Building Numerical Confidence







Andy Lewis BLS B64A Furness Building andrew.lewis@lancaster.ac.uk

Undergraduate First Year Non-Completions

Click on a year in the chart or table below to see a more detailed breakdown of first year non-

		Faculty of Health and Medicine 🔹	
Node of Study		Department	_× *
(All)	•	Biomedical and Life S	ciences (🔻
ee Status		Programme	
(All)	•	(AII)	•

Students transferring to another department at Lancaster University during the course of their studies will be counted in the numbers of the department that they transfer to and not the department that they transfer from.



Year of Entry	Total number of Students	Non-completions in first 12 months	% Non-completions in first 12 months
09/10	135	10	7.4%
10/11	164	10	6.1%
11/12	164	5	3.0%
12/13	159	9	5.7%
13/14	167	10	6.0%
14/15	154	5	3.2%
15/16	173	10	5.8%
16/17	151	11	7.3%
17/18	144	6	4.2%

completions in that entry year



Accepts holding A levels & BTECs: All HEPs English accepted applicants of all ages: 2008 - 2015





BTEC student transition to university in the department of Biomedical and Life Sciences.

Dr Emma Shawcross (Senior Teaching Associate, BLS); Dr Elizabeth Hurrell (former Learning Developer for FHM); Edward Keeling (Graduate Intern). Funded by Friends (Alumni fund).

"....between 2012 and 2016, 34% of BTEC students dropped out of university compared with a dropout rate of 6% for A-level students"

".....gaps in science-based maths knowledge was a common issue"



Mathematics Support Structure (Michaelmas)

- Welcome week
 - email invitation BTEC students
 - Tutor referral
- Small group, flipped classroom approach
 - Students view content outside of tutorial and attempt practice questions
- Online resources
 - videos, articles, questions and worked answers
- Ongoing student feedback, reflection, tweaking
 - Potential for this to be extended throughout the term/year as needed (website).



Week 1 Week 2 Week 3

Home

Andy's Mathematics Support

Mathematics Support For Biologists









This video/resource will go through the basics of working with fractions.



Mathematics Support Structure (Lent+)

Changes

- Regular, twice weekly meetings with the students
- More focus on confidence and mastery of the basics
- Spaced repetition
- Students encouraged to determine and develop their own progression

Content



Week 1

Fractions, ratios, percentages, concentrations, dilutions, serial dilutions

Week 2

• Moles and Molarity calculations

Week 3

 Logarithms and pH; powers and bases, roots, surds, defining logs, converting between logs and powers, common bases, natural logs, pH, laws of logarithms

Week 4

 Stats; introduction to statistical notation, mean, range, median, mode, standard deviation, standard error

Problems and Limitations



- Student selection:
 - The feeling of being singled out
 - The feeling of being left out
 - Not being able to access the full range of support on offer
- Increased student workload
- Non compulsory:
 - Poor turnout typically 5 10 students per session
 - Regular and sporadic attendees



"This mathematics support session really helped me understand the questions I did not get during the lecture. And it helped me to do the further calculations in the exam"

"The website used is really helpful to me because it gives me hint when I don't know how to do the calculations"

"Yes, I would recommend these sessions as they have personally helped me, especially because they were offered at the beginning of the year when most people might find it challenging or because students might just not be very familiar with mathematical problems that are part of the course"



"Lots of personalised individual feedback, and plenty of helpful tips on learning in general, not just the mathematical aspects"

"No time pressures, learn at one's own pace"

"I enjoyed the use of the website and the videos that were in it, they were very clear and helpful"

"They are very useful as there are many fundamental topics that are covered throughout the sessions. We have received clear feedback every week and also support on things that we have struggled to work out"





- Students value these sessions but how to measure impact?
 - EMT scores/ Progression stats?
 - Is student experience enough?
- Could we extend this to further years? And include Peer Assisted Learning study groupings?
- Could this be incorporated into the formal tutorial system?
- Could we make this a credit bearing to answer attendance issues?

Acknowledgements



















Emma Shawcross

Christine Shrras



Undergraduate First Year Non-Completions

Home/EU

Click on a year in the chart or table below to see a more detailed breakdown of first year non-completions in that entry year

Faculty Faculty of Health and Medicine

Mode of Study Full Time

Fee Status Multiple values Biomedical and Life Sciences (Di..

Programme All

Department

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Year of Entry	Total number of Students	Non-completions in first 12 months	% Non-completions in first 12 months
08/09	114	6	5.3%
09/10	128	8	6.3%
10/11	155	8	5.2%
11/12	157	4	2.5%
12/13	152	9	5.9%
13/14	146	9	6.2%
14/15	130	5	3.8%
15/16	152	9	5.9%
16/17	139	10	7.2%
17/18	129	2	1.6%

Data restricted to Lancaster University staff only

Data last updated on 3 August 2018

Undergraduate First Year Non-Completions

Click on a year in the chart or table below to see a more detailed breakdown of first year

OVERSEAS

non-completions in that entry year

Faculty Faculty of Health and Medicine

Mode of Study Full Time Department Biomedical and Life Sciences (Di..

Fee Status Overseas Programme All

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Year of Entry

Year of Entry	Total number of Students	Non-completions in first 12 months	% Non-completions in first 12 months
08/09	2	0	0.0%
09/10	6	1	16.7%
10/11	7	0	0.0%
11/12	5	0	0.0%
12/13	6	0	0.0%
13/14	19	1	5.3%
14/15	21	0	0.0%
15/16	20	1	5.0%
16/17	11	1	9.1%
17/18	14	2	14.3%

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