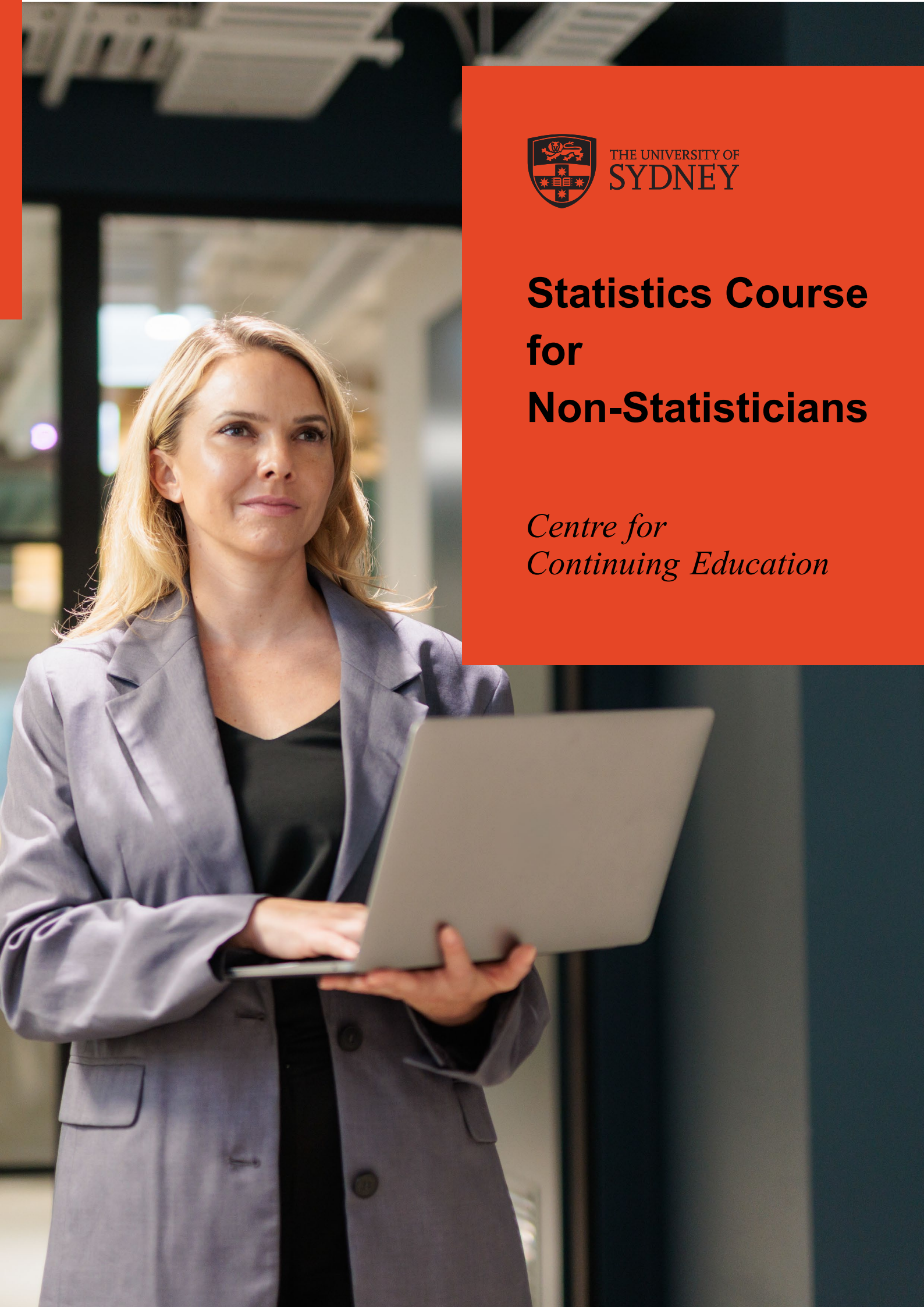

THE UNIVERSITY OF SYDNEY

Statistics Course for Non-Statisticians

Centre for Continuing Education

Statistics Course for Non-Statisticians

Statistics offers tools that can assist anyone who is working with data. Statistics is very diverse and applicable to a wide range of disciplines in the government, institutional, NGO and commercial sectors, including health, finance, education, social sciences and other areas of scientific endeavour where gathering, organising, analysing, interpreting, and communicating quantitative (numerical) data is required.

