D09	3.6	90	N	-	
Final test [ON-SITE]	Assessment tests	A15 A16 D09	0.32	8	Y	Y	
		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	15.00%	15.00%	
Theoretical papers assessment	15.00%	15.00%	
Final test	70.00%	70.00%	
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**
Class Attendance (theory) [PRESENCIAL][Lectures]	38
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	14
Study and Exam Preparation [AUTÓNOMA][Self-study]	90
Final test [PRESENCIAL][Assessment tests]	8

Global activity

Activities	**hours**
Final test [PRESENCIAL][Assessment tests]	8
Class Attendance (theory) [PRESENCIAL][Lectures]	38
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	14
Study and Exam Preparation [AUTÓNOMA][Self-study]	90
Total horas:	150

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
	Asociación Española de la Industria Eléctrica www.unesa.es					
	Boletín Oficial del Estado www.boe.es					
	Comisión Nacional de los Mercados y la Competencia (CNMC) https://www.cnmc.es/					
	OMIE http://www.omie.es/inicio					Operador de los mercados eléctricos para toda la Península Ibérica
	Red Eléctrica de España www.ree.es					Operador de la red de transporte del sistema eléctrico español.
España. Ministerio de Industria, Energía y Turismo	RCE : reglamento sobre centrales eléctricas, subestaciones y centros de transformación. http://www.minetur.gob.es/	Ministerio de Industria, Energía y Turismo		978-84-7474-921-2	2006	
J. Sanz Feito	Centrales Eléctricas	ETSII de Madrid			1993	
José Antonio Carta González, Roque Calero Pérez, Antonio Colmenar Santos y Manuel Alonso Gil	Centrales de Energías Renovables	Prentice Hall		978-8483226001	2009	
Miguel Cañas Carretón	Apuntes de la asignatura https://campusvirtual.uclm.es					
Orille Fernández, A. L.	Centrales Eléctricas	UPC		84-89636-52-4 (T.III	1997	
Orille Fernández, A. L.	Centrales eléctricas	UPC		84-7653-341-1 (T. II	1995	
Paulino Montané	Protecciones en las instalaciones eléctricas : evolución y perspectivas	Marcombo		84-267-0688-6	1993	
	GAMS					Software para realizar problemas de

	https://www.gams.com/				optimización, despacho económico, etc...
Antonio J. Conejo Navarro; Luis Baringo	Power system operations	Springer	978-3-319-69406-1	2017	Libro que explica paso a paso los fundamentos de operación de sistemas eléctricos con ejemplos mediante GAMS y Octave.
	https://www.springer.com/la/book/9783319694061				
Antonio Gómez Expósito	Análisis y operación de sistemas de energía eléctrica	MacGraw-Hill	84-481-3592-X	2002	
Ramírez Vázquez, José.	Centrales eléctricas /	CEAC	84-329-6006-3	1980	
Ramírez Vázquez, José.	Máquinas motrices generadores de energía eléctrica : en ciclo	CEAC	84-329-6005-5	1980	
Fraile Mora, Jesús (1946-)	Máquinas eléctricas /	McGraw-Hill,	978-84-481-6112-5	2008	