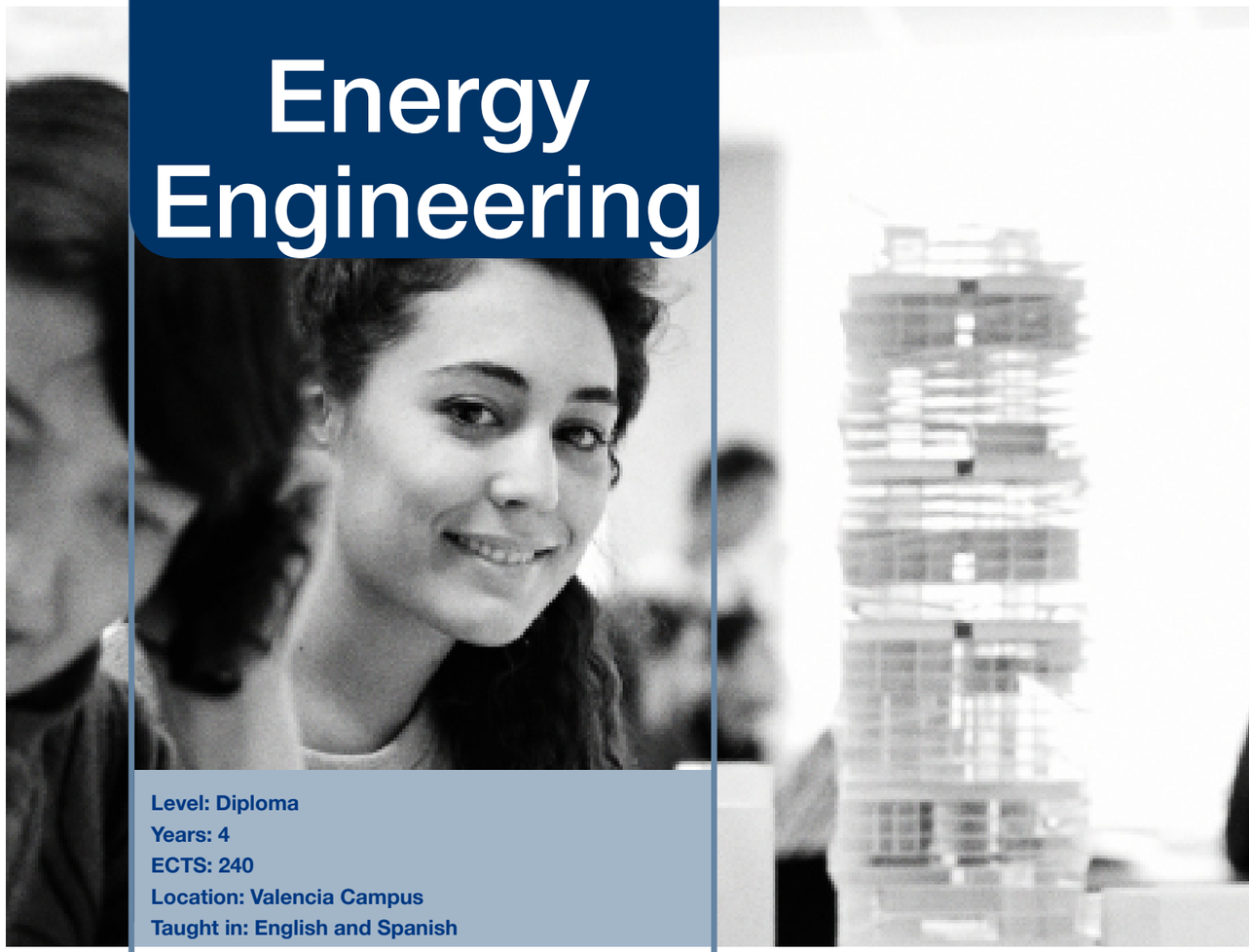
# Energy Engineering



**Level: Diploma**
**Years: 4**
**ECTS: 240**
**Location: Valencia Campus**
**Taught in: English and Spanish**

## What will you learn?

As a strand of Industrial Engineering, Energy Engineering shares skills and understanding with the core subjects of the Industrial Organisation Degree, and shares units with Industrial Engineering in general and Industrial Technology. The syllabus aims to provide students with solid technical and scientific training in Energy Technology and Management. The course been specially designed so that the skills you acquire will (along with extra training) allow you to apply for the Masters in Industrial Engineering.

