

Liverpool John Moores University

Title: SUBJECT PEDAGOGY IN PHYSICS WITH MATHEMATICS
Status: Definitive
Code: **7116SPWM** (124669)
Version Start Date: 01-08-2019

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

Team	Leader
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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: 50 %

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 Physics with Mathematics in schools and colleges.

To enable students to analyse how Physics with Mathematics 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 Physics with Mathematics.

To enable students to critically evaluate strategies which promote learning in Physics with Mathematics.

Learning Outcomes

After completing the module the student should be able to:

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

Learning Outcomes of Assessments

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

Essay	1	2	3	4
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Outline Syllabus

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

Approaches to pedagogy in Physics with Mathematics.

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

Strategies/activities to use ICT to enhance teaching and learning in Physics with Mathematics.

Effective learning within Physics with Mathematics.

Issues in development of learning in secondary learners with reference to Physics with Mathematics.

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 Physics with Mathematics.

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

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 Physics with Mathematics 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 Physics with Mathematics. This module will enable students to practice and critically analyse and evaluate different strategies and approaches to learning, teaching and assessment in Physics with Mathematics related to theoretical input for the 11-16 and/or 14-19 age range.