Electricity Management and Digital

Applied graduate studies

Language: English

Duration: 16 months

The Electricity Management and Digital program offers a training with a unique balance between technical and economic know-how, and managerial and digital skills in the field of production, transport, distribution and consumption of electrical energy. Our training, anchored in industrial reality, prepares you to become experts capable of developing sustainable and economically viable electrical energy solutions.

IFP School's Master's degree/ Specialized engineering degree *(Diplôme d'ingénieur spécialisé)*

The specialized engineering program in Electricity Management and Digital is a multidisciplinary training that deals with the technical, economic and digital optimization of the production, conversion and regulation of electrical energy systems. The impacts of emerging technologies such as renewable energies and charging stations for the electric mobility as well as energy storage systems require a global technological transformation of the electricity systems. This electrical network transformation towards a smart user interface grid can only be successfully carried out by mastering themes which will call upon very diverse scientific , managerial and digital skills. To meet these objectives, this program provides students with a detailed understanding of the operation, modelling, regulation and security of electricity networks as well as the new opportunities and business models that appear in this constantly evolving field. This technical-economic understanding is essential for the digital optimization of the electricity system. This unique program is the result of close collaboration between experts from our Powertrains and Sustainable Mobility, and Energy Economics and Management domains, providing a solid technical and economic training.

CAREER OPPORTUNITIES

Drawing on their technical and economic competencies, the graduates from this program will be able to manage the constraints of quality and availability of electrical energy as well as the operational safety of energy installations. They will ensure the techno-economic management of power systems, efficient data analysis and trends predictions. They will also deal with problems related to the production, transport, distribution and final use of electrical energy.

Find out more: **www.ifp-school.com**

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HIGHLIGHTS

The Electricity Management and Digital Program offers a robust multidisciplinary approach, equipping digital experts with the skills to manage and optimize electricity systems. This program integrates digital technology with technical, economic, and management expertise. You will learn to understand, model, validate, and manage electricity systems within economic constraints, focusing on becoming a decision-maker in sustainable and renewable electricity systems.

Typical class profile

This program is tailored to students with an engineering or a master's degree in engineering disciplines (electrical, chemical, mechanical, energy, IT, etc.), applied sciences or digital technology who wish to pursue a career in the booming sector of energy spreading from renewable energy to the energy market, up to the charging station for the electric mobility and final consumption.

Program content

The program covers 4 main domains, the concepts and methodologies taught being later applied to a final technical and economic development project, followed by a professional integration period within a company (4 to 6 months).

	Economic and Management Sciences	Techniques
Energy (Electricity) Techno-Economics	**TU1** Energies Economics and Management	**TU3** Design & Integration of Power Electronics **TU 4** Power Systems Operation **TU 5** Modelling, Regulation and Optimization of Power Systems **TU 6** Impacts of Renewables, Electric Mobility & Storage on Power Systems
	TU2 Electricity Markets Analysis and Trading	
Data and Quantitative Modeling	**TU 10** Econometric Modelling & Forecasting	**TU 7** Mathematical Optimization & Programming **TU 8** Energy & Digitalization **TU 9** Applied AI and Machine Learning

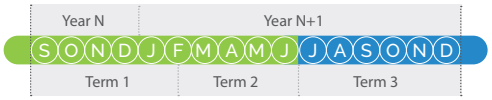
Program schedule

The two examples of schedules shown below correspond to the most frequently encountered cases: a 16-month continuous program for students with a 4- or 5-year degree, and an alternating school/company 16-month program.

IFP School
Company

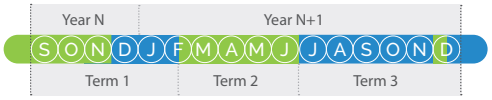
16 months

Continuous program



16 months

Alternating school/company program



Other possible case:
22-month alternating school/company program for students in their penultimate year of a major European school or university having signed a double-degree agreement with IFP School.

22 months

Double-degree

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