CONTACT

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PARTNER WITH A COOPERATION AGREEMENT

1. Ikerlan
2. CEIT
3. Tekniker
4. Cidetec
5. Tecnalia
6. CENER
7. Instituto Tecnológico de Canarias (ITC)
8. Jema
9. Hidrógeno Aragón
10. Ingeteam
11. Ormaizabal
12. National Instrument
13. Goiener
14. Usurbilgo Lanbide Heziketa and Tknika

MASTER IN CONTROL IN SMARTGRIDS AND DISTRIBUTED GENERATION

www.ehu.eus
INTRODUCTION & OBJECTIVES

This master’s degree has been designed in conjunction with a large number of international companies and several research centres in order to ensure a high placement rate.

The master’s degree has several special features:
- The main language of instruction is English.
- Classes taught in 2 centres: Faculty of Engineering of Gipuzkoa (Donostia-San Sebastian and Ibad) and ESTIA Institute of Technology (Biarritz, 30 min from Donostia-San Sebastian).
- Possibility of a double-degree programme with ESTIA.

The aim of this master’s degree is to train specialists to model, simulate, control, operate and manage smart grids and distributed generation.

This master’s degree will allow students to:
- Acquire high-level skills, allowing them to be recruited quickly.
- Acquire practical experience thanks to the intensive collaboration with companies.
- Master English, which has become an essential language with which to grow professionally.
- Have the possibility of carrying out a PhD.
- Contribute to a sustainable economic and social development.

ENTRY PROFILE

The degrees that give access to the master’s degree are:
- Degree in Industrial Electronic Engineering & Automation
- Degree in Industrial Technology Engineering
- Degree in Renewable Energy Source Engineering
- Degree in Electrical Engineering
- Other equivalent university degrees (at the discretion of the academic committee).

CAREER OPPORTUNITIES

Graduates will be able to work as designers, project managers, researchers or maintenance managers in the sector of power systems, of course, but also in others sectors such as transport, machine tools, etc.

TRAINING SYLLABUS

Compulsory subjects:
- Introduction to Smart grids 3 ECTS
- Grids Operation and Control 3 ECTS
- Communications in Smart grids 3 ECTS
- Power Converters 3 ECTS
- Modelling and Control of Storage Systems and Associated Converters 3 ECTS
- Disturbances and Protections in Smart grids 3 ECTS
- Control of the Machine-Side Converter-Generator Set 4.5 ECTS
- Dynamic Modelling of Distributed Generation Sources 3 ECTS
- Management and Control of Smart grids and Microgrids 4.5 ECTS
- Component Connection to the Grid by DC/AC Converters 3 ECTS
- Implementation of Smart grids Control Algorithms 3 ECTS
- Modelling and Control of Renewable Generation Farms and Participating with Ancillary Services 3 ECTS
- Seminars and Visits 3 ECTS
- Application to Concrete Projects 6 ECTS

Optional subjects:
- Research Methodology 3 ECTS
- Industrial Informatics 3 ECTS
- Introduction to the Electric Power System 3 ECTS
- Modelling and Control of Wind Turbines 3 ECTS
- Optimisation of Energy Management 3 ECTS

Internship and final project:
- Internship 18 ECTS
- Final project 12 ECTS

STUDY LOAD

Compulsory subject courses 51 ECTS credits
Optional subject courses 9 ECTS credits
Practices and final project 30 ECTS credits
Total 90 ECTS credits