



## LE SYSTÈME ÉLECTRIQUE

### ELECTRIC POWER SYSTEM

Lecturers: **Eric VAGNON**

| Lecturers : 16.0 | TC : 0.0 | PW : 0.0 | Autonomy : 0.0 | Study : 12 | Project : 0.0 | Language : FR

#### Objectives

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The electrical system is a major infrastructure of modern societies. The liberalization of the sector in recent years has profoundly changed its management in a large number of countries and particularly in Europe.

The objective of the course is to give the technical basis for understanding the functioning of the electrical system and to present the organization of the system through the role and relationships between the different actors: producers, transmission system operators, balance responsible and consumers.

**Keywords :** Generation, transmission, grid operator, balance of production and consumption, short and long term planning

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#### Programme

The electrical system in the energy context

Generation/consumption balance

Voltage plan

The different actors of the electrical system, their roles and relationships in the context of market liberalization

The planning of the network

Analysis of major incidents

Functioning of the electrical energy market

#### Learning outcomes

- Name the technical or economic constraints and advantages of an extended electrical system
- Differentiate the role of the different players in the electrical system
- Define actions to manage the electrical system
- Interpret and explain changes observed on a network

#### Independent study

Objectifs :

Méthodes :

#### Core texts

P. Bastard et al., *ELECTRICITÉ, VOYAGE AU COEUR DU SYSTÈME.*, Eyrolles, 1999

#### Assessment

Final mark = 70% Knowledge + 30% Know-how