

DADES GENERALS

Curs acad3mic	Curs 2024/2025
Tipus de curs	Master de Formaci3 Permanent
Nombre de cr3dits	60,00 Cr3dits ECTS
Matr3cula	3.000 euros (import preu p3blic)
Requisits d'acc3s	
Modalitat	On-line
Lloc d'impartici3	Online

Horari

Direcci3

Organitzador	Escola T3cnica Superior d'Enginyeria (ETSE-UV)
Direcci3	Jos3 Gabriel Torres Pa3s Profesor/a Titular de Universidad. Departament d'Enginyeria Electr3nica. Universitat de Val3ncia Mar3a Teresa Gil Agust3 Responsable del 3rea de Qu3mica Aplicada, Biotecnolog3a y Nuevos Materiales. Instituto Tecnol3gico de la Energ3a Consuelo G3mez-Zarzuela Quel Technical training team leader. Power Electronics S.L.

Terminis

Preinscripci3 al curs	Fins a 01/11/2024
Data inici	Octubre 2024
Data fi	Juliol 2025

M3s informaci3

Tel3fon	961 603 000
E-mail	informacio@adeituv.es

PROGRAMA

- 1.1 The energy system: present and future.
- 1.2 Importance of energy storage - flexibility needs and the role of battery storage.
- 1.3 Introduction to batteries.
- 1.4 Battery storage: potential and applications and challenges.
- 1.5 Battery Energy Storage: Grid-Scale.
- 1.6 Battery Energy Storage: Behind the meter.
- 1.7 Battery Energy Storage: Electrical Mobility.
- 1.8 Battery Energy Storage: Industrial Applications.

- 2.1 Electrochemical concepts behind batteries.

- 3.1 Current Battery Technologies.
- 3.2 Emerging battery Technologies.
- 3.3 Raw materials.

- 4.1 Production and manufacturing.

- 5.1 Introduction to Power Electronic Converters.
- 5.2 Power conversion and efficiency in battery system.

- 6.1 Power electronics and grid connection.
- 6.2 Battery management systems.

- 7.1 Battery testing.
- 7.2 Modeling, control and simulation of batteries.

8.1 Batteries end of life: Reuse and recycling.

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- 9.1 Business Modeling.
 - 9.2 Investment scenarios and business models for battery energy storage systems.
 - 9.3 European Legislation and Policy.
 - 9.4 Cost assessment of battery-based storage solutions.
 - 9.5 Business Models and Business examples.

The contents of the Master's Thesis will be different depending on the specific objectives of the project to be carried out. The subject of the Master's thesis can be all those that are specific to the Master's studies. In particular, all kinds of systems and devices may be designed, using any procedure as current engineering allows. The Master's Thesis may also include research and development work, as well as and the theoretical or numerical modeling of systems and their components. It may also be considered as subjects of the Master's Thesis may also include studies related to the contents of the Degree and related to equipment, factories, installations, services, planning, management or operation. Therefore, the contents of the the subject will be different depending on the specific Master's thesis selected by the student.

PROFESSORAT

Andrea Amaro PÃ©rez

Investigador/a en FormaciÃ³n VAL I+D. Departamento de IngenierÃ­a ElectrÃ³nica. Universitat de ValÃ¨ncia

RocÃ­o Cano JimÃ©nez

Battery Technician

RamÃ³n Manuel FernÃ¡ndez Domene

Ayudante/a Doctor/a. Departament d'Enginyeria QuÃ­mica. Universitat de ValÃ¨ncia

MarÃ­a Teresa Gil AgustÃ¡

Responsable del Ã¡rea de QuÃ­mica Aplicada, BiotecnologÃ­a y Nuevos Materiales. Instituto TecnolÃ³gico de la EnergÃ­a

Juan Gilabert Marzal

Ingeniero Industrial Ã¡rea de Alta TensiÃ³n y Materiales. Instituto TecnolÃ³gico de la EnergÃ­a

Consuelo GÃ³mez-Zarzuela Quel

Technical training team leader. Power Electronics S.L.

Lorena JimÃ©nez Chillarron

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Rita SÃ¡nchez Tovar

Profesor/a Titular de Universidad. Departament d'Enginyeria QuÃ­mica. Universitat de ValÃ¨ncia

Benjamin Eduardo Solsona Espriu

CatedrÃ¡tico/a de Universidad. Departament d'Enginyeria QuÃ­mica. Universitat de ValÃ¨ncia

Javier TomÃ¡s CatalÃ¡i

Director Universidad Corporativa. Power Electronics EspaÃ±a, S.L.

JosÃ© Gabriel Torres PaÃ±s

Profesor/a Titular de Universidad. Departament d'Enginyeria ElectrÃ³nica. Universitat de ValÃ¨ncia

Daniel Valero BeltrÃ¡i

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Leire Zubizarreta Saenz De Zaitegui

Doctora en QuÃ­mica. Ã¡rea de QuÃ­mica Aplicada, BiotecnologÃ­a y Nuevos Materiales del Instituto TecnolÃ³gico de la EnergÃ­a (ITE)