UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

SEEC - Statistics in Ecology, Environment and Conservation

SHORT COURSE

INTRODUCTION TO STATISTICAL MODELLING AND DATA ANALYSIS IN R

27-31 October 2025

The Centre for Statistics in Ecology, Environment and Conservation (SEEC) at the University of Cape Town is presenting an online short course in statistical data analysis and experimental design using R. The course aims to equip participants with practical experience and skills in analysing data, using some statistical techniques frequently used in the sciences. The skills include designing experiments, choosing appropriate statistical methods for visual display and statistical modelling of data, model checking, interpretation and reporting of statistical results, and understanding limitations of statistical methods and data. The course uses the R statistical package throughout but we do not assume prior knowledge of this package. The course is targeting research students or scientists that require these skills for their work.

The course will be run over **five half days (27-31 October 2025)** and will cover the following broad topics (see next page for more details):

- Introduction to R
- Introduction to statistical modelling
- Regression
- Design and analysis of experiments
- Generalised linear models

The **course fee** is R5000 for online attendance. We unfortunately are not offering any bursaries.

All those who would like to take the course should click the link below.

APPLY FOR THE COURSE

The course will assume basic knowledge of statistical analysis fundamentals such as the ideas of variability of observations and samples, probability distributions, and the basic principles of hypothesis testing. It will be preferable that you have done at least a first year university level statistics course (if you need to brush up then please visit a web resource such as this example: https://www.khanacademy.org/math/ap-statistics). You will need your own computer with the latest version of the R Statistical package and R-Studio Desktop. If you have no prior experience with R, we recommend that you familiarise yourself with the basics before the course, e.g. by going through the R4DS book or the free online course on DataCamp.

Course Outline

Module 0: Introduction to R and Statistical Modelling

Module 1: Regression
Work unit 1: Correlation and simple regression
Work unit 2: Multiple linear regression
Work unit 3: Extensions of the linear model
Work unit 4: Model Selection

Module 2: Design and analysis of experiments
Work unit 1: Introduction to experimental design
Work unit 2: Completely randomised designs
Work unit 3: Randomised Block Designs
Work unit 4: Factorial Experiments

Module 3: Generalised linear models
Work unit 1: Introduction to generalised linear models
Work unit 2: Logistic regression
Work unit 3: Poisson regression

Key Information

- Deadline for applications is 26 September 2025 and applications will be dealt with on a first come first served basis. Applying for the course will be taken as a commitment to pay the course fees if you are accepted.
- Cancellations should be made in writing and emailed to nathaniel.serfontine@uct.ac.za
- A 15% cancellation fee will apply before 26 September 2025. Thereafter a 100% cancellation fee will apply. No withdrawals will be considered after the deadline and no-shows will be required to pay the costs in full.
- Note that should payment not be received by the payment deadline, then we reserve the right to allocate your place to someone else. You are still liable for the course fee if the place is not filled.
- Where payment through official employment channels is slow, please apply early.

Contact Us

For queries related to the course, please contact Dr Vernon Visser (vernon.visser@uct.ac.za)