

Liverpool John Moores University

Title: SUBJECT PEDAGOGY IN ENGINEERING
Status: Definitive
Code: **7006PGENG** (104310)
Version Start Date: 01-08-2016

Owning School/Faculty: Education
Teaching School/Faculty: Education

Team	Leader
Matt McLain	Y

Academic Level: FHEQ7
Credit Value: 20
Total Delivered Hours: 62
Total Learning Hours: 200
Private Study: 138

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	25
Off Site	6
Online	10
Tutorial	1
Workshop	20

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	AS1	(4000 words equivalent)	100	

Aims

To enable students to have a critical understanding of the nature of Engineering in schools and colleges.

To enable students to analyse how Engineering is taught in the 11-16 and/or 14-19 sectors.

To enable students to investigate the development of learners' understanding and

barriers to learning Engineering.

To enable students to critically evaluate strategies which promote learning in Engineering.

Learning Outcomes

After completing the module the student should be able to:

- 1 Demonstrate systematic knowledge and understanding of fundamental concepts in Engineering as they relate to the 11-16 and/or 14-19 sectors.
- 2 Critically analyse learners' conceptual understanding of Engineering
- 3 Interrogate research literature to provide a critique of pedagogy in Engineering
- 4 Articulate complex ideas using appropriate language and style

Learning Outcomes of Assessments

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

(4000 word equivalent) 1 2 3 4

Outline Syllabus

The National Curriculum and frameworks and initiatives relating to Engineering in the 11-16 and/or 14-19 sectors.

Approaches to pedagogy in Engineering.

Current research and policies on learning, teaching and assessment applicable to Engineering in the 11-16 and/or 14-19 sectors.

Strategies/activities to use ICT to enhance teaching and learning in Engineering.

Effective learning within Engineering.

Issues in development of learning in secondary learners with reference to Engineering.

Strategies for investigating and critically evaluating research literature.

Carrying out small-scale investigation into learning.

Learning Activities

Key theoretical/policy perspectives, along with an overview of learner development and individual needs will be addressed in lectures.

Seminars and workshops/practical activities will provide opportunities to evaluate learning, teaching and assessment activities within Engineering.

A series of school based activities will enable students to observe, practice, evaluate and reflect upon different approaches and strategies for teaching and assessing Engineering.

Support will be provided to enable students to develop their critical, analytical and evaluative skills in relation to their own approaches to learning, teaching and assessment within Engineering and to review subject focused literature.

Online activities will support and enhance student learning and engagement.

Notes

The module uses a critical perspective to develop understanding of learning and teaching Engineering. This module will enable students to practice and critically analyse and evaluate different strategies and approaches to learning, teaching and assessment in Engineering related to theoretical input for the 11-16 and/or 14-19 age range.