Student enhancements of mathematics support provision – two very different approaches

Cheryl Voake-Jones, Emma Cliffe and Jane White

UNIVERSITY OF BATH

mash Mathematics Resources Centre

Mathematics & Statistics Help

Background

Vocational student support

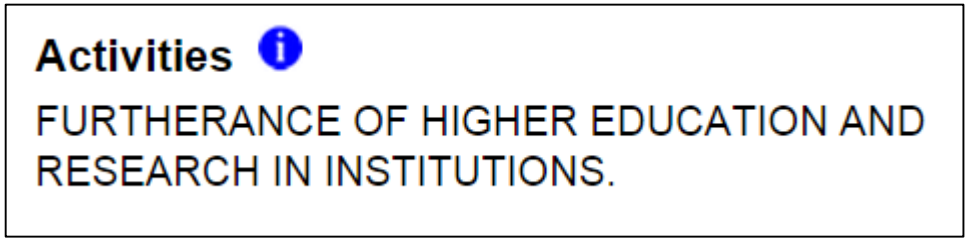
- Pre-sessional material
- Additional small group support
- Alternative teaching arrangements

Cohorts

- Computer Science
- Sports and Exercise Science
- Engineering

Funding

Thriplow Charitable Trust



Funding specifically for support of vocational-entry students

Project outline

Employ students as

BTEC/Access mathematics ambassadors

Creating a ‘survival guide’ for freshers

Discipline-based maths project

Creating an alternative prospectus for recruitment

Peer support

Or something else…?

Computer Science

Employed 3 students:

