Liverpool John Moores University

Title:	Network Planning
Status:	Definitive
Code:	**7004ENGEAT** (117645)
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
Report	Report		30	

Aims

To give students a course regarding the most important electrical engineering concepts relating to network design and planning. Emphasis will be upon the types of equipment used in typical systems including fault levels and earthing design of equipment up to 11kV.

Learning Outcomes

After completing the module the student should be able to:

1	Apply electrical engineering principles to determine the performance of a particular network design.
2	Determine the design and planning decisions which are constrained by a legislative framework.
3	Evaluate the characteristics and performance of power network components and connections.
4	Apply network design principles to meet a particular set of specifications.

Learning Outcomes of Assessments

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

Exam	1	2	3	4
Case study	1	3		

Outline Syllabus

- *Theories of electrical engineering relating to network design*
- *Measurement, thermal ratings and losses*
- *Network design theory and practice*
- *Component design and connection*
- *Principles and practices for system earthing*
- *Design Constraints:*
  Legal requirements (inc. ESQCR)
  Industry guidance documents
  Planning issues
- *Customer requirements and maximum demand*
- *Remote system control*

Learning Activities

Lectures supported by tutorials and case studies.

Notes

This module is delivered in a block release format and will require full-time attendance from all students for the duration of the scheduled delivery period.

The module introduces the principles of network design and the arrangement, layout, legislation, permissions and connections that must be made in order for the network to perform effectively throughout its lifespan. System calculations are covered for volt drop and fault level calculations to determine system requirements.