Master Master in Electric Power Systems and Drives

2024-2025

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www.upc.edu/masters-sessions

Now, UPC masters degrees!

Register to the information sessions
1. UPC/ETSEIB introduction
2. Master Master in Electric Power Systems and Drives
3. Q & A
**UPC / ETSEIB**

<table>
<thead>
<tr>
<th>Category</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>Students</td>
<td>29,812</td>
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<tr>
<td>Faculty (PDI)</td>
<td>3,523</td>
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<td>Faculty (PAS)</td>
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<tr>
<td>Master’s Degrees</td>
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<tr>
<td>Master’s Degrees</td>
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<td>Doctoral Programs</td>
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<td>Departments</td>
<td>16</td>
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<td>Institutes</td>
<td>2</td>
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<td>Bachelor Degrees (GETI, GETIAE)</td>
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<tr>
<td>Master’s Programs</td>
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<td>Administrative and Support</td>
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**UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH**

18 centres docents
275 programas de formació permanent
19 patents el darrer any
348 M pressupost 2023
72,7 M ingressos per R+D+I (2021)
70,151 Alumni

**ETSEIB**

Now, UPC masters degrees!
ETSEIB: Escola Tècnica Superior d’Enginyeria Industrial de Barcelona

Over 170 years of educating professionals with a very strong scientific and technical foundation

https://etseib.upc.edu/
Modern power systems challenges

• Wind and solar power plants
• Electrical mobility (electrical vehicle engineering and charging infrastructure)
• Industry electrification
• Renewables integration in power systems
• Systems dominated by power electronics
• Modern regulation and energy markets
• New toolboxes to be applied: data science, artificial intelligence
Structure

• 60 ECTS – 1 year
• Mandatory courses (15 ECTS) Foundations of electrical power engineering: Energy markets, Electric power converters, Power systems
• Optative courses (30 ECTS) – Three tracks:
  1. Electrical machines, equipment and drives
  2. Electrical systems
  3. Energy economics, management and electrical markets
     – Possibility of not following any specific track and freely choose the courses.
• Master thesis (15 ECTS)
Main characteristics

• Research and development oriented
• 100 % in English
• Possibility of participate in R&D in UPC groups:
  – Working in collaboration with industry (operators, developers, manufacturers, administrations)
  – Developing national and international research projects (Horizon 2020, Horizon Europe, others)
• Possibility to do additional internships and theses in relevant companies (manufacturers, developers, operators, consultants)
• In the environment of ETSEIB-UPC, with substantial participation of international students
External opportunities

Board of companies and centers providing support. Board members provide support in some of the following items:

• Offer scholarships to students while working in the university in projects related to the company interests.
• Offer internships at the company to conduct the Master thesis or to work in a R&D project.
• Offer future employment in the company.
• Present the company to the Master students including examples of R&D activities in industry.
• Organize visits of the students to the company.
• Advise on Master contents
• Additional contributions
Examples of Master theses

• Design of wind turbine converters for large type 4 wind turbines with multiple converter sections
• Design and testing on micro-grid controllers
• Optimization of the planning of the transmission systems of an island with plans to install renewables
• Design of HVDC transmission systems for offshore wind
• Design of the motor for an electrical bike
• Bidirectional chargers for vehicle-to-grid applications
• Supergrids for offshore wind integration
• Future energy markets for renewables integration
• Application of Artificial Intelligence techniques for failure detection in power systems
• Design of battery management system (BMS) algorithms for maximizing the useful life of batteries
• Minimizing the risk of discharges in high voltage systems
How to apply

(https://etseib.upc.edu/en/Academic%20programmes/academic-procedures/acces/application-msc-programmes)

- **Application**
  Deadline: 13th of May 2024

- **Acceptance (Academic Comission)**
  June 2024

- **Provisional listing of accepted students**
  Before the end of June 2024

- **Students' acceptance**
  Up to 7 days from the publication of the listing

- **Definitive listing of accepted students**
  Mid-July 2024

- **Enrolment**
  Check information at website etseib.upc.edu
How to apply

(https://etseib.upc.edu/en/Academic%20programmes/academic-procedures/acces/application-msc-programmes)

How to apply:

Apply UPC Admissions: Application

To validate the request, it is necessary to complete the information for every field:

- Personal data
- Academic details
- Required documentation

- Application (*) (choose 3 specialty options for the master required)
- Data protection
- Pre-enrolment fees (General information about UPC on this page)
Admission and enrollment process

Pre-enrollment in the application:
1. Processing
2. Payment to be confirmed
3. Send

PAYMENT of 300€
(ADVANCED PAYMENT OF ENROLMENT FEES)

Welcome session

Acceptance of the place

Submission of original documents and delivery of copies

Enrollment on line or in person

START of the Master’s degree

Please, check that all the required documentation has been submitted

documentation review

validation of complete applications

Admission (Publication of the final list of applicants admitted)

objection/appeal period

Admission (Publication of the provisional list of applicants admitted)
... further information

FAQ's

Check the most frequently asked questions in this document.

International Relations and Admissions Office

Face-to-face opening office hours:
from Monday to Friday 11 am to 1:30 pm
and Tuesday 3:00 pm to 17:30 pm

Information request: https://demana.upc.edu/etseib/

📞 +34 93 401 59 27
Thank you for your attention

admissions.etseib@upc.edu