Year 1, Year 2, Final Year

Final Year

Peer support for Year 1 in Transition Maths module

Dedicated one-to-one support

- ✓ Better for student
- ✓ Freed up tutor time

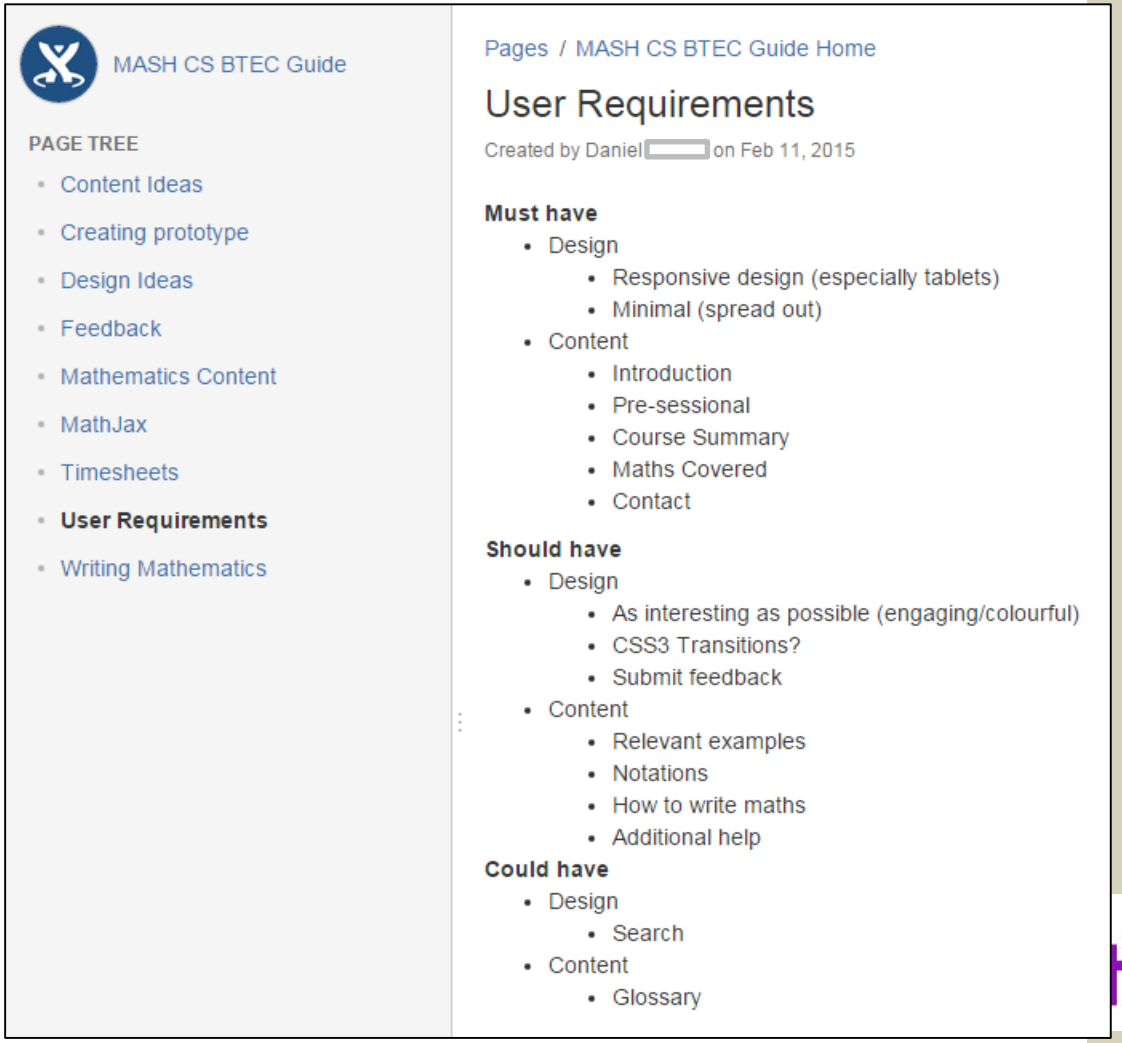
Computer Science

Year 1 and Year 2

CS project approach

Discipline-based content online

Collected feedback informally



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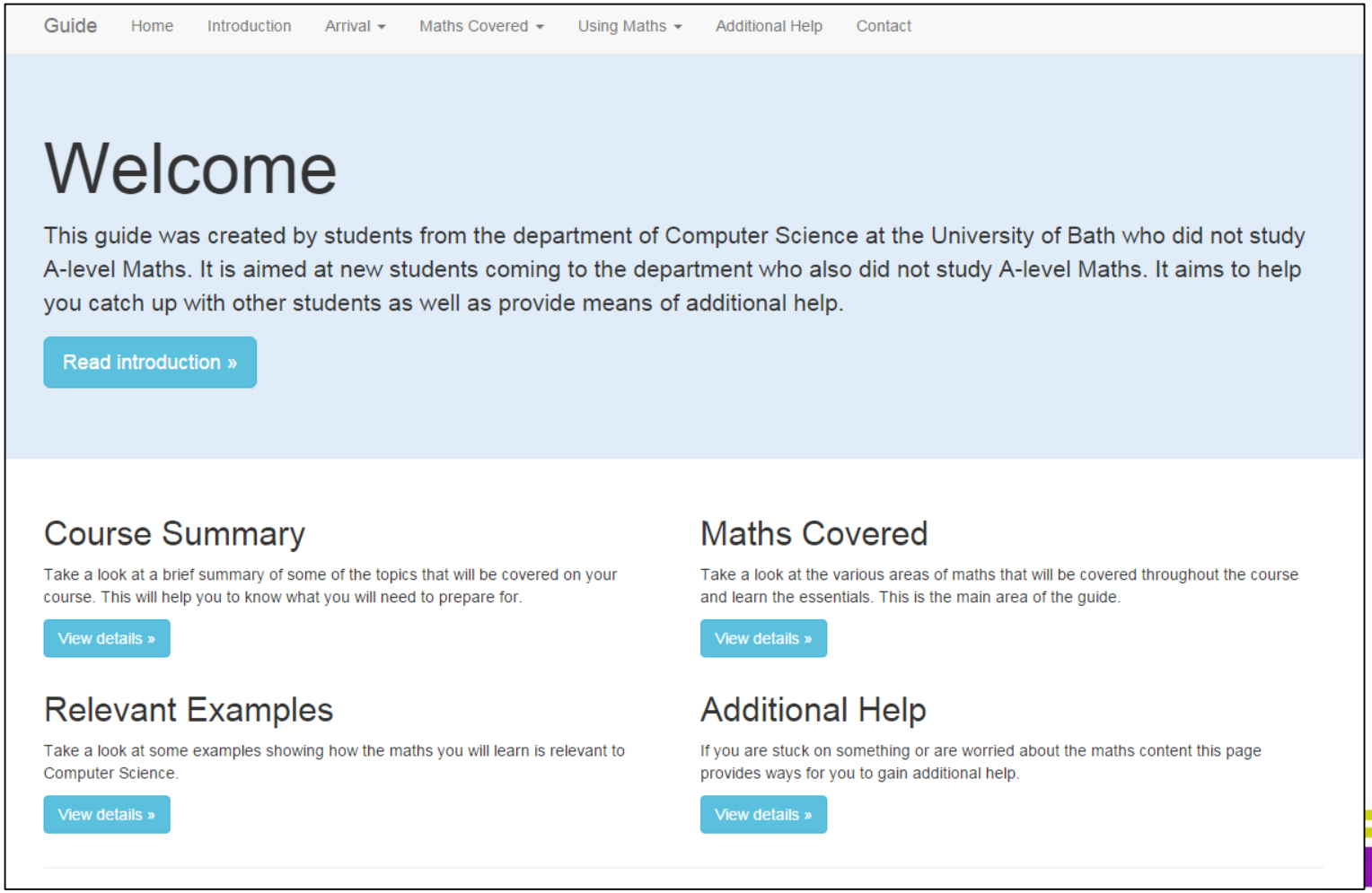
Computer Science



