

UFMFJH-15-M: Mathematical Biology

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9 items

Books (5 items)

Nonlinear dynamics and chaos: with applications to physics, biology, chemistry and engineering, by Steven H. Strogatz, 2000

[Book](#) | **Further Reading** | This text contains the underlying methods and techniques from Dynamical Systems Theory (both continuous and discrete-time) required for this module. Such methods and techniques are pre-requisite for this module and so this text should be used as a reference resource to help you review and refresh your existing mathematical skills.

Essential mathematical biology, by N. F. Britton, c2003

[Book](#) | **Recommended for Student Purchase** | We will make use of this text on a weekly basis throughout the module as Core Reading. It is available as an e-book or in hard copy. It may be worth bearing in mind that you will need frequent and ongoing access to this text and that you will be able to sell-on the hard copy version second hand to future students or online.

The relevant chapters of the book are Chapters 1 and 2 (Population Dynamics), Chapter 3 (Infectious Diseases) and Chapter 4 (Population Genetics and Evolution).

Mathematical models in biology, by Leah Edelstein-Keshet; Society for Industrial and Applied Mathematics, 2005

[Book](#) | **Further Reading** | An elementary introduction to the application of mathematical modelling and dynamical systems theory to problems in biology. Browse this text to widen your knowledge and appreciation of the subject beyond the specific topics covered in this module.

Stability, instability and chaos: an introduction to the theory of nonlinear differential equations, by Glendinning, 1994

[Book](#) | **Further Reading** | This text contains the underlying methods and techniques from Dynamical Systems Theory (both continuous and discrete-time) required for this module. Such methods and techniques are pre-requisite for this module and so this text should be used as a reference resource to help you review and refresh your existing mathematical skills.

Mathematical biology, by J.D. Murray, c1993

[Book](#) | **Further Reading** | This is THE classic textbook on Mathematical Biology covering a vast array of biological applications. Chapters 1 and 3 (Population Dynamics) and 10 (Dynamics of Infectious Diseases) are particularly relevant to this module.

Journals (4 items)

Bulletin of mathematical biology

Journal | **Further Reading** | Browse this resource in order to see how the topics studied in this module underpin some current themes of research in mathematical biology. In particular, look for articles relating to Population/Ecological Dynamics, Population Genetics/Evolution and Dynamics of Infections Diseases (Epidemics/Endemics).

Nature (London)

Journal | **Further Reading** | Browse this resource in order to see how the topics studied in this module underpin some current themes of research in mathematical biology. In particular, look for articles relating to Population/Ecological Dynamics, Population Genetics/Evolution and Dynamics of Infections Diseases (Epidemics/Endemics).

Science (New York, N.Y.)

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Journal of Mathematical Biology - in Journal of Mathematical Biology

Journal | **Further Reading** | Browse this resource in order to see how the topics studied in this module underpin some current themes of research in mathematical biology. In particular, look for articles relating to Population/Ecological Dynamics, Population Genetics/Evolution and Dynamics of Infections Diseases (Epidemics/Endemics).