



These slides were used as part of a workshop presented at EE2008 on 14th July 2008 and as such there are two points worth noting:

1. The interactive elements of the session are better-described by the workshop session abstract which can also be downloaded from the website.
2. The presentation also included demonstrations of the DoITPoMS website, other software, video clips, simulations and animations which, by their nature cannot be encapsulated within this PDF file.

Noel Rutter
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Integrating Online Resources into Taught Courses

Noel Rutter, Zoe Barber, Bill Clyne,
Adam Mannis, Peter Goodhew



AIMS & OBJECTIVES

- **Familiarisation with the DoITPoMS resources**
- **Identification of other electronic resources**
- **Analyse methods of integration**
- **Identify how resources should best be developed to achieve integration**



Integrating Online Resources into Taught Courses

Q. How familiar are you with the DoITPoMS
set of resources?



Q. How familiar are you with the DoITPoMS set of resources?

- I've never heard of it
- I've heard of it, but never used it
- I've used it a few times
- I use it quite a bit
- I use it all the time – it's my homepage



Integrating Online Resources into Taught Courses

**Q. What are the benefits of integrating
online resources anyway?**



Q. What are the benefits of integrating online resources anyway?

- To flag up the existence of the resource
- Make course presentation more interesting/lively
- Make course preparation easier
- To show something that would otherwise be difficult



Integrating Online Resources into Taught Courses

Q. What are the difficulties/challenges of
integrating online resources?

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- Availability of high-quality resources
- Adaptability of resources
- Reliability / platform compatibility
- Long-term stability



Q. What are the difficulties/challenges of integrating online resources?

- Resistance to change
- Technical competence
- Perception as a time-sink



Integrating Online Resources into Taught Courses

**TASK: In what ways can these resources
be used AS PART OF taught courses?
(which are best – are any actively bad?)**

TASK: What ways can these resources be used AS PART OF taught courses?

- In some lecture slides and/or a lecture handout





TASK: What ways can these resources be used AS PART OF taught courses?

- Something more “active”
within a lecture context



TASK: What ways can these resources be used AS PART OF taught courses?

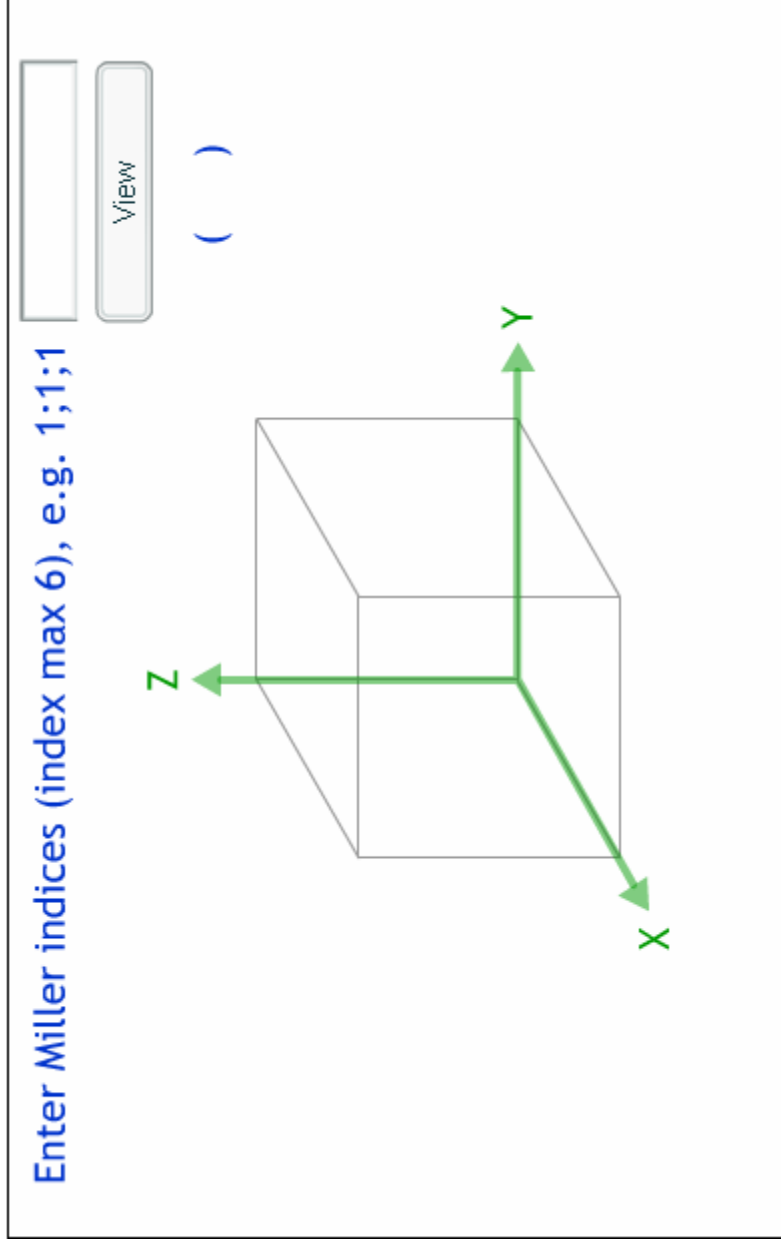
- As part of a practical class / lab experiment





TASK: What ways can these resources be used AS PART OF taught courses?

- In a tutorial





TASK: What ways can these resources be used AS PART OF taught courses?

MATERIALS AND MINERALS SCIENCES

Course C: Materials and Devices (2007/8)

•As part of a question sheet

Question Sheet 7

0. Work through the following Teaching and Learning Packages:
<http://www.doitpoms.ac.uk/tlplib/ferroelectrics/index.php> and
<http://www.doitpoms.ac.uk/tlplib/pyroelectricity/index.php>
1. A capacitor has plates, each with a surface area of $5.0 \times 10^{-4} \text{ m}^2$ and a separation of 2.5 mm. If SiO_2 ($\kappa = 4.52$) is introduced between the plates and a potential difference of 10 V is applied, calculate the capacitance and the magnitude of the electric field on each plate. What is the surface charge density on the plates and the polarization of the dielectric?



Integrating Online Resources into Taught Courses

Q. What other online/electronic resources
are available for the teaching and learning
of materials science & engineering?



Q. What other online/electronic resources are available for the teaching and learning of materials science & engineering?

- MATTER (some online, some not)
- aluMATTER
- SteelUniversity
- Cambridge Engineering Selector (commercial & not online)

Q. What other online/electronic resources are available for the teaching and learning of materials science & engineering?

- “Teach Yourself Phase Diagrams”
- The Britney Spears Guide to Semiconductor Physics



Q. What other online/electronic resources are available for the teaching and learning of materials science & engineering?

- YouTube
- Google Images
- Wikipedia



Q. What other online/electronic resources are available for the teaching and learning of materials science & engineering?

- MIT OpenCourseWare
- efunda



Integrating Online Resources into Taught Courses

**TASK: Design a course element which
incorporates some element(s) of the
DoITPoMS resources**



TASK: Design a course element which incorporates some element(s) of the DoITPoMS resources

(SEMI-)RANDOM THOUGHTS

- A “Virtual Experiment” – creep, diffusion, brittle fracture
- Use “Resource X” to answer the following ...
- Produce some micrographs for the library
- Student project – create a new TLP



Integrating Online Resources into Taught Courses

Q. How can these resources best be developed to make them useful and easy to use?



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