



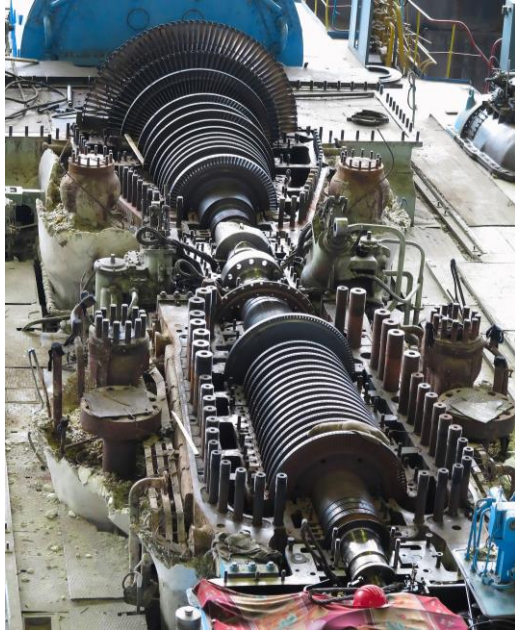
Dept. of Mechanical Engineering | CPD Course

Turbine Plant Engineering

Presented in person at UCT, 4-8 September 2023



Introduction



Steam turbines are some of the most commonly used machines for energy conversion and electricity generation. This focussed course will provide participants with an overview of their operation and how they can be modelled. The course will cover the steam turbine components as well as the associated feedwater heaters and condenser.

The objective of the 5 day, in person course is to present a strong technical overview of the design, operation and maintenance of steam turbines and the associated equipment, such as the feedwater heaters, and to provide power plant engineers and technicians the required fundamentals and general understanding so that they can contribute meaningfully in design modifications, root cause analysis, and specification development for new or replacement equipment.

Course Content

The course will cover various aspects of Turbine Plant Engineering and operation, including:

- Fundamentals of axial turbines, including performance prediction
- Turbine operation, protection and maintenance
- Turbine auxiliary systems, condensate and feedwater train
- Shell and tube feedwater heaters: fundamentals, performance and maintenance.

Course Facilitator



Associate Professor Wim Fuls is an expert in Engineering Design and Process modelling, with 25 years of industrial design experience. He served as design engineer for the SA Air Force and worked on the Spent Fuel Storage System for PBMR, contributing to a Ph.D in Nuclear Engineering from NWU (Potchefstroom). His novel spent fuel storage design was patented internationally by PBMR. He worked as Systems Engineer on the Joule electric vehicle and established an advanced battery development and testing team after promotion to Principal Engineer. Several provisional patents have been registered on the battery design.

He is currently an Associate Professor at the University of Cape Town in engineering design. His major research focus is thermo-hydraulic process models of thermal power plants, with specialisation in steam turbines. He supervises students at Master's and Doctoral level in power plant process modelling. He teaches Engineering Product Design and System Design to final year mechanical engineering students and lectures courses in Power Plant Systems Modeling, Systems engineering and Turbine Plant at postgraduate level.

External to UCT he consults various companies on batteries for storage and mobility applications.

Course Overview

Name	Turbine Plant Engineering
Duration	5 days, 4 – 8 September 2023, 08h30 – 16h30
Venue	Presented in person at the University of Cape Town
Course Fee	In person fee: R12 000
Participants	Suitable for managers, engineers, students, and academics with an interest in the energy sector and related technology. Ideal for professionals working on turbine plant and auxiliary systems.
Format	Face-to-face lectured course at UCT Upper Campus.

Registration

Registration and Cancellation

- [Register online](#)
- Registration covers attendance of all sessions of the course and course material.
- Registrations close one week before the start of the course. Confirmation of acceptance will be sent on receipt of a registration form.
- **Cancellations must be received one week before the start of a course, or the full course fee will be charged.**
- For more information on application and registration procedures, please visit our website: www.cpd.uct.ac.za/cpd/applications

Certificates and CPD points

Participants who attend 80% of the sessions will receive a Certificate of Attendance.

This course is registered with the Engineering Council of South Africa (ECSA) and is approved for 4 CPD points.

Contact details

For more information or details on CPD courses, visit our website or contact us.

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