BB512 - Instructor Resources

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Contents

Chapter 1

This website and other course materials

This website contains resources for instructors in BB512.

We may not do ALL of these exercises, but you are welcome to do ones we miss in your own time.

1.1 Software

We will use Excel and R/RStudio during this course.

1.1.1 Excel

I expect you will already have Excel installed, so there is not much to say here.

Be aware that Excel differs depending on the language it is localised in. For example, Danish vs. English. This means that some of the commands might differ between version. See here for examples.

1.1.2 R and RStudio

R and RStudio are two separate pieces of software. RStudio is a user-friendly interface to talk to R, it cannot work if you have not got R installed. So, when you install these two programs, install R first, then RStudio.

Already have them installed? I strongly recommend to update to the latest versions of R, which you can download here and RStudio Desktop, which you can find here.

Part I

Evolution by Natural Selection

Chapter 2

The Blind Watchmaker

Coming soon...

Chapter 3

Bug hunt camouflage (Netlogo)

Coming soon...

Part II

Population Growth Models

Chapter 4

Geometric growth

Coming soon...

Chapter 5

Estimating Population Growth Rate

Coming soon...

Chapter 6

Stochastic population growth

Coming soon...

Chapter 7

Basic logistic population growth

Coming soon...

Chapter 8

Deeper into logistic growth

Coming soon...

Chapter 9

Life tables and survivorship types

Coming soon...

Chapter 10

Matrix population modelling

Coming soon...

Chapter 11

Pre- and Post-reproduction census

Coming soon...

Chapter 12

Life Table Response Experiments

Coming soon...

Chapter 13

How many eggs should a bird lay?

Coming soon...

Chapter 14

Trade-offs and the declining force of selection

Coming soon...

Part III

Population Genetics and Evolution

Chapter 15

Hardy-Weinberg equilibrium

Coming soon...

Chapter 16

The Gene Pool Model

Coming soon...

Chapter 17

Neutral or Adaptive Evolution in Humans: What Drives Evolution of Our Traits?

Coming soon...

Chapter 18

Heritability from a linear regression

Coming soon...

Part IV

Interactions Between Species and Community Structure

Chapter 19

Lotka-Volterra competition

Coming soon...

Chapter 20

Lotka-Volterra predator-prey dynamics

Coming soon...

Part V

Animal behaviour, altruism and sexual selection

Chapter 21

Game theory: Hawks and doves

Coming soon...

Part VI

Appendix - extras

Chapter 22

Exponential growth in detail

Coming soon...

Chapter 23

The legend of Ambalapuzha

Coming soon...

Chapter 24

From population biology to fitness

Coming soon...