Training Course on BVLoS (Beyond Visual Line of Sight) Operations (Advanced): Regulations and technology.

Professional Development Training Course Outline

Category	Drone Technology	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Unlock the full potential of drone technology with our comprehensive **Beyond Visual Line of Sight (BVLoS) Operations (Advanced)** training program. Training Course on BVLoS (Beyond Visual Line of Sight) Operations (Advanced): Regulations and technology delves into the intricate **regulations governing BVLoS flights**, exploring the latest advancements in **drone technology enabling extended range operations**. Master the critical aspects of **risk assessment for BVLoS**, learn cutting-edge **remote piloting techniques**, and gain practical insights into **aviation safety protocols** for complex missions. Equip yourself with the knowledge and skills to navigate the evolving landscape of **unmanned aerial systems (UAS)** and confidently execute sophisticated BVLoS operations, paving the way for innovation and efficiency in various industries.

This advanced program goes beyond basic drone operation, focusing on the strategic implementation of **BVLoS technology** for applications such as infrastructure inspection, precision agriculture, and long-range delivery. Participants will gain a deep understanding of **communication systems for BVLoS**, including **satellite communication and radio links**, alongside crucial knowledge of **airspace management for extended operations**. We emphasize practical application through realistic scenarios and case studies, ensuring graduates are proficient in adhering to **BVLoS regulatory compliance** and leveraging the transformative power of **autonomous flight operations**. Join us to become a leader in the rapidly expanding field of **advanced drone operations**.

Programme Curriculum

Training Course on BVLoS (Beyond Visual Line of Sight) Operations (Advanced): Regulations and technology.

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Course Duration

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Course Objectives

This training course aims to equip participants with the following key competencies:

1. Comprehend and apply the latest **international and regional BVLoS regulations** and legal frameworks.
2. Develop comprehensive **risk mitigation strategies** specific to complex BVLoS environments and scenarios.
3. Evaluate and integrate various **drone communication technologies** for reliable long-range control.
4. Enhance **remote piloting skills** for safe and efficient operation of drones beyond visual line of sight.
5. Navigate and comply with **airspace restrictions and procedures** for extended drone operations.
6. Implement and maintain effective **aviation safety management systems** for BVLoS operations.
7. Develop and execute robust **emergency procedures** for unforeseen events during BVLoS flights.
8. Ensure the integrity and security of **data links for command and control** in BVLoS missions.
9. Employ technologies and techniques to maintain **situational awareness** during BVLoS flights.
10. Understand the considerations for integrating diverse **payloads for long-range applications**.
11. Implement best practices for **drone maintenance and ensuring system reliability** for extended operations.
12. Develop detailed **operational flight plans** that adhere to regulatory requirements and safety standards.
13. Explore emerging **trends and future applications of BVLoS technology** across various industries.

Organizational Benefits

- Increased Operational Efficiency.
- Reduced Operational Costs
- Enhanced Data Acquisition
- Improved Safety and Accessibility
- Competitive Advantage
- Scalability and Flexibility
- Faster Response Times.
- Environmental Monitoring.

Target Audience

1. Experienced Drone Pilots
2. UAS Program Managers
3. Aviation Safety Officers
4. Infrastructure Inspectors.
5. Agricultural Professionals
6. Law Enforcement and Emergency Responders.
7. Logistics and Delivery Companies.
8. Researchers and Scientists

Course Outline

Module 1: Foundations of BVLoS Operations

- Overview of Beyond Visual Line of Sight (BVLoS) flight principles.
- Historical context and evolution of BVLoS technology and regulations.
- Key terminology and definitions related to advanced drone operations.
- Understanding the benefits and challenges of implementing BVLoS.
- Exploring diverse applications of BVLoS across various industries.

Module 2: Global and Regional BVLoS Regulations

- In-depth analysis of international aviation regulations (e.g., ICAO).
- Detailed review of specific regional and national BVLoS regulations (e.g., FAA, EASA, KCAA).
- Understanding the process for obtaining BVLoS operational approvals and waivers.
- Navigating airspace classifications and restrictions for extended operations.
- Case studies of successful BVLoS regulatory compliance strategies.

Module 3: Advanced Risk Assessment and Mitigation

- Methodologies for identifying and analyzing hazards in BVLoS environments.
- Developing comprehensive risk assessment frameworks and matrices.
- Implementing effective risk mitigation strategies and safety protocols.
- Understanding the role of safety management systems (SMS) in BVLoS.
- Practical exercises in conducting BVLoS-specific risk assessments.

Module 4: Communication Systems for BVLoS Operations

- Principles and technologies of radio frequency (RF) communication links.
- Understanding satellite communication systems for long-range control.
- Exploring cellular network integration for drone command and data transmission.