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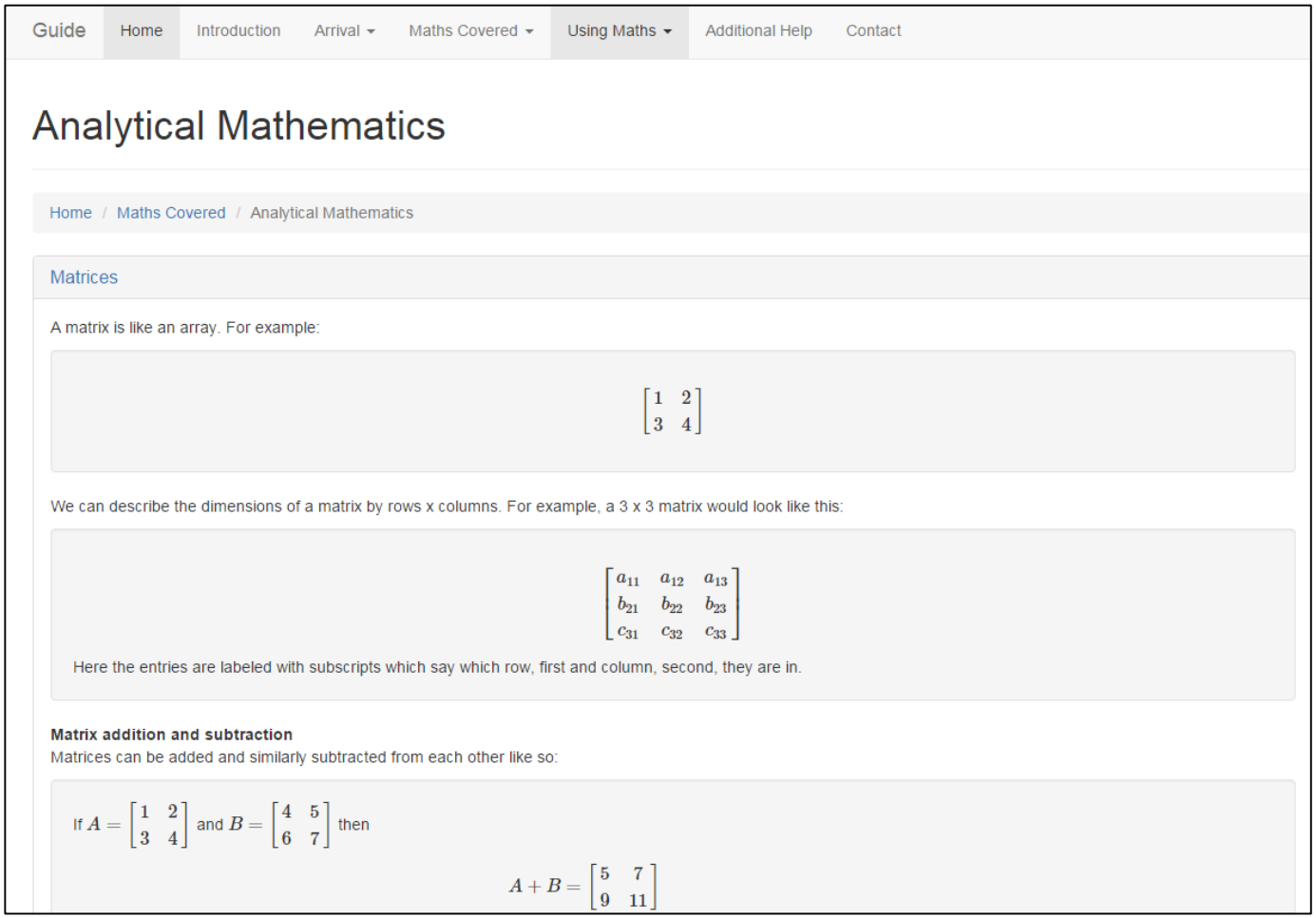
Computer Science