The specialisation obtained with the Energy Engineering Degree will, essentially, allow professionals to take on the design, planning and management of energy installations and their components. This involves the generating, transport, distribution and consumption of energy as well as the efficient use of the resources available, whether they come from renewable or conventional sources.

## Course Content

| FIRST YEAR | | ECTS | Types |
|---|---|---|---|
| 1st semester | Maths I | 6 | CM |
| | Physics I | 6 | CM |
| | IT | 6 | CM |
| | Technical Graphic Expression | 6 | CM |
| | Philosophical Anthropology | 6 | OB |
| 2nd semester | Maths II | 6 | CM |
| | Physics II | 6 | CM |
| | Chemistry | 6 | CM |
| | Business | 6 | CM |
| | Social Doctrines of the Church | 6 | OB |

| SECOND YEAR | | ECTS | Types |
|---|---|---|---|
| 1st semester | Introduction to Business Organisation | 6 | OB |
| | Material Science and Resistance | 6 | OB |
| | Thermodynamics | 6 | OB |
| | Introduction to Electrical and Electronic Engineering | 6 | OB |
| | Statistics | 6 | CM |
| 2nd semester | Heat Transferring | 6 | OB |
| | Material Production Technology | 6 | OB |
| | Fluid Mechanics | 6 | OB |
| | Introduction to Automated Systems Engineering | 6 | OB |
| | Differential Equations and Numerical Methods | 6 | CM |

| THIRD YEAR | | ECTS | Types |
|---|---|---|---|
| 1st semester | Thermal Energy and Heat Generation | 6 | OB |
| | Thermal Cycles and Cogeneration | 6 | OB |
| | Power Electricity and Electronics | 6 | OB |
| | System Mechanics | 6 | OB |
| | Environmental Technology and Residue Management | 6 | OB |
| 2nd semester | Renewable Energy I | 6 | OB |
| | Nuclear Technology | 6 | OB |
| | Material Technology in Power Applications | 6 | OB |
| | Machine Technology and Fluid Mechanics Systems | 6 | OB |
| | Computerisation and Control or Business Innovation and Creation | 6 | OP |

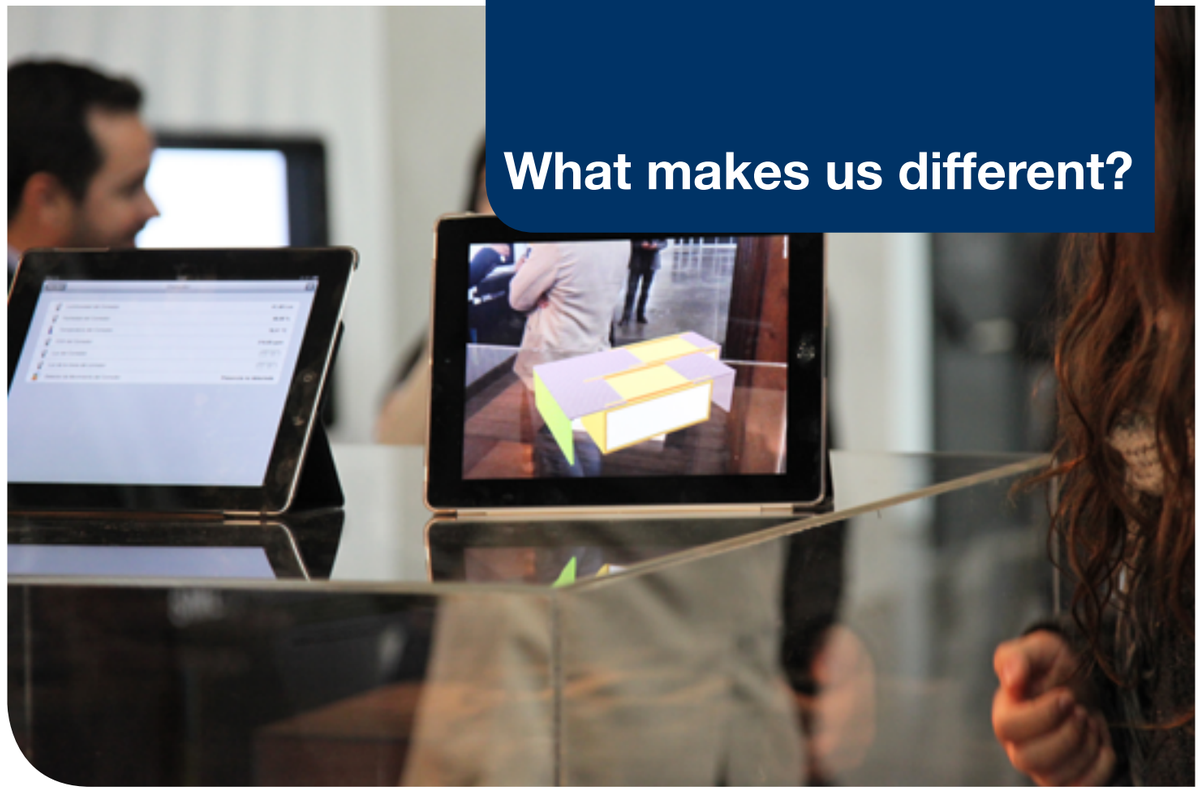
| FIFTH YEAR | | ECTS | Types |
|---|---|---|---|
| 1st semester | Renewable Energy II | 6 | OB |
| | Storing and Transporting Energy | 6 | OB |
| | Economics, Law and Energy Markets | 6 | OB |
| | Machine Technology and Electric Drive Systems | 6 | OB |
| | Constructions and Installations I | 6 | OB |
| 2nd semester | Projects | 6 | OB |
| | Efficiency and Energy Audits | 6 | OB |
| | Constructions and Installations II | 6 | OB |
| | Final Year Project | 12 | FYP |
| | **TOTAL** | **240** | |

