# Drones - Data Processing, Visualization, and Modelling

**Register here**

**In 2025, there are two Drone Course offerings – Basic (1 Day) and Advanced (2 Days). There are three slots for the Basic and five for the Advanced. The details are listed below:**

| Date | Time | Category | Cost (€) |
|------|------|----------|----------|
| 2nd July | 9:30 – 17:00 | Basic | 100 |
| 3rd July | 9:30 – 17:00 | Basic | 100 |
| 14-15th July | 9:30 – 17:00 | Advanced | 350 |
| 17-18th July | 9:30 – 17:00 | Advanced | 350 |
| 21-22nd July | 9:30 – 17:00 | Advanced | 350 |
| 24-25th July | 9:30 – 17:00 | Advanced | 350 |
| 28-29th July | 9:30 – 17:00 | Advanced | 350 |
| 31st July | 9:30 – 17:00 | Basic | 100 |

UCD staff and students get €30 discount for the Basic and €50 off for the Advanced. Contact geography@ucd.ie for more information.

Morning and afternoon tea are provided.

A Certificate of Completion will be provided.

## The workshop will cover:

- Drone theory, development, components, applications, and regulations

- Image acquisition including flight planning, ground control placement and accuracy/area trade-offs. It will include a field demonstration of drone flights.

- Workflows including image reporting, setting processing and the impacts of these settings on point cloud accuracy, editing point clouds, exporting orthophotos and point cloud datasets.

- Analysing and processing point cloud data to study geomorphic processes – point cloud filtering, producing bare-earth - DTM, with surface features - DSM, and the Difference – DEM, including 3D modelling.

- Using drone outputs for GIS analysis, visualization, dissemination, modelling or other applications.

- Practical Application of Research data through real life examples from rural and urban settings.

## Who is it for?

Anybody who wants to map landscapes at high-resolution and identify change. The workshop is suitable for those with no or limited experience with drones and Structure from Motion (SfM) methods.

At the end of the workshop, you will be able to use an inexpensive, off-the-shelf drone and commonly available software to create high-resolution orthophotos and 3-D point cloud data. This workshop will help you decide if this technology is something you should invest in. If you already have a drone, this will help you get the most out of it.

**Note:** The 1-Day course will cover the basics only with hands-on drone demonstration.