Introduction to Electric Power Transmission: System & Technology

Lecturer
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Date
Wed 10:00-12:00, Fri 13:00-15:00, ETF C1

Hours/Credit points
6 credits

Type
Compulsory core course

Course number
227-0122-00L

Subject

Abstract:
Introduction to theory and technology of electric power systems.

Objective:
At the end of this course, the student will be able to: describe the structure of electric power systems, name the most important components and describe what they are needed for, apply models for transformers and lines, explain the technology of power lines and switchgear, calculate stationary power flows and other basic parameters in simple power systems.

Course Website:
All relevant information and documents will be uploaded to the course “moodle” site. To access this site, log on with your ETH account at:

https://moodle-app2.let.ethz.ch/auth/shibboleth/login.php

If you are registered for the course you should automatically see it under “My courses”. The moodle site also features a forum that you are encouraged to use for any questions you may have. Questions in the forum are preferred over questions via email.

Lecture Script:
The script is available digitally on the moodle site. You can also order a printed version here:

Contact information:
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Contents

Structure of electric power systems, transformer and power line models, analysis of and power flow calculation in basic systems, symmetrical and unsymmetrical three-phase systems, transient current and voltage processes, technology and principle of electric power systems, HVDC and FACTS.