

# Welcome to Math 102 - Calculus for Life the Sciences

- Instructor: Prof. Eric Cytrynbaum
- Email: [cytryn@math.ubc.ca](mailto:cytryn@math.ubc.ca)
- Course website: [wiki.math.ubc.ca](http://wiki.math.ubc.ca)
- Today:
  - Information about the course.
  - A little experiment on learning.
  - Shapes of cells and power functions.

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- Homework:
  - WeBWork (online) - 15%
  - Old-School Homework (written) 5%

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- Final exam - 50% (“44% rule”)

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  - Communicating mathematics.

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  - Communicating mathematics.
- Getting help - Piazza, MLC, office hrs.

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- Solutions:
  - WW - immediate yes/no.
  - OSH - you'll get solns.
  - Text - answers at the back, no solns.
  - Anything else - exam training (no solns).

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- Online mini-lectures (videos) for pre-lecture assignments.
- Read over website - lots of info there, “Course logistics” assignment.
- A quick view of the course site, Piazza, WeBWorK...

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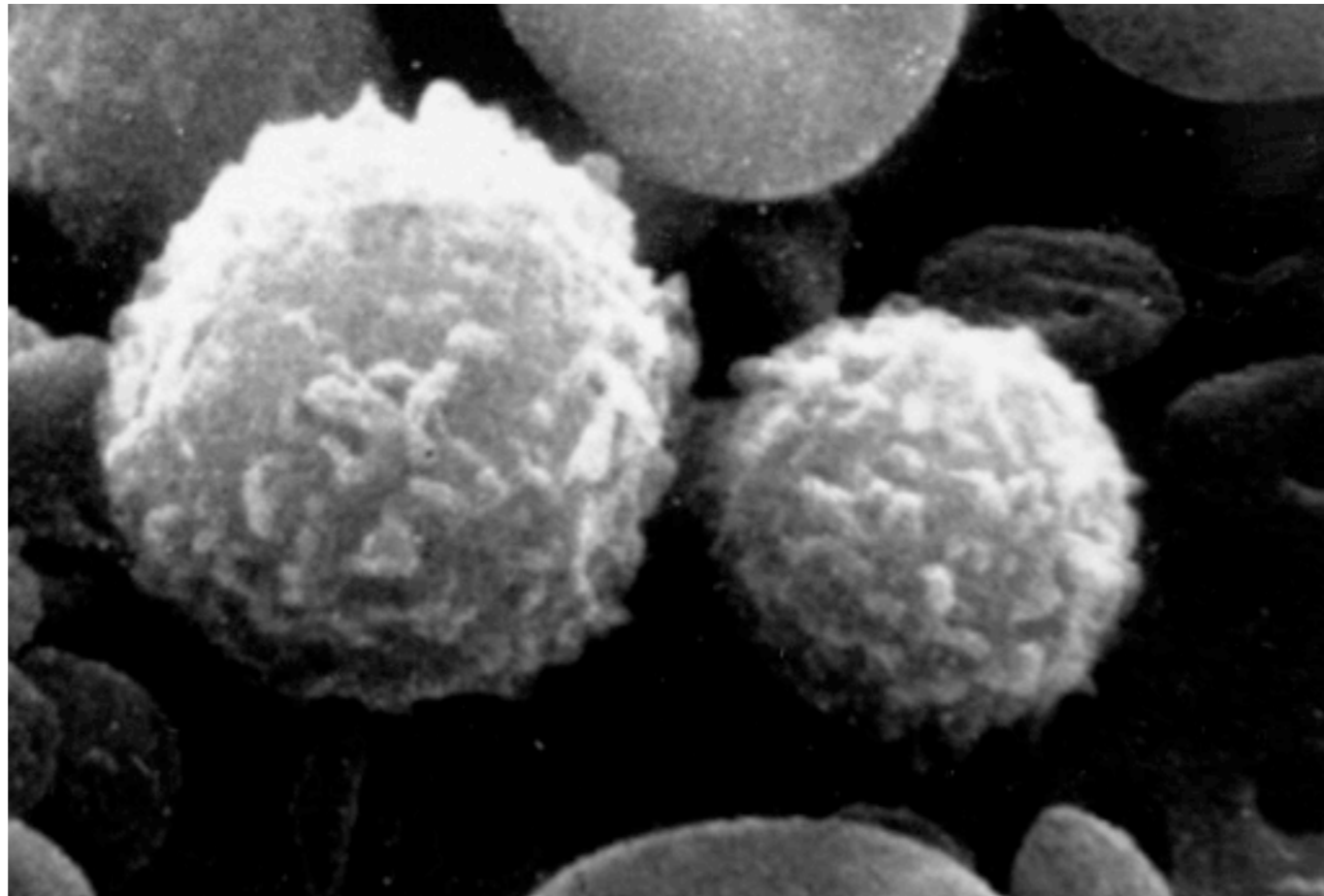
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- I will use a short lecture format with lots of clicker questions.

# Studying tips

- Learning theory is useful for guiding your studying decisions.
- Experiment - write your **name**, **where you were born** and **what you plan to major in** on a piece of paper and pass it to someone you don't know sitting near you.
- Read the info and try to remember it. Give the paper back to your neighbour.

# Shapes of cells



White blood cells (spheres)

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- For different shapes, this balance scales better or worse as size increases...

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- Consumption is proportional to volume:

$$V = \frac{4}{3}\pi r^3 \quad C = k_2 V = \frac{4}{3}k_2 \pi r^3$$

where  $k_1$  and  $k_2$  are positive constants.

# Back to the experiment

- Left side of room - show your piece of paper to your neighbour and let them read over it again.
- Right side of room - do not show your neighbour the paper again but ask them to repeat the info as best they can. After they do so, show them the paper.