

Project Sheet 1 - Project Description

The aims of this project are

1. is to give you some experience with a larger piece of work than a typical mathematics assignment;
2. to teach a range of skills related to real-life use of mathematics in industry and finance; and
3. to allow you to explore a topic that is to some extent self-determined.

The project's task, simply put, is to take a pattern from nature, and produce a mathematical model of that pattern.

In more detail:

- Choose a pattern from nature. You may use one of the examples from class, or find your own. Typical patterns will appear in an image, but you could explore patterns in music, or some other area. However, if you venture outside the course work, please run your ideas past your lecturer first.
- Choose an approach for modelling the pattern. There will be several such suggested to you in class.

Your model does not have to be “successful.” The important feature of your work is that

- it be well defined and you show a clear understanding of the model, and its assumptions; and
- you critically assess it: *i.e.*, you demonstrate an understanding of its pros and cons, in particular with reference to the data you are using. Aim to be precise and quantitative in this assessment.

The latter can be enhanced by contrasting and comparing your chosen model with alternatives, or by statistically analysing the results.

The deliverables for your project are

1. a poster presentation (week 12) worth 15% of your final mark; and
2. a report (week 10) worth 60% of your final mark.

However, part of your assessment will be based on achieving a series of milestones along the way. See your course outline dates for the dates of deliverables.

Please also see other related documents for

- assessment rubrics;
- template for reports and posters; and
- checklists and other advice.