Preface

Welcome to MA42002 Mathematical Biology I.

My name is Philip Murray and I am the module lead.

How to contact me?

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Lecture notes

You can find lecture notes for the module on this page. If you would like a pdf this can be easily generated by clicking on the pdf link on the top left of the webpages. I will occasionally edit/update the notes we proceed through lectures. If you spot any errors, typos or omissions please let me know.

Reading

Mathematical Biology I, Murray (2002)

Esswential Mathemtical Biology Britton and Britton (2003)

Mathematical models in Biology Edelstein-Keshet (2005)

Python codes

I have provided Python codes for most of the figures in the notes (you can unfold code section by clicking 'Code'). Note that the Python code does not appear in the pdf.

Many of you have taken the Introduction to Programming module at Level 2 and have therefore some experience using Python. I strongly encourage you to use the provided codes as a tool to play around with numerical solutions of the various models that we will be working on. The codes should run as standalone Python codes.

I have also provided some examples of how to use Python as a symbolic calculator. This uses a Python library called *sympy* and is quite similar to Maple.

Assessment

- Final exam (80 %)
- 2 class tests (8.5 % each), Week 6 and 10
- 3 quizes (1 % each), Week 2,4 and 8

References

Britton, Nicholas F, and NF Britton. 2003. *Essential Mathematical Biology*. Vol. 453. Springer.

Edelstein-Keshet, Leah. 2005. *Mathematical Models in Biology*. SIAM.

Murray, J. D. 2002. *Mathematical Biology i: An Introduction*. Springer.