

## COURSE DESCRIPTION

# CHS501 – Transformer I

## Electrical Design

**Course goal**

To study and improve his knowledge on transformer electrical design, design data, application of power transformers, protections, factory tests, power flow and operational control.

**Participant profile**

Design, planning, engineering staff, project manager.  
Experience in the field of electricity network and supply industry.

**Prerequisites**

Electrical or mechanical engineering degree, technical qualifications or equivalent. Basic knowledge about power transmission and distribution.

**Course type**

This course runs as a face-to-face classroom course. Time 9:00AM until 5:00PM CET. Training  
Training with maximum 8-10 participants.

**Learning methods and tools**

Lectures, demo, practical exercises, videos, self-study.

Laptop is not required. Presentations will be given on USB key to the participants.

**Duration**

2 days

**Price**

1700.-CHF / participant

**Topics**

- **Network transformer, generator transformer:** design parameters, fundamental laws, construction rules, basic design, operation rules, cooling, economical aspects for replacement, Vidmar law, etc.

- **Factory tests:** factory type tests, copper losses, short-circuit test, heat run test, etc.

- **Thermal aging and overloading:** aging theory, loading guide, etc.

- **Optimization and management of the energy flow:** regulation of active and reactive power flow with power transformers, economical aspects...

- **Protection of Transformer :** electromechanical protection devices, buchholz relay, overpressure protection devices, thermal image etc.

- **Bushings:** functional aspect, design, technology (OIP, RBP, RIP)