CM Core Modules | OB Obligatory | OP Optional | PR Practical | FYP Final Year Project

CEU
*Universidad Cardenal Herrera*

**Plus d'information:** Tel + 34 96 136 90 02/03 - admission@uchceu.es

**www.uchceu.es**



# What makes us different?

### International nature: personalised bilingual English and Spanish teaching

We offer bilingual courses in English and Spanish. We have designed our courses this way so that after your degree you will be able to use English whilst working in Spain or abroad.

We know that studying certain architecture subjects in a foreign language isn´t easy which is why we will help you in the following ways:

- We guarantee personalised attention in Spanish in all subjects, in group classes as well as in exams
- 40% to 60% of your subjects will be in English. Each student will have the option to choose their own programme (within these percentages) that will be tailored to their own needs and goals
- We offer free supplementary Spanish classes to help you improve your Spanish level and therefore better your international profile
- We also offer an International Week, an event integrated into the academic calendar when we welcome students and teachers from universities from all over Europe. We focus on common themes and offer various workshops, conferences, architecture competitions, all in English.

### Triple Threat

The Energy Engineering Degree at CEU UCH is enhanced through the fact that it shares skills and fields of knowledge with the following courses:

- Business Management Degree in areas such as economics, accounting, finance and marketing and managing organisations.
- Industrial Organisations Engineering Degree in core subjects, subjects within the Common Industrial Branch and subjects relating to Industrial Technology.
- Computer Systems Information and Communications Engineering and quantitative methods.

### Our teachers are professionals

CEU benefits from having teachers with a high level of professional knowledge in specific subject areas. We offer students a real insight into the dynamics of the profession through opportunities to participate in projects that are relevant to the business world.

### Access to a Masters in Industrial Engineering

At CEU, our Energy Engineering and Industrial Organisation Engineering Degrees have been designed to ensure you develop the required skills needed to comply with the professional responsibilities of an Industrial Engineer and Industrial Technical Engineer as set out in Orden CIN/351/2009 and Orden CIN/311/2009 respectively.

Through this, we maintain consistency in the distribution of subjects so that students gain a general understanding of all the core subjects of Industrial Technical Engineering, and of course an understanding of the requirements needed to access the Masters in Industrial Engineering, which increases your opportunities.

### The Renewable Energy career path

The Technical Training University has, in the last few years, led consolidated research projects associated with renewable energy and energy efficiency. The degree, new to Spain, offers CEU-UCH the chance to expand knowledge through energy engineering research and develop technology transfer projects for the energy sectors of building and sustainable mobility. In the last three years, numerous projects have been carried out in the field of energy development, which has made it possible to form partnerships with businesses and institutions. Two projects recently developed by the University particularly stand out:

- SMLHouse Project, with the participation of Solar Decathlon Europe in 2010 and 2012.
- Project IDEA CEU Car with the participation of the Shell Ecomarathon Europe 2010 and 2012 with a hydrogen prototype.


### National and International Exchange Programmes

You will be able to participate in exchange programmes within Spain with the SICUE-SENECA program, but also further a field in Europe with the ERASMUS+ programme. Likewise, our degree is recognised throughout Europe, which therefore allows you to practice your profession in other countries, such as Morocco.