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You will need to show proof of vaccination on entering the Computer Lab and QR code on entering the building. The University of Melbourne COVID-19 conditions will apply. [COVID-19 Vaccination Requirements Policy](#).

Signature:		Date:	
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<b>Course fees</b>	Full	\$1485	
	UoM GR student	\$1100	Student ID

Internal billing (within the University):

<input type="checkbox"/>	<b>Internal transfer of funds</b>	Staff \$1350	<input type="checkbox"/>	UoM Student \$1000	<input type="checkbox"/>
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Full Themis account string								
Finance person:		Finance email:						

External billing:

<input type="checkbox"/>	Tax invoice	External party fee includes GST \$1485
	Name/Company	
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<input type="checkbox"/>	To pay by credit card, go here:	<a href="https://ecommerce.unimelb.edu.au/statistics-for-research-workers-using-r-and-r-markdown">https://ecommerce.unimelb.edu.au/statistics-for-research-workers-using-r-and-r-markdown</a>
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# Statistics for Research Workers using R and R Markdown

*A course of the Statistical Consulting Centre, University of Melbourne*

**Monday, 20 February 2023 to Friday, 17 March 2023**

**Online**

This course provides an introduction to foundational statistical methods and ideas used throughout statistics and data science. It uses R statistical software with RStudio and R Markdown. You will gain experience in the use of R as part of the course, but the focus is on statistical methods including:

- Measurement and study design
- Data summaries and data visualization
- Understanding distributions: the Normal distribution and the binomial distribution
- Central Limit Theorem and its application
- Foundations of statistical inference: estimation and confidence intervals, hypothesis testing
- Simple analytic methods for numerical outcomes: paired samples and independent samples
- General linear model for numerical outcomes, including analysis of variance and linear regression
- Simple analytic methods for categorical data based on contingency tables
- General analytic method for binary outcomes: logistic regression
- Principles of the design of experiments, including determination of sample size

You can expect to spend an average of 3 hours per day on the course. There will be a mix of pre-recorded lectures, live Q&A (via Zoom) with course presenters and Zoom tutorial sessions. Lecture material is pre-recorded to support flexibility in online learning.

## **Lectures**

On Mondays and Thursdays, pre-recorded lecture material will be provided. On average there are 2.5 hours of lectures on these days.

## **Live Q&A**

At 4:30 on Mondays and Thursdays, there will be live Q&A with the course presenters to follow up on any questions you have about the pre-recorded lectures.

## **Tutorial sessions**

On Tuesdays and Fridays, there will be 2-hour tutorial sessions where practical work using software can be done with the support of experienced tutors. The tutorials are planned to start at 10am.

## **Prerequisites**

There are no formal prerequisites though it is expected that most participants will have studied mathematics at VCE level, or equivalent. **Participants need to be comfortable with a limited amount of mathematical notation.** The onus is on participants to check that the course suits their needs. Please do this carefully.

## **Course presenters**

Professor Ian Gordon, the Director of the Statistical Consulting Centre and Dr Sue Finch, who have given many similar courses previously.