Content of the Course
The following topics will be covered:

- age-structured populations in continuous time, the McKendrick-von Foerster equation, solution by methods of characteristics, stage-structured models.

- age-structured and stage-structured population models in discrete time, matrix models for populations and life-history graphs, the Perron-Frobenius Theorem, z-transforms.

- Kermack-McKendrick models for disease transmission, $R_0$, epidemics in structured populations, vaccination policies.

- spatial spread of populations and epidemics, travelling waves.

Course Assessment

- Completion of set exercises and participation in class discussion [10%]

- Short assignments [10%]

- Reading assignment [20%]

- Exam—Half hour closed book exam [10%], two hour open book exam (or possibly a take-home exam). [50%].

Useful books


O. Diekmann and J.A.P. Heesterbeek *Mathematical Epidemiology of Infectious Diseases* 2000 John Wiley and Sons.