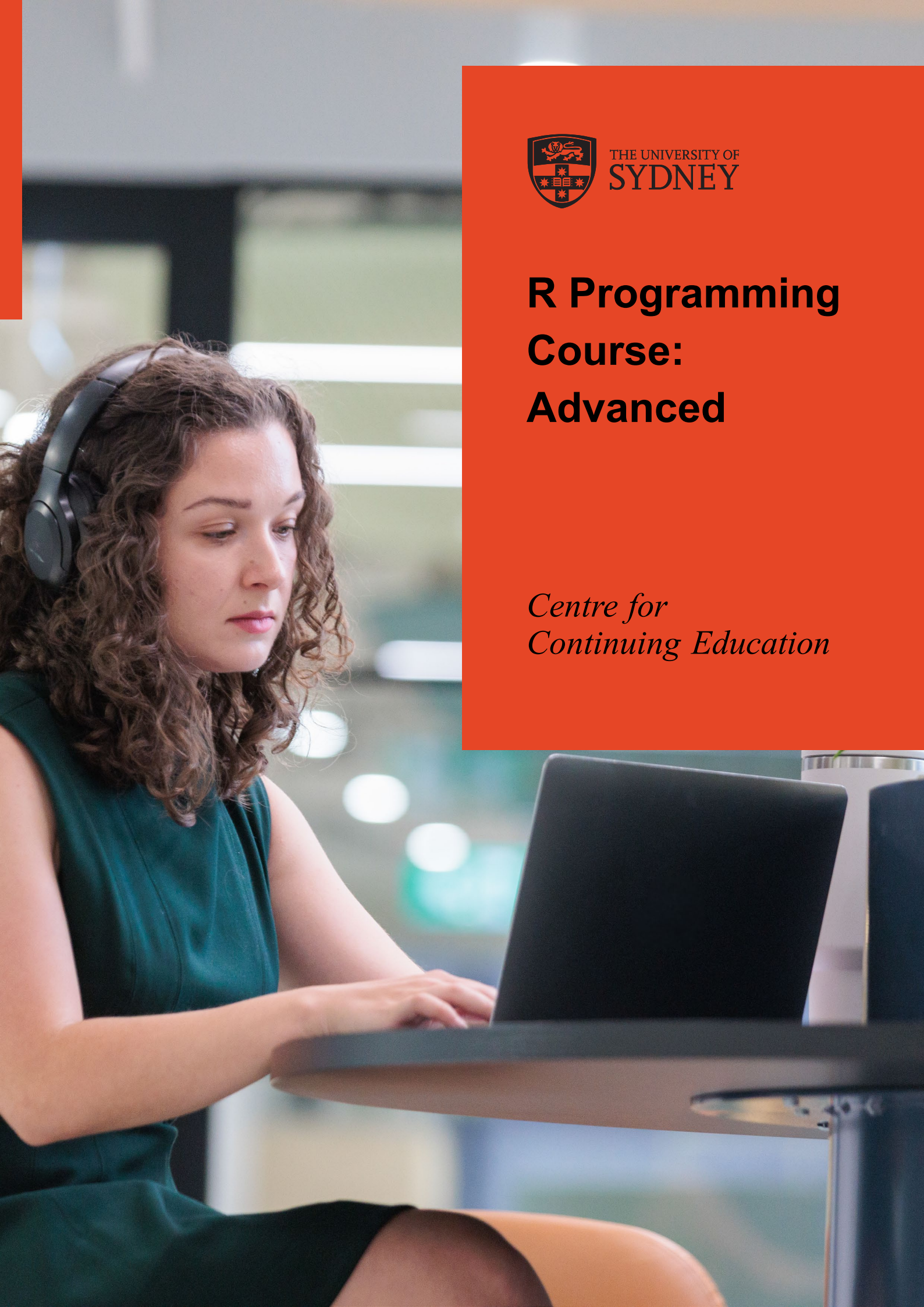

THE UNIVERSITY OF SYDNEY

R Programming Course: Advanced

Centre for Continuing Education

R Programming Course: Advanced

Looking to take your data science skills into the stratosphere? Welcome to Advanced R Programming.

Writing elegant R code for data analysis is a critical skill for any modern data scientist, analyst, or programmer. This elegant code can handle advanced data structures like spatial data and regular expressions, and can maximise automation through the functional programming paradigm in R's apply family of functions.

The advanced R user can also do much more than write code and perform analysis. You can develop custom packages and functions that save time. You can share these time saving techniques with others. You can communicate your findings in clean and tidy ways.

In this course, you will learn how to work with advanced data structures and communicate outside of the R environment. This includes package development, RMarkdown, and database connections. Further, you will learn how to use the Python language within the R environment.

Intended audience

Regular users of R, Python, SQL, SAS, SPSS, or other data science programming languages will find the course most beneficial. Managers and leaders will also find Advanced R advantageous for gaining organisation efficiencies.

Course duration

1 session, 8 hours total

Time

9am - 5pm

Format

Face-to-face
or
Online in real-time

Dates

Browse available
course dates

Prerequisites

As this is an advanced class, some technical programming experience is required. Students who have completed **R Programming Course: Introduction** and **R Programming Course: Intermediate** will be well prepared for Advanced R material.

Upon completion

Every participant receives a University of Sydney certificate of completion.

Aims

This course aims to teach advanced R topics like package development, spatial data, RMarkdown, and package development. These aims are taught through the development of an R package, from the ground up.

Outcomes

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

- develop your own R package
- confidently use advanced formatting types
- share your code and analysis in tidy R markdown documents
- create interactive maps using spatial data
- automate complex functions
- connect to databases in R Studio.

Content

- Regular expressions (regex)
- Spatial data (packages sf, tmap, leaflet)
- Automation through Functionals (packages apply and purr)
- Developing packages in R
- Creating R markdown documents
- Running Python within R
- SQL in R
- Connecting to databases within R/R Studio

Delivery style

This course is taught through a series of concepts, examples, problem exercises, and in class knowledge challenges. The material is presented so that participants of varying backgrounds, skills and abilities can all move together at a brisk, but comfortable learning pace.

Materials

A link to access and download the following online course materials is provided:

- PowerPoint notes with examples
- all code and script files used throughout the course
- ancillary hand-outs and learning aids.

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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