

ACADEMY LEVEL COURSE

PRECISE AERIAL MAPPING ADVANCED COURSE

The UAV Academy of Asia Sdn Bhd (1302071-D)

**DRONE
ACADEMY**
— ASIA —



LOCATION

Futurise Centre, Persiaran APEC,
Cyber 8, Cyberjaya Selangor.

*In-House (Group) Training
Across Malaysia

COURSE FEES

RM 3,800 per pax

DURATION

2 Days • 9am – 5pm

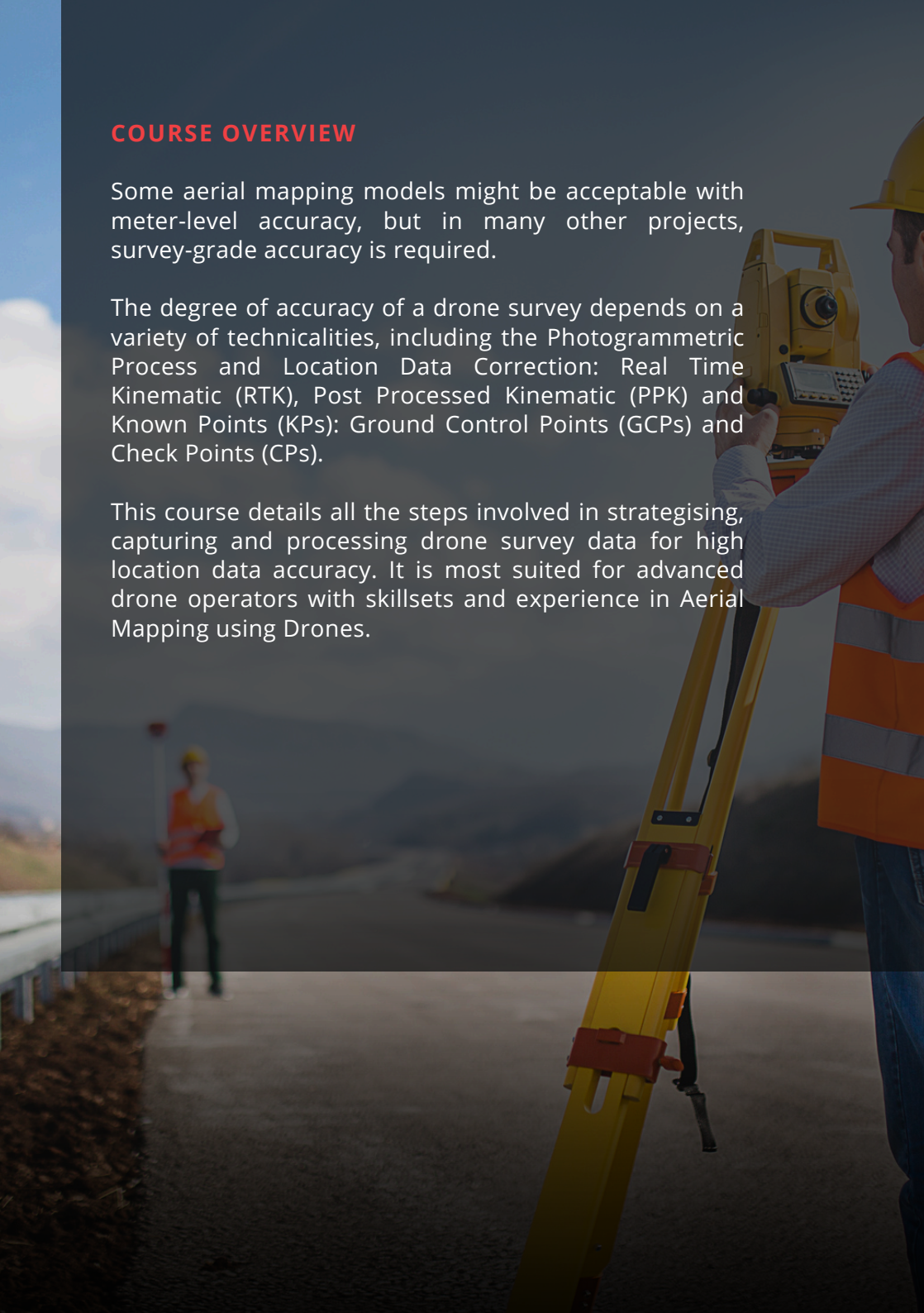


COURSE OVERVIEW

Some aerial mapping models might be acceptable with meter-level accuracy, but in many other projects, survey-grade accuracy is required.

The degree of accuracy of a drone survey depends on a variety of technicalities, including the Photogrammetric Process and Location Data Correction: Real Time Kinematic (RTK), Post Processed Kinematic (PPK) and Known Points (KPs): Ground Control Points (GCPs) and Check Points (CPs).

This course details all the steps involved in strategising, capturing and processing drone survey data for high location data accuracy. It is most suited for advanced drone operators with skillsets and experience in Aerial Mapping using Drones.



COURSE OBJECTIVE

The objective of this Precise Aerial Mapping Advanced Course teaches the end-to-end process to achieve best-in-class aerial mapping outputs.

LEARNING OUTCOMES

- Understand Coordinate Correction Methods for Aerial Mapping.
- Master End to End Processes & Techniques of using Known Points (KPs), Real Time Kinematic (RTK) and Post Processed Kinematic (PPK) for Land Surveying with Drones.
- Choose and decide the Best Equipment for High Accuracy Aerial Mapping at the site.
- Practical Aspects of KPs Capture and RTK & PPK Flights Execution.
- Internalise Flight Planning Workflows with KPs.
- Master KP Positioning Strategy and RTK and PPK Data Correction.
- Skill yourself with KP, RTK and PPK Software Processing Workflows.
- Learn Advanced Photogrammetry Modules with data accuracy verification.



