

## Maths for Scientists Meeting

26<sup>th</sup> May 2010

Loughborough University

### Provisional Programme

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|---------------|--|
| 10.00         | Registration and coffee  |
| 10.15 – 10.30 | Welcome  |
| 10.30 – 11.00 | Understanding the UK Mathematics Curriculum Pre-Higher Education - A Guide for Academic Members of Staff?<br><i>Stephen Lee, Mathematics in Education and Industry</i>             |
| 11.00 – 11.30 | Changes in A level mathematics and how HE is responding<br><i>Duncan Lawson, Math, Stats and OR Network, Higher Education Academy</i>  |
| 11.30 – 12.30 | General presentations (10 minutes, with time for questions) to share experiences and approaches to teaching maths to science students  |
|               | Maths for Science for those with no previous qualifications : a view from the Open University<br><i>Sally Jordan, Open University</i>  |
|               | An update report on identifying at risk students at the University of Manchester<br><i>Niels Walet and Marion Birch, School of Physics and Astronomy, University of Manchester</i> |
|               | Initial experience of using Pearson MathXL to teach maths to year 1 physics students<br><i>David Mowbray, Department of Physics and Astronomy, University of Sheffield</i>         |
|               | Maths PALS<br><i>Robert Alford, Paul Brack, Moira Petrie and Upul Wijayantha, Department of Chemistry, Loughbough University</i>   |
| 12.30 – 13.30 | Lunch  |

- 13.30 – 14.30      General presentations (10 minutes, with time for questions) to share experiences and approaches to teaching maths to science students
- The use of e-learning resources in maths teaching  
*Liz Meenan, Department of Applied Mathematics, University of Leeds*
- A discussion of diagnostic testing and follow-on support, using online techniques (stack)  
*Niels Walet and Marion Birch, School of Physics and Astronomy, University of Manchester*
- Put a number on it: Motivating students to think mathematically  
*Annette Taylor, School of Chemistry, University of Leeds*
- Peer mentoring in maths support.  
*Bridgette Duncombe, Department of Chemistry, University of Bath*
- 14.30 – 15.15      Discussion with coffee available
- 15.15 – 16.00      Additional session to give chemistry participants the chance to feed into the proposed maths for chemistry equation sheet produced with sigma

### **Understanding the UK Mathematics Curriculum Pre-Higher Education - A Guide for Academic Members of Staff**

*Stephen Lee, Mathematics in Education and Industry*

A collaboration of HEA Subject Centres commissioned Mathematics in Education and Industry to write the above named guide, which has now been published. This session will give an overview of the guide and its contents. It will also outline recent developments and changes to pre-university curricula that will be of interest to meeting participants.

### **Changes in A level mathematics and how HE is responding**

*Duncan Lawson, Math, Stats and OR Network, Higher Education Academy*

In this presentation we will outline some of the results obtained from diagnostic testing of new undergraduates on entry to higher education. The results give an indication of how the basic mathematical skills of incoming students have changed over the period since 1991. As might be expected, the results show a decline in these basic skill levels. The presentation will then go on to discuss ways in which universities are responding to the challenges that these changes present to those teaching mathematics and mathematically-rich disciplines in HE.

### **Maths for Science for those with no previous qualifications: a view from the Open University.**

*Sally Jordan, Open University*

The Open University's open access policy means that students come to our undergraduate programme with a range of previous mathematical experience – and none. This presentation will describe some of our methodologies for teaching maths to adult distance learners of science, close to the beginning of their studies. It will also highlight some of the lessons learnt and the resources that we have developed.

### **An update report on identifying at risk students at the University of Manchester**

*Niels Walet and Marion Birch, School of Physics and Astronomy, University of Manchester*

**Initial experience of using Pearson MathXL to teach maths to year 1 physics students**

*David Mowbray, University of Sheffield*

This year we took the decision to use Pearson online material with our teaching of year 1 maths and physics. For maths we used the MathXL package to replace weekly problem classes. I'll provide a brief description of what the package is and what it can and can't do. I'll also review issues in using this package relevant both to staff and students.

**Maths PALS (Peer Assisted Learning Support)**

Upul Wijayantha, Loughborough University

**The use of e-learning resources in maths teaching**

*Liz Meenan, Department of Applied Mathematics, University of Leeds*

**A discussion of diagnostic testing and follow-on support, using online techniques (stack)**

*Niels Walet and Marion Birch, School of Physics and Astronomy, University of Manchester*

**Put a number on it: Motivating students to think mathematically**

*Annette Taylor, School of Chemistry, University of Leeds*

**Peer mentoring in maths support.**

*Bridgette Duncombe, Department of Chemistry, University of Bath*