

Electrical Engineering II

ENGL2191

An introduction to the module

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E108



Module description:

Electrical Engineering 2 (ENGI2191)

Module Structure:

The module contains two inter-link subjects:

Michaelmas Term: Weeks 12-21

Phasors and three phase systems

Epiphany Term: Weeks 26-35

Induction machines and synchronous machines

Easter Term: Week 41

Module revision



Module description:

Module Structure, Part I (Michaelmas):

This module includes 10 lectures.

10 lectures:

Week 12 to week 21, every Thursday 1100-1200

5 problem sheets (Formative):

Two tests will be set every fortnight

Week 13	Week 15	Week 17	Week 19	Week 21
Complex numbers and phasors	Complex power	Power factor correction	Three phase systems	Three phase systems



Module description:

Course Works:

Michaelmas Term:

Group B: Three Phase Systems and Power Factor Correction

Deadline for submission: Monday 13th January 2025 at 2 pm

Epiphany Term:

Group A: Induction Machine

Deadline for submission: Monday 28th April 2025 at 2 pm



Module description:

Office hours, in person or on Zoom:

Fridays: 1200 – 1300

Room E108, Christopherson building

Zoom Meeting ID: 996 4702 5439

Passcode: 785726

Please E-mail me if you want to see me out of these hours:

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Module description:

General description, Part I (Michaelmas):

The module aims to provide the basic knowledge about the electric networks, and its components. This part of the module provides an in depth understanding on components of electric networks and develops analytical skills to analyse simple electric networks under normal operation.

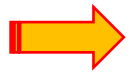
- **Complex numbers and phasors**
- **Circuit analysis in phasor**
- **Complex power and components**
- **Power factor correction or reactive power compensation**
- **Three phase systems**



Module description:



Steam/water



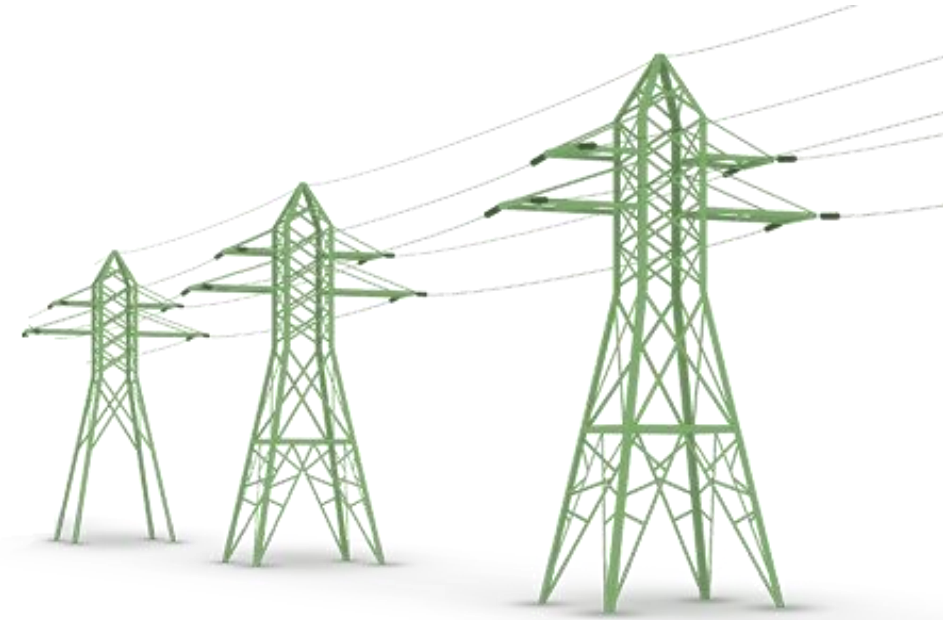
Turbine

P_m

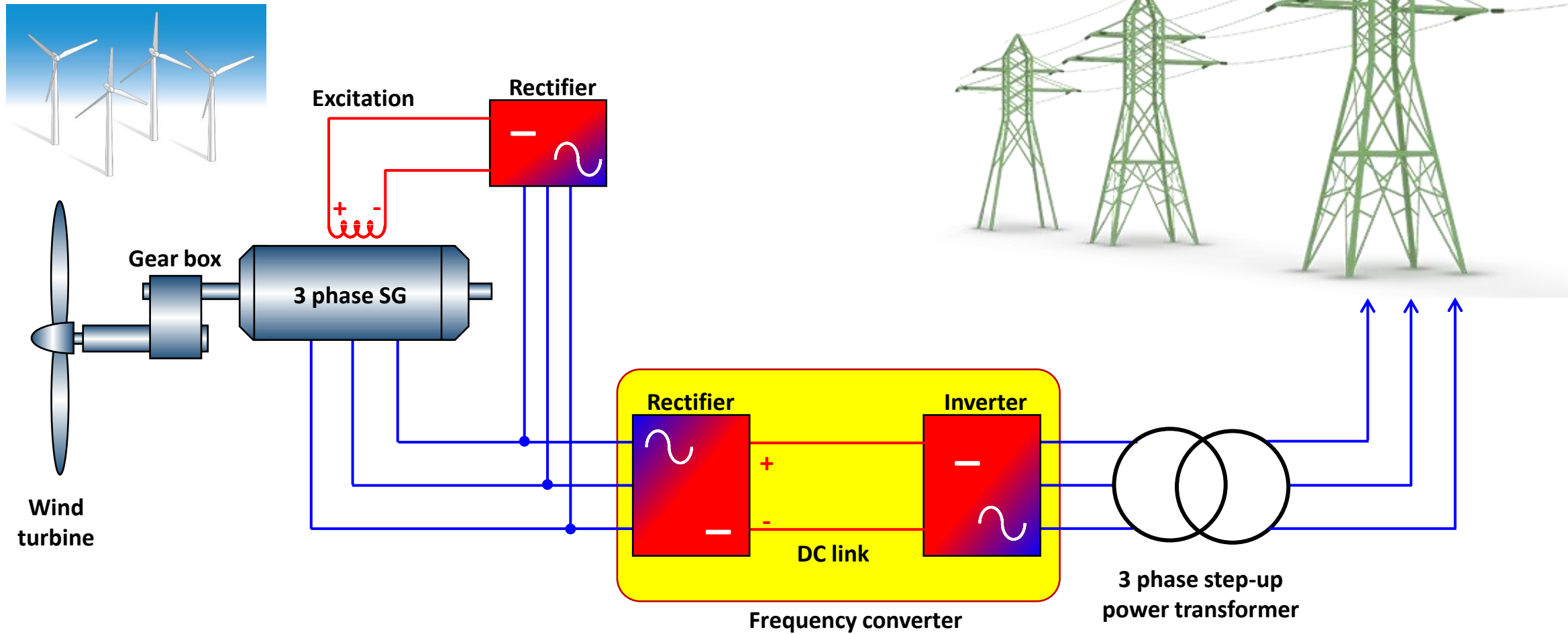
3 phase SG

P_e

3 phase step-up
power transformer



Module description:



Module description:

Recommended text books:

- DeCarlo Lin, "*Linear Circuit Analysis*", Oxford University Press, Second Edition, 2003
- W H Hayt, J E Kemmerly, S M Durbin, "*Engineering Circuit Analysis*", McGraw-Hill, 9th Edition, 2019

