

Liverpool John Moores University

Title: Electrical Power Systems Networks
Status: Definitive
Code: **7003ENGEAT** (117638)
Version Start Date: 01-08-2016

Owning School/Faculty: Maritime and Mechanical Engineering
Teaching School/Faculty: EA Technology

Team	Leader
Christian Matthews	Y

Academic Level: FHEQ7 **Credit Value:** 10 **Total Delivered Hours:** 21
Total Learning Hours: 100 **Private Study:** 79

Delivery Options

Course typically offered: Non Standard Year Long

Component	Contact Hours
Lecture	12
Tutorial	6

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam		70	3
Essay	Essay		30	

Aims

To give an introduction to the UK power industry networks, legislation, frameworks and governance.

Learning Outcomes

After completing the module the student should be able to:

- 1 Demonstrate an understanding of the structure and legislation regimes of the industry.
- 2 Demonstrate an understanding of the standards, regulations and licensing arrangements.
- 3 Demonstrate an understanding of electricity trading and its impact on the industry operators.
- 4 Demonstrate an understanding of the key roles in the industry and the organizational framework that enables safe operation.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Exam	1	2	3
Case Study	3	4	

Outline Syllabus

- *Review of the UK electricity industry including conventional, distributed and embedded generation along with transmission and distribution.*
- *Examination of the UK power industry*
 - o *Regulatory regimes including OFGEM*
 - o *Electricity trading – bulk tariffs to pool trading*
 - o *British Electricity Trading Transmission Arrangements (BETTA)*
 - o *Distribution Use of Systems (DUOS) and NGC exit charges*
- *Conventional, modern and emerging industry structures in terms of power generation, power transmission, and power distribution. Private power networks.*
- *Standards and regulations:*
 - o *Engineering standards*
 - o *Electrical Safety Quality and Continuity Regulations (ESQCR)*
 - o *Security and Quality of Supply*

Learning Activities

Lectures supported by tutorials and case studies.

Notes

This level seven module introduces the student to the UK power industry from generation through to the end user. It looks at the structure of the industry then explains the legislative and regulatory frameworks that govern generation and supply companies within the industry.