

COURSE DETAIL

ELECTRICITY NETWORKS

Country

Australia

Host Institution

University of Sydney

Program(s)

University of Sydney

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Electrical Engineering

UCEAP Course Number

117

UCEAP Course Suffix**UCEAP Official Title**

ELECTRICITY NETWORKS

UCEAP Transcript Title

ELECTRICITY NETWORK

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

This course examines modern electric power systems with particular emphasis on generation and transmission. The following topics are covered: the use of three phase systems and their analysis under balanced conditions; transmission lines: calculation of parameters, modelling, analysis; transformers: construction, equivalent circuits; generators: construction, modelling for steady state operation; the use of per unit system; the analysis of systems with a number of voltage levels; the load flow problem: bus and impedance matrices, solution methods; power system transient stability; the control of active and reactive power; electricity markets, market structures and economic dispatch; types of electricity grids, radial, mesh, networks; and distribution systems and smart grids.

Language(s) of Instruction

English

Host Institution Course Number

ELEC3203

Host Institution Course Title

ELECTRICITY NETWORKS

Host Institution Course Details

<https://www.sydney.edu.au/units/ELEC3203/2023-S1C-ND-CC>

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Course Last Reviewed

2022-2023

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