



Design and Analysis of Experiments
ber 16, 18, 20, 23, 25 (Mon/Wed/Fri/Mon/Wed).
(morning's only) online

Title: _____ First Name: _____ Surname: _____

Employer: _____

Department: _____

Address: _____ Postcode: _____

Telephone: _____ Fax: _____ Mobile: _____

Email: _____

Places in the course will be allocated on a first-come-first-served basis, with preference given to those who have previously expressed interest.

Please see the course outline for further information, including course times, content and pre-requisites.

Signature Date

Course Fees:
Full Fee: \$880
Staff: \$660
UoM student Fee: \$440 Student ID: _____

Tick one box only:

☐ Please send an internal charge-out for **\$600/\$800** to _____ (*required **Depart No. & Cost Centre**).

Or Full accounting string: _____

Finance person: _____ Email: _____

☐ Please send/fax me a tax invoice for **\$440/\$660/\$880** (includes GST).

To pay by **credit card (\$440/\$660/\$880)** you need to go online at:

<https://ecommerce.unimelb.edu.au/design-and-analysis-of-experiments?options=cart>

Payment is required to confirm enrolment.

Design and Analysis of Experiments

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

16, 18, 20, 23 and 25 September 2024 (mornings only) online

This course covers the principles and practice of designing experiments, and the analysis of data from them. The course covers the following topics:

- choice of experimental units;
- importance of randomisation, and the practicalities;
- replication and sample size;
- blocking and matching;
- commonly used designs, including completely randomised designs, randomised block and matched pair designs, Latin square designs;
- treatments, including factorial structures;
- analysis of data from designed experiments;
- analysis of variance and covariance;
- special designs, including incomplete block designs, split-plot designs, and fractional factorial designs;
- transformations of data;
- practical and ethical issues arising in the conduct of experiments.

Course structure:

This online course runs over five mornings (Mon/Wed/Fri/Mon/Wed).. Each day will commence at 9:00 a.m. and finish at 12.30 p.m. The sessions will mix lecture presentations with practical exercises. The statistical package Minitab will be used in the course. However, the course will not be package-centred, and no prior experience with Minitab is necessary.

Delivery mode: Online via Zoom

Cost:

The cost of the course is \$800 plus GST. We have a discounted rate for University of Melbourne staff \$600 plus GST and postgraduate students of \$400 plus GST. (GST does not apply if paying through your University department.) The fee includes a comprehensive set of notes.

Who should take this course?

The course is suitable for researchers involved in the design and analysis of research on the effectiveness of interventions or treatments. Applications include randomised trials in medicine or the social sciences, designed experiments in the biological sciences, studies of processes in engineering, as well as many other possibilities in other disciplines.

Prerequisites:

Participants will need to have studied statistics at an introductory level. For example, participants should know about hypothesis tests and confidence intervals, and, preferably, analysis of variance. The course "Statistics for Research Workers" would be suitable preparation.

Course presenter:

The presenter is Associate Professor Graham Hepworth, Consultant for the Statistical Consulting Centre in the School of Mathematics & Statistics. Graham has had extensive experience over three decades in design and analysis of experiments, in fields such as forestry, horticultural science, animal studies, medicine (randomised controlled trials), industry and the social sciences.