Guide | Home | Introduction | Arrival | Maths Covered | Using Maths | Additional Help | Contact

Analytical Mathematics

Home / Maths Covered / Analytical Mathematics

Matrices

A matrix is like an array. For example:

$$\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$$

We can describe the dimensions of a matrix by rows x columns. For example, a 3 x 3 matrix would look like this:

$$\begin{bmatrix} a_{11} & a_{12} & a_{13} \\ b_{21} & b_{22} & b_{23} \\ c_{31} & c_{32} & c_{33} \end{bmatrix}$$

Here the entries are labeled with subscripts which say which row, first and column, second, they are in.

Matrix addition and subtraction

Matrices can be added and similarly subtracted from each other like so:

If $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 4 & 5 \\ 6 & 7 \end{bmatrix}$ then

$$A + B = \begin{bmatrix} 5 & 7 \\ 9 & 11 \end{bmatrix}$$

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Computer Science

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Examples relevant to Computer Science

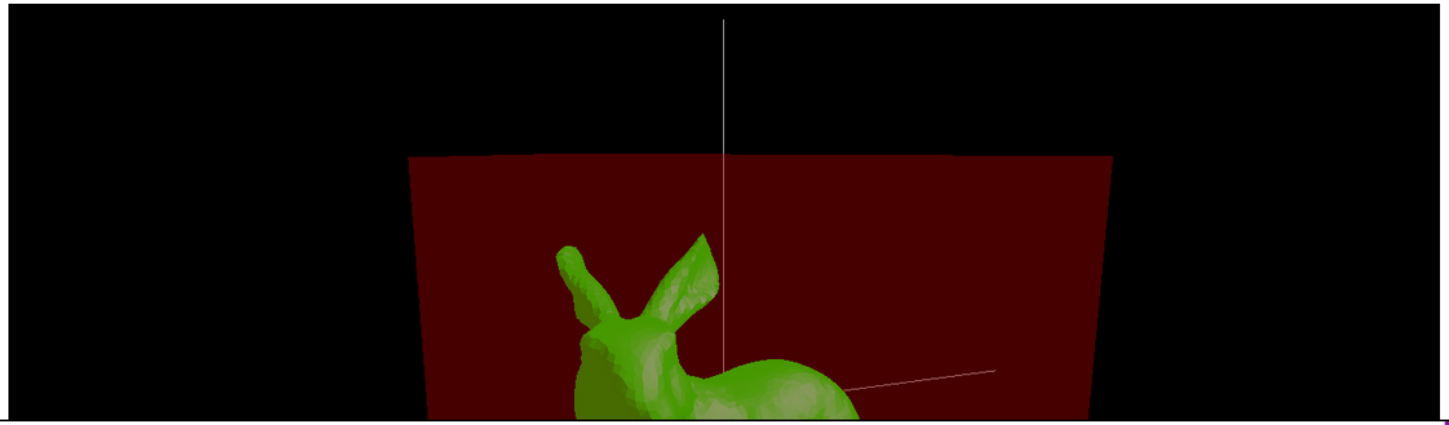
Home / Examples relevant to Computer Science

Vectors

Vectors are important when it comes to simulating a physical world. For example we can use vectors in graphics to indicate the direction a beam of light is travelling. This is useful when calculating the illumination of a surface when the beam of light falls upon it. We can imagine that a surface facing directly towards the light will be illuminated fully but a surface that is facing at least 90 degrees away from the light, then the surface will be in shadow.