- Analyzing data link security and encryption protocols for BVLoS.
- Troubleshooting common communication challenges in extended drone operations.

Module 5: Remote Piloting Techniques and Procedures

- Advanced flight control techniques for maintaining situational awareness beyond VLOS.
- Developing standardized operating procedures (SOPs) for BVLoS missions.
- Crew resource management (CRM) principles for remote pilot teams.
- Emergency procedures and contingency planning for BVLoS flights.
- Simulation training and practical exercises in remote piloting scenarios.

Module 6: Airspace Management and Integration

- Detailed understanding of airspace classifications and their implications for BVLoS.
- Procedures for coordinating with air traffic control (ATC) for BVLoS flights.
- Utilizing electronic conspicuity and detect-and-avoid technologies.
- Developing strategies for safe integration of drones into controlled airspace.
- Case studies of successful airspace coordination for BVLoS operations.

Module 7: Aviation Safety Management Systems (SMS) for BVLoS

- Principles and components of a comprehensive aviation SMS.
- Implementing hazard identification and risk assessment processes within SMS.
- Developing and implementing safety policies and procedures for BVLoS.
- Conducting safety audits and investigations for continuous improvement.
- Integrating SMS principles into all aspects of BVLoS operations.

Module 8: Emergency Response and Contingency Planning

- Developing comprehensive emergency response plans for various BVLoS scenarios.
- Procedures for handling lost link, system failures, and other emergencies.
- Coordination with emergency services and relevant authorities.
- Post-incident analysis and lessons learned for continuous improvement.
- Practical simulation exercises for emergency response protocols.

Module 9: Data Link Reliability and Security

- Understanding factors affecting data link reliability in BVLoS operations.
- Implementing redundancy and fail-safe mechanisms for critical data links.
- Cybersecurity best practices for protecting drone communication systems.
- Data encryption and authentication protocols for secure data transmission.
- Monitoring and troubleshooting data link performance during BVLoS flights.

Module 10: Maintaining Situational Awareness Beyond Line of Sight

- Utilizing sensor data (e.g., ADS-B, radar) for remote situational awareness.
- Implementing visual observers and other supplementary safety measures.
- Developing effective communication protocols within the remote operating team.
- Utilizing mapping and telemetry data for real-time flight monitoring.
- Strategies for mitigating human factors affecting remote pilot performance.

Module 11: Payload Integration and Operation for BVLoS

- Considerations for selecting and integrating payloads for long-range missions.

- Power management and data handling for various payload types.
- Operational procedures for deploying and controlling remote payloads.
- Ensuring payload compatibility with BVLoS drone platforms and regulations.
- Case studies of successful payload integration for specific BVLoS applications.

Module 12: Drone Maintenance and System Reliability for Extended Operations

- Best practices for pre-flight checks and routine maintenance of BVLoS drones.
- Understanding factors affecting drone system reliability over extended durations.
- Implementing preventative maintenance schedules and procedures.
- Troubleshooting common mechanical and electrical issues in remote locations.
- Logistics and support considerations for maintaining BVLoS drone fleets.

Module 13: Operational Planning and Execution for BVLoS Missions

- Developing detailed operational flight plans incorporating regulatory requirements.
- Utilizing flight planning software and tools for BVLoS missions.
- Managing airspace access and obtaining necessary clearances.
- Coordinating ground support and logistics for remote operations.
- Post-flight analysis and reporting for continuous improvement of BVLoS operations.

Module 14: Future Trends and Emerging Technologies in BVLoS

- Exploring advancements in autonomous flight capabilities and artificial intelligence.
- Understanding the potential of drone swarms and collaborative robotics in BVLoS.
- Analyzing the development of new communication technologies for extended range.
- Considering the ethical and societal implications of widespread BVLoS adoption.
- Discussing the future regulatory landscape for advanced drone operations.

Module 15: Practical Applications and Case Studies of BVLoS

- In-depth analysis of real-world BVLoS applications in various industries.
- Review of successful BVLoS project implementations and lessons learned.
- Interactive workshops and simulations of BVLoS mission planning and execution.
- Presentations from industry experts and practitioners in the field.
- Developing a capstone project or case study based on a specific BVLoS application.

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
16 Nov 2026	27 Nov 2026	Online	$2,000
16 Nov 2026	27 Nov 2026	Physical	$3,000
16 Nov 2026	27 Nov 2026	Physical	$6,000
16 Nov 2026	27 Nov 2026	Physical	$6,000
16 Nov 2026	27 Nov 2026	Physical	$12,000

Start Date	End Date	Location	Price
16 Nov 2026	27 Nov 2026	Physical	$9,000
16 Nov 2026	27 Nov 2026	Physical	$12,000
16 Nov 2026	27 Nov 2026	Physical	$12,000

Ready to enroll or request a customized program? Book online or contact us:

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