Using minimal mathematics, this one-day course will explore common descriptive and inferential statistics. This includes statistical terminology and concepts such as statistical significance (p values), practical significance (effect sizes) and confidence intervals. Using different types of data, we will identify the most appropriate statistical test, conduct it, and then interpret the results. Statistical tests will include t-tests, Analysis of Variance (ANOVA), linear regression and chi square tests. Considerations for selecting a sample size will also be explored.

Intended audience

Suitable for people from all sectors who need to review research reports or conduct their own research. Data sets provided in this workshop for educational purposes may not necessarily fit with the research area of all participants; however, skills learned here are transferable to other types of data. This course can be viewed as either an introduction to some of the more commonly used statistics and methods of analysis, or as a refresher course.

Course duration
2 sessions, 7 hours total

Time
5:30pm – 9pm

Format
Face-to-face
or
Online in real-time

Dates
Browse available
course dates

Prerequisites

Although this course is designed to be as non-mathematical as possible, some basic numerical aptitude is required.

Upon completion

Every participant receives a University of Sydney certificate of completion.

Aims

This course aims to give you the skills to understand essential statistical terminology and concepts, and how to interpret those statistics in reports. It also aims to equip you with the basics for conducting your own statistical analyses.

Outcomes

By the end of this course, you should be able to:

- identify the type of data you have or the type of data reported on in a research report
- ask and answer a researchable question or hypothesis
- check the underlying assumptions of your data in order to choose an appropriate statistical test
- determine a suitable sample size obtain descriptive statistics and conduct inferential statistical tests using free, downloadable statistical software
- interpret a range of common descriptive and inferential statistics.

Content

Prelude to statistical testing

- The three types of data:

1. continuous or interval
2. ordinal
3. nominal

- Considerations for asking a researchable question or stating an hypothesis
- Measures of central tendency and dispersion
- Data distributions and ways of presenting them
- Parametric vs nonparametric statistics
- Statistical terminology such as p values, effect size, confidence intervals, Type 1 and Type II errors
- Sample size calculations

Statistical testing

- Choosing a statistical test based on the research question or hypothesis
- Conducting and interpreting parametric statistical tests, including t-tests, ANOVA and linear regression
- Conducting and interpreting nonparametric statistical tests, especially Chi-Square tests

"An incredibly intensive subject was presented in manageable, bite size chunks! Appreciate the tutor catered to all levels of knowledge and experience in the room... and with a sense of humour!"

Louise Fazekas

"The course level and content was right where I needed it to be. I came to find out what I don't know, and what I need to further reading/study. I filled in some of my knowledge gaps and I am much clearer about what else I now need."

Wendy Moran

Delivery Style

This course consists of mini-lectures followed by practical exercises.

Materials

Course materials are distributed electronically. You will be provided with a link to all course materials, including Excel data sets for use during the course.

Before the course

For online classes, please download the following free software (Windows and Mac versions available):

1. Jamovi and user guide
2. G*Power and user guide

Organisational training and development

This course can be delivered as a private session for groups, and tailored to meet the needs of your business. Contact us to discuss our range of organisational training solutions.

Learn more

THE UNIVERSITY OF SYDNEY

We recognise and pay respect to the Elders and communities – past, present, and emerging – of the lands that the University of Sydney's campuses stand on. For thousands of years they have shared and exchanged knowledges across innumerable generations for the benefit of all.

Empower ambition,
inspire leadership

For more information

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