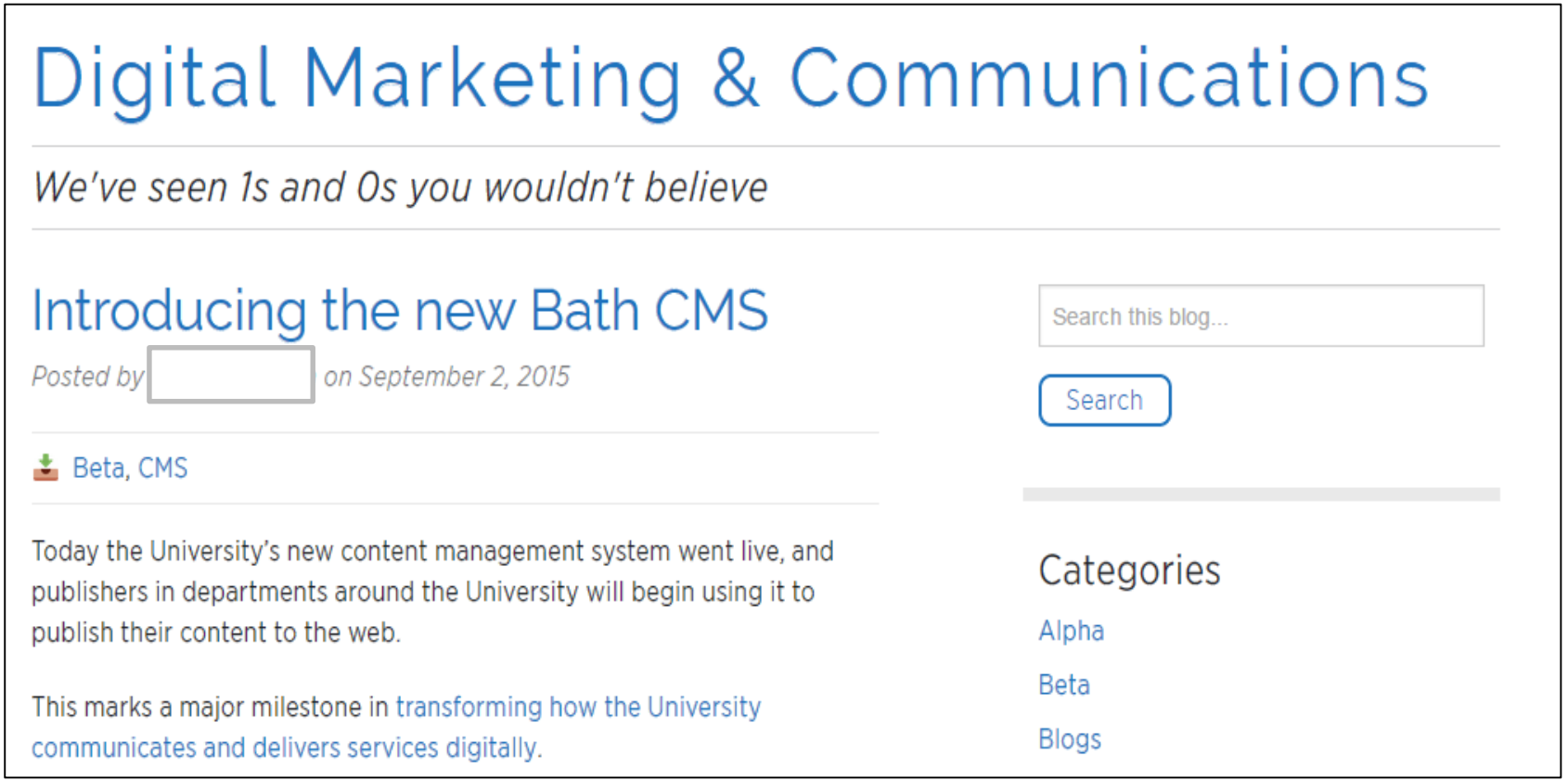
For example:

Front



mash

Spanner in the works



Digital Marketing & Communications

We've seen 1s and 0s you wouldn't believe

Introducing the new Bath CMS

Posted by *on September 2, 2015*

Beta, CMS

Today the University's new content management system went live, and publishers in departments around the University will begin using it to publish their content to the web.

