



THE UNIVERSITY OF  
**SYDNEY**

## **GIS Course: Intermediate**

*Centre for  
Continuing Education*

# GIS Course: Intermediate



Ready to take your Geographic Information Systems (GIS) and spatial data skills to the next level? The intermediate GIS course provides students with in-depth training in GIS, to meet the needs of 21st-century spatial analytics. This course enhances the toolkit of IT professionals, managers, and others, empowering them to derive actionable insights using spatial data.

This course follows the initial [GIS Introduction](#) course offered by CCE. Topics include geoprocessing tools, automation of spatial processes, raster imagery, metadata management, and more. The course uses the ArcGIS Pro software.

Developed by ESRI, this software supersedes legacy ArcMap products and will make it easy to use for those already familiar to existing ArcMap users.

## Intended audience

This course is designed for industry professionals and managers looking to enhance their GIS and spatial data skill set or those looking to upskill for labour market competitiveness.



### Course duration

1 session, 8 hours total



### Time

9am - 5pm



### Format

Face-to-face



### Dates

Browse available [course dates](#)

## Prerequisites

It is assumed you have completed CCE's [GIS: Introduction](#) course or have equivalent knowledge.



## Upon completion

Every participant receives a University of Sydney statement of completion.



## Aims

This course aims to provide you with a deeper understanding of GIS techniques. It aims to increase your confidence, efficiency, and proficiency in working with spatial data, enabling you to meet the ongoing demand for critical GIS skills.



## Learning outcomes

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

- create ArcGIS Pro projects
- edit spatial data
- define and edit data schemas to define new spatial data sources
- work with and process other spatial data formats like KML and GeoJSON
- use and process raster spatial data
- build automated geoprocessing tasks in ModelBuilder, Python programming or R programming.



## Content

### Review of GIS Introduction course

#### Setup and tour of ArcGIS Pro

- Project creation
- The ArcGIS Pro interface
- Base maps
- Navigate tools
- Inquiry tools

#### Editing data

- Editing spatial geometries
- Editing feature attributes

#### Data schemas

- Fields view
- Adding, calculating and deleting attributes
- Creating centroids
- Standard joins & Spatial joins

### Other spatial data formats

- XY coordinates, KLM, json/geojson

#### Raster data

- Converting features to raster data
- Extract by mask
- Reclassifying
- Raster analysis

#### Programmatic GIS

- ModelBuilder
- Python programming language
- R programming language



*“Very well presented, and an interesting and engaging course. Good use of real-life data to help show practical uses for GIS.”*

**David Jolley**



*“Great course. Facilitator did a great job delivering complex concepts effortlessly.”*

**Husam Desuqi**



### **Delivery style**

Taught over one day, an interactive workshop that includes lectures, individual exercises and discussion.

### **Materials**

All course materials and files are available electronically.



### **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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