

INTRODUCTION TO MATHEMATICAL MODELLING

LECTURE 6: GROWTH I

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Homework: Write a proposal for your term project. It should be as long as necessary to cover the following items (so my estimate is at least 2 pages):

1. a description/explanation of the system you want to model,
2. the question you want to answer, and why it is interesting,
3. your best current judgment about which are the relevant variables, and which are the ones that might be relevant but that you do not plan to include in your model,
4. a list of some of the relevant prior work on your system—books, or papers, or web resources,
5. a list of possible data sources,
6. a description of what mathematical techniques you think you may use in your model—*e.g.*, scaling arguments, graph theory, differential equations, number theory, probability, *etc.*
7. and if you plan to work in a group of two or more people, a management plan for who will do what and how you will work together.

I do not expect items (4) and (5) to be complete yet, but give me some indication that you have begun looking into them. And, of course, everything on this list may change as you begin working. You are strongly encouraged to discuss your ideas for the project with me this week, before you turn in your proposal.