COURSE MODULES

Module 1: Introduction to Precise Aerial Mapping

- 1.1 Benefits and Applications
- 1.2 Type of Accuracy and Hardware
- 1.3 Location Data Correction Methods – KPs, RTK and PPK
- 1.4 Known Points - Ground Control Points

Module 2: UAS Safety, Laws, Rules and Regulations

- 2.1 UAS Regulators in Malaysia
- 2.2 Airspace Management
- 2.3 Permit Application in Malaysia
- 2.4 Privacy and Data Protection

Module 3: GNSS Fundamentals

- 3.1. Introduction to GNSS and Coordinates
- 3.2 Type of Accuracy
- 3.3 Control Point Target Types and Functions
- 3.4 Control Points Layout Planning

Module 4: KPs Data Collection and Extraction

- 4.1 Introduction to GNSS Equipment
- 4.2 Standard Operating Procedures of KPs Data Collection
- 4.3 Outdoor KPs Data Collection
- 4.4 KPs Data Output Reporting

Module 5: Known Points (KPs) Precise Aerial Mapping

- 5.1 Known Points Precise Aerial Mapping Workflow
- 5.2 Photogrammetry Requirements and Factors
- 5.3 Known Points Aerial Mapping Mission Planning
- 5.4 Known Points Aerial Mapping Mission Execution

COURSE MODULES

Module 6: Real Time Kinematic Precise Aerial Mapping

- 6.1 RTK Precise Aerial Mapping Workflow and Hardware
- 6.2 Working Principal of RTK Referencing Stations
- 6.3 UAS and Referencing Station Setup/Connection
- 6.4 RTK Precise Aerial Mapping Mission Planning and Execution

Module 7: Post Processed Kinematic Aerial Mapping

- 7.1 PPK Precise Aerial Mapping Workflow
- 7.2 PPK Data Handling
- 7.3 UAS PPK Data Processing I
- 7.4 UAS PPK Data Processing II

Module 8: Precise Aerial Data Post-Processing

- 8.1 Advanced Photogrammetry Processing I (RTK and PPK)
- 8.2 Advanced Photogrammetry Processing II (KPs – GCPs & CPs)
- 8.3 Data Accuracy Verification
- 8.4 Comparison and Summary of Different Aerial Mapping Approaches

COURSE SUMMARY

Scan to
WhatsApp us.



DURATION

2 Days, 9am-5pm



COURSE FEES

RM 3,800



PREREQUISITES

Aerial Mapping
Fundamentals



CERTIFICATE

Certificate of
Training



MINIMUM AGE

18 Years Old



LOCATION

Cyberjaya
or
Customised
Location



EQUIPMENT

DJI Enterprise
Drone with RTK
System & Base
Station Provided



MATERIALS PROVIDED

Student Handbook

*To Bring Laptop

EMAIL

admin@droneacademy-asia.com

PHONE

+6010 259 9502

WHATSAPP

wa.me/60102599502

FACEBOOK

[@droneacademyasia](https://www.facebook.com/droneacademyasia)



PRECISE AERIAL MAPPING ADVANCED COURSE

COURSE SCHEDULE



DAY 1

TIME	CONTENT	
9.00 am – 10.00 am	Introduction to Precise Aerial Mapping	<ul style="list-style-type: none"> Type and Benefits of Precise Aerial Mapping DJI Phantom 4 RTK and DJI GSR App
10.00 am – 11.00 am	UAS Laws, Rules & Regulations	<ul style="list-style-type: none"> UAS Regulations Permit Application Procedures
11.00 am – 12.00 pm	GNSS Fundamental	<ul style="list-style-type: none"> GNSS Fundamental Knowledge GNSS Project Planning
12.00 pm – 1.00 pm	KP, GCP Target and Layout	<ul style="list-style-type: none"> Type of Point and Criteria of GCP Target GCP Layout Planning
1.00 pm – 2.00 pm	Lunch	
2.00 pm – 3.00 pm	Mission Planning	<ul style="list-style-type: none"> Mission Planning UAS Safety Precautions & Emergency Procedures
3.00 pm – 4.45 pm	Outdoor Hands On	<ul style="list-style-type: none"> In-Field Setup Hands On (RTK, PPK and GCP)
4.45 pm – 5.00 pm	Day 1 Recap: Q&A	

DAY 2

TIME	CONTENT	
9.00 am – 11.30 am	Post-Processed Kinematic Data Preparation	<ul style="list-style-type: none"> Introduction to Post-Processed Kinematic Data Rover and Base Station Observation Data Processing
11.30 am – 1.00 pm	Precise Aerial Data Processing I	<ul style="list-style-type: none"> Photogrammetry Software Hands On GCP Input and Coordinate Reference System
1.00 pm – 2.00 pm	Lunch	
2.00 pm – 4.15 pm	Precise Aerial Data Processing II	<ul style="list-style-type: none"> Photogrammetry Software Hands On Generating Outputs
4.15 pm – 4.45 pm	Post-Processing and Data Accuracy Verification	<ul style="list-style-type: none"> Data Accuracy Verification Comparison and Summary of Different Aerial Mapping Approaches
4.45 pm – 5.00 pm	Conclude Day 2: Q&A	