

[O6] Supporting maths and physics through the PPLATO resources

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PRIME CONCERNS OF PPLATO

Teaching mathematics to physics undergraduates.

Widening participation in undergraduate physics.

Using new learning technologies to address the two central issues above

PEDAGOGIC ISSUES

How can text-intensive subjects, such as mathematics and physics be presented effectively on screen?

To what extent can CAA technology help with assessment?

SCOPE OF PPLATO RESOURCES

A comprehensive flexible digital resource for the support of physics and mathematics

teaching for physics undergraduates at Level 0 and Level 1.

Includes materials for teaching, testing, diagnostics, practice and tutorial support.

Includes a Foundation Programme.

BRIEF DESCRIPTION OF RESOURCES

h-FLAP: A large hyper-linked teaching resource of Level 0 and Level 1 physics and mathematics, with links to a hyper-glossary.

Maths for Science: A hyper-linked teaching resource of Level 0 mathematics for science students.

Interactive Mathematics: A hyper-linked tutorial package of Level 0 and Level 1 mathematics topics for science students.

h-Tutorials: A hyper-linked tutorial package of Level 1 and Level 2 mathematics topics for science students.

Computer assessment: A computer assessment package to generate an effectively unlimited question bank with intelligent feedback on Level 0 and Level 1 maths, useful for diagnostics, monitoring and for formative or summative testing.

Online Foundation Programme: A complete flexible foundation programme for preparing

students for entry into physics-related and mathematics-related degree courses and for use in continuing professional development in mathematics or physics for those in employment.

INTEGRATION OF RESOURCES

Five resources, with different styles, accessed via an HTML interface.

Flexible interface, can link a tutor's course to the PPLATO resources allowing flexible learning for students.

ASSESSMENT IN PPLATO

Teaching texts and tutorials have embedded formative questions with rapid feedback & all under student control. There is essentially unlimited CAA with intelligent feedback for summative and formative use, including mastery learning.

THE FOUNDATION PROGRAMME

This is a programme in physics and mathematics at Level 0 to prepare students for university entry and to widen participation in undergraduate physics. It may also be used for individuals seeking training in physics and/or mathematics and for continuing professional development. The programme has extensive CD resources and online tuition. It may be studied full-time or part-time and either physics or mathematics or both may be studied. There is an optional laboratory school.

The programme is available to HEIs within their accredited programmes or to individual students with no institutional affiliation. It provides a benchmark programme for university physics/engineering entry.

IMPLEMENTING THE RESOURCES

Departments select those parts that they wish to implement and in what way.

This may vary from full course design to background teaching support.

Departments agree to evaluate those resources used (instruments for evaluation are provided). The resources are supplied free to HEIs in sector and there is support with implementation and evaluation.

RESOURCE DEMONSTRATION

The full resource will be demonstrated at the meeting.

FURTHER ENQUIRIES

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