

Agenda

Presented by Edwin “Chip” Simon

Commercial Small Unmanned Aircraft Systems (sUAS) Applications - FAA Part 107 Remote Pilot License

- Regulatory overview for commercial applications
- Preparing for the test
- Where to take the test
- Key topics - airspace, sectional charts METARs, TFRs, working with other agencies
- Operational safety - flight and maintenance logs

Overview of Commercial sUAS Systems for Surveying and Engineering Applications

- Benefits of sUAS vs traditional manned aircraft photogrammetry
- Aircraft types, fixed wing, quad, hex and octa copters
- Payload capacity, system redundancy, control and avionics
- Cameras: sensor sizes and types, dynamic range, lens specifications

Integration of GPS, Terrestrial and sUAS Data into CAD and GIS

- Introduction/refresher to map projections and coordinate systems
- Geodetic datums and coordinate systems
- Overview of the Transverse Mercator Projection
- Grid/ground coordinates and geoid models
- Getting terrestrial and GPS data to match and work harmoniously
- Map projection setup in AutoCAD, GIS and the .PRJ file

Mapping Using UAS - Preflight

- Capture software set-up - Pix4D Capture, DJI Ground Station Pro, Litchi
- Preflight planning, project control, GCP location and density
- Flight operations and considerations

Photogrammetry Demonstration/Case Study - Post-flight

- Pix4D software demonstration
- Pix4D - project setup, directory structure, camera optimization parameters
- Working with control points, aerial targets and photo ID points
- Output deliverables, LAS, DXF, GeoTIFFs

Introduction to Project Validation

- Analysis of the Pix4D quality report
- What to do when processing goes wrong
- Troubles associated with erroneous GCPs and more complex terrain

Going Forward

- Implementation of an sUAS program into your surveying company
- Questions and answers

Aerial Mapping

Technologies and Procedures

Albuquerque, NM - Wednesday, November 20, 2019



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Learning Objectives

You'll be able to:

Learn benefits of small unmanned aircraft systems(sUAS) vs traditional manned aircraft photogrammetry.

Discuss key topics in the FAA Part 107 Remote Pilot License test.

Understand how to get terrestrial and GPS data to match and work harmoniously.

Explore the preflight process of mapping using UAS.

Review a post-flight photogrammetry demonstration case study.

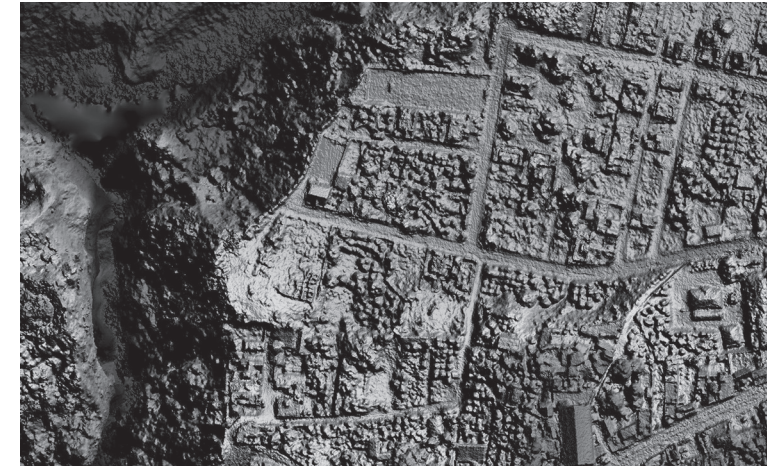
Get tips on implementing an sUAS program at your company.



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Aerial Mapping Technologies and Procedures

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Examine the regulation of commercial small unmanned aircraft systems (sUAS)

Explore commercial sUAS systems for surveying and engineering applications

Integrate GPS, terrestrial and sUAS data into CAD and GIS

Discuss issues associated with erroneous GCPs and more complex terrain

Consider adding a beneficial sUAS program into your surveying company

Continuing Education Credits

Professional Engineers & Land Surveyors

7.0 PDHs

Floodplain Managers

6.5 ASFPM CECs



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Faculty



Edwin “Chip” Simon *Colorado Registered Professional Land