This marks a major milestone in transforming how the University communicates and delivers services digitally.

Search this blog...

Search

Categories

Alpha

Beta

Blogs

So….

Hosted on VLE space via GitHub, but…

Survival guide: created for you by current students

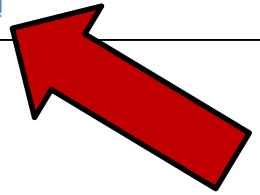
Two current Computer Science students, one in first year and one in second year, who themselves studied BTEC without A level Mathematics before coming to Bath have created a **Survival Guide** to help you through your first year. Please do make use of this! If you are going to the site for the first time you should visit:

- Log in and go to Survival Guide

Once you have logged in you will be registered and logged on the Bath GitHub revision control service (you'll need to use this later in your studies). If you are already logged in to GitHub then you should instead visit:

- Got to Survival Guide (already logged in to GitHub)

We are trying to sort out this login issue!



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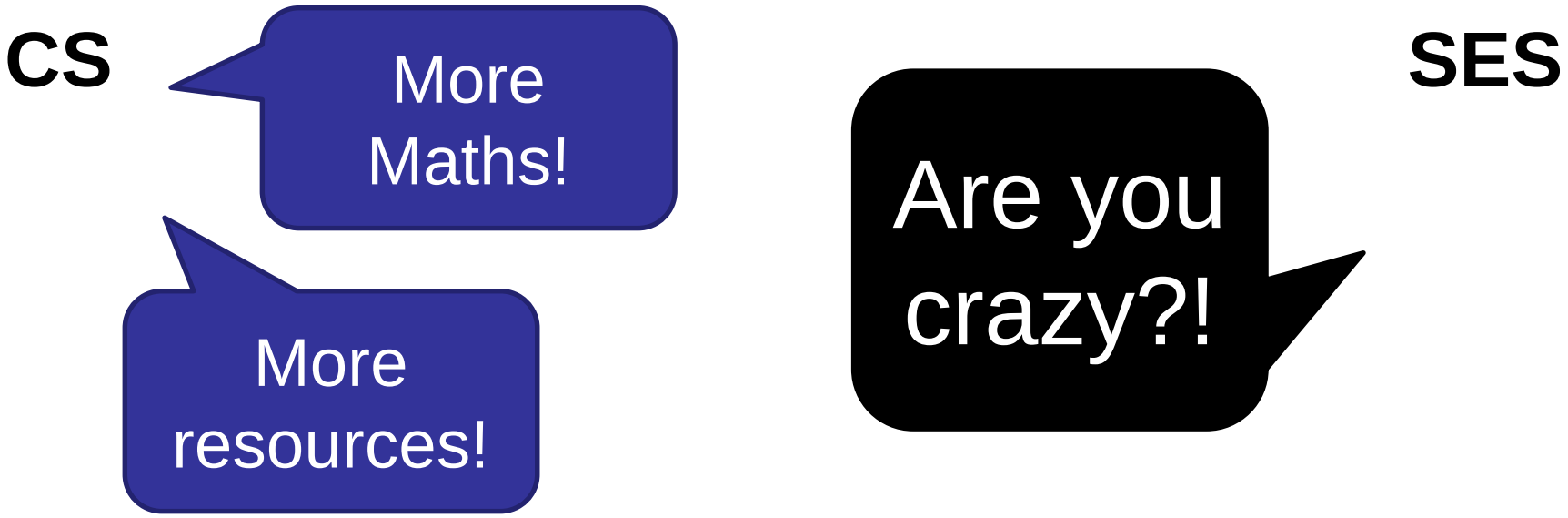
Two very different approaches



Sport and Exercise Science

3 Year 1 students

Engagement with ***current*** resources, not more of them

Use students who have been through it – important to see them

Needed student input

- Survey
- Focus group

SES – Student feedback

Tell people sooner

BTECs do well

Test in week one

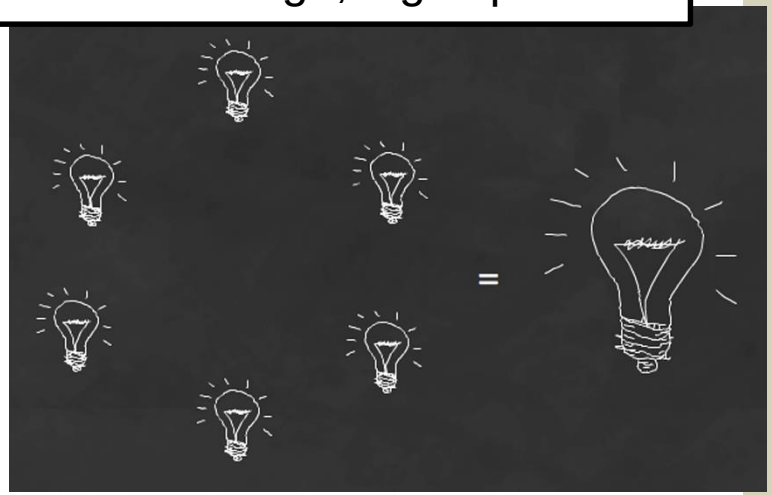
Keep your notes

Weekly quizzes online

Dedicated MASH drop-in

…

Small change, big impact



Promotional video

Pre-conceptions
Preparing for university (maths)
Maths module
…
Relevance to rest of degree

Survival guide

UNIVERSITY OF BATH

Information f

BSc/MSci Sports

Entry yea

mash

Mathematics Resources Centre

A-Z TIPS

FOR GETTING THROUGH YEA

A-levels

If you don't have them, don't worry. This year is all everyone to the same level and there is a lot of sup so. If you are worried though, speak to us. We're al students and have been through it, our emails are i leaflet. There are also benefits of having a BTEC ba generally be more used to coursework, which helps management and deadlines. Most units contain cou so this is an easy way to push up your grades.

Biomechanics

One of the main SES disciplines and it will require s thinking, it's all relevant to the rest of your degree. movement and helps us to understand athletic perf avoid getting injured.

Calculator

Invest in the suggested one, it will definitely come i university exam calculator is a Casio fx-85ES and y eBay for cheap! You are given a calculator for mat use your own, so it's definitely worth getting to kno one as soon as you can.

Diary

Organise your time effectively, it will stop you from lectures. In an age where we are reliant on our pho there's no excuses to be missing meetings, lectures yourself.

Eduroam

The university wifi network that is about as reliable charger.

Facebook

Join your course groups, support pages, add peers and start networking. Our details are on the back page - if you need any advice/ have any questions at any time, find us on Facebook and get in touch!

DOs & DON'Ts

DO:

- Complete as much of the pre-sessional material as you can.
- Go to the introdu peers and get to weeks.
- Go along to MASH with anything tha
- Do the problem s module as homew help you!
- Ask for help! If yo will be more than
- Go to **all** of your harder to catch u
- ENJOY YOURSELF

DON'T:

- Feel intimidated, you'll get there in
- Miss lectures beca content is differen always good for a
- Be lazy. Do the w
- Settle for a pass, and your other Ye degree will be.
- Worry if you don' not the only one
- Think the maths our course and th point.

AND FINALLY...

We hope you've found this survival guide useful. Here's a picture of us so you will recognise us if you see us around campus...

...along with some idea of the societies and clubs you can join...

PHOTOS

See you soon!!

Lessons learnt

One size does not fit all

Do not be prescriptive

Students know your target audience (they are it!)

Next steps

Resources to be distributed via Student Experience Officers

Ambassadors to attend lecture in week 1 (SES)

Monitor impact

Thank you for listening

Email: C.Voake-Jones@bath.ac.uk

mash@bath.ac.uk

www.bath.ac.uk/study/mash

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