



AN ACCESSIBLE INTRODUCTION TO MATHEMATICAL BIOLOGY

Doctoral Training Centre
University of Oxford

1 June to 12 June 2026

COURSE DESCRIPTION

This two-week course offers an accessible introduction to the use of mathematical models in biology, designed specifically for doctoral students without a formal background in mathematics. Through a combination of guided lectures, hands-on sessions, and collaborative projects, participants will learn how mathematical tools can be applied to understand complex biological systems.

Week One: Foundations

- Introduction to ordinary differential equations (ODEs)
- Building ODE models for biological processes (population growth, disease transmission, cellular dynamics)
- Explore analytical and numerical methods for solving these models
- Gain experience with software tools for simulation and analysis
- Model fitting to biological data, emphasising interpretation, parameter estimation, and assessing model performance

Week Two: Collaborative Projects

- Student-led collaborative projects in small groups
- Develop mathematical models for chosen biological questions
- Computational implementation and analysis
- Informal presentations and peer discussion
- One-on-one sessions with instructors for personalized research feedback

Capacity

20-25 participants*

Audience

Doctoral students working on research topics in life and environmental science, without a degree in mathematics or a related discipline

Application

Applicants must write a brief description of their doctoral research, what they want to learn on the course, and how attending the course will help with their doctorate and / or their future career goals.

Pre-requisites

Mathematics A Level, or equivalent

Travel and Accommodation

Attendees not resident in Oxford will be responsible for their own travel and accommodation costs.

Apply online at [Mathematical Biology Training Course Registration](#)

Interested in other training opportunities? Explore the [Doctoral Landscape Training Network](#)

*In the event of over-subscription, preference will be given to students enrolled in the UKRI-funded programmes associated with the Doctoral Landscape Training Network