Distributed Generation

**Module label**
Distributed Generation

**Module code**
pre371

**Credit points**
2.0 KP

**Workload**
60 h

**Used in course of study**
- Master's Programme European Master in Renewable Energy (EUREC) > Mastermodule

**Contact person**

**Entry requirements**

**Skills to be acquired in this module**
- By the end of this module, the student will
  - be able to manage theoretical aspects related to power distribution, stability and quality
  - become familiar with the basic theory and practical knowledge about the electric energy
  - get basic knowledge on supply guarantee and power quality topics
  - get basic knowledge on stability issues
  - know the main effects of the introduction of Renewable Energies into the electric grid
  - become familiar with the substations principles
  - get knowledge about the concept of distributed generation and its implications
  - will be able to demonstrate in-depth knowledge of Power Systems operations and Distributed Generation integration in existing grids
  - be able to work effectively as professionals and as team members in order to solve technical problems
  - be able to demonstrate their abilities to communicate effectively in multinational teams

**Module contents**
- Introduction to electric grid
- Security of supply and grid quality
- Stability
- Electric circuits analysis
- Renewable energy impact on the grid
- Laboratory classes (three-phase systems)
- Laboratory classes (reactive energy compensation)
- Models or patterns of consumption. Response / Demand Management
- Basic concepts of power electronics

**Reader’s advisory**
M.Paz Comech, M. García-Gracia: Tecnología eléctica.

**Links**

**Language of instruction**
English

**Duration (semesters)**
1 Semester

**Module frequency**
jährlich

**Module capacity**
unlimited

**Modullevel**
MM (Mastermodul)

**Modulart**
Pflicht

**Lern-/Lehrform / Type of program**
Lecture, Laboratory, Excursion

**Vorkenntnisse / Previous knowledge**

**Examination**

**Time of examination**
After end of lectures of module

**Type of examination**
Written exam (95%): 2 hours
Subject’s work (5%): approx. 4 hours
(Subject’s work refers to the different assignments that students are asked to finish after a preliminary session during the lessons)

**Course type**
Seminar

**SWS**

**Frequency**

**Workload attendance**
0 h