

Mathematical Models in the Life Sciences

Exam 2

April 4, 2008

- READING: Edelstein-Keshet — Review Chapters 4-5.
- PROBLEMS: None!
 1. There are **no** assigned problems this week. Instead, I suggest you review for our second test. Make sure you're comfortable with all of the material we covered in lecture and homework. In particular, please review the following:
 - (a) Nonlinear ODEs (1-dimensional, 2-dimensional)
 - Fixed points.
 - Stability of fixed points.
 - Bifurcations.
 - Zero eigenvalues.
 - (b) Graphical methods.
 - Know how to compute and interpret one- and two-dimensional phase portraits.
 - Know how to compute nullclines.
 - Know how to sketch trajectories near fixed points.
 - (c) This is not an exclusive list. Everything covered in lecture or homework is fair game!
- TEST 2 DETAILS

We will have an in-class test on **Friday, April 4**. The test will be open book and open note. You are free to use any written material you bring with you to class. You may use a calculator. You may **not** use any device capable of communicating with anyone else. You may not communicate with anyone else (other than me) during the exam.