



**UNSW SCIENCE**  
**School of Maths and Statistics**

**Course outline**

**MATH2931**  
**Higher Linear Models**

**Term 3, 2022**

## Staff

Position	Name	Email	Room
Lecturer-in-			

## **Course Aims**

This course introduces students to statistical model building using the important class of linear models. Topics covered in the course include how to estimate parameters in linear models, how to compare models using hypothesis testing, how to select a good model or models when prediction of the response is the goal, and how to detect violations of model assumptions and observations which have undue influence on decisions of interest. Concepts are illustrated with applications from finance, economics, medicine, environmental science and engineering. Linear mod

## Course Learning Outcomes (CLO)

- CLO1 Use key theoretical tools to explore properties of linear statistical models
- CLO2 Apply key methods of inference and model choice for linear models in advanced applied settings
- CLO3 Derive fundamental results in the theory of linear statistical models
- CLO4 Apply linear statistical models in new contexts, such as finance, economics, engineering, and medicine

## Course Schedule

The course will include material taken from some of the following topics. This is should only serve as a guide as it is not an extensive list of the material to be covered and the timings are approximate. The course content is ultimately defined by the material covered in lectures.

## Moodle

Log in to Moodle to find announcements, general information, notes, lecture slide, classroom tutorial and assessments etc. <https://moodle.telt.unsw.edu.au>

## School and UNSW Policies

The School of Mathematics and Statistics has adopted a number of policies relating to enrolment, attendance, assessment, plagiarism, cheating, special consideration etc. These are in addition to the Policies of The University of New South Wales. Individual courses may also adopt other policies in addition to or replacing some of the School ones. These will be clearly notified in the Course Initial Handout and on the Course Home Pages on the Maths Stats web site.

The School of

effectively and efficiently find appropriate information sources and evaluate relevance to your needs  
use and manage information effectively to accomplish a specific purpose  
better manage your time  
understand your rights and responsibilities as a student at UNSW  
be aware of plagiarism, copyright, UNSW Student Code of Conduct and Acceptable Use of UNSW ICT Resources Policy  
be aware of the standards of behaviour expected of everyone in the UNSW community  
locate services and information about UNSW and UNSW Library

Some of these areas will be familiar to you, others will be new. Gaining a solid understanding of all the related aspects of ELISE will help you make the most of your studies at UNSW.

The *ELISE* training webpages:

<https://subjectguides.library.unsw.edu.au/elise/aboutelise>

## **Equitable Learning Services (ELS)**

If you suffer from a chronic or ongoing illness that has, or is likely to, put you at a serious disadvantage, then you should contact the Equitable Learning Services (previously known as SEADU) who provide confidential support and advice.

They assist students:

- living with disabilities
- with long- or short-term health concerns and/or mental health issues
- who are primary carers
- from low SES backgrounds
- of diverse genders, sexes and sexualities
- from refugee and refugee-like backgrounds
- from rural and remote backgrounds
- who are the first in their family to undertake a bachelor-level degree.

Their web site is: <https://student.unsw.edu.au/els/services>

Equitable Learning Services (ELS) may determine that your condition requires special arrangements for assessment tasks. Once the School has been notified of these, we will make every effort to meet the arrangements specified by ELS.

Additionally, if you have suffered significant misadventure that affects your ability to complete the course

<http://www.lc.unsw.edu.au/services-programs>

## **Applications for Special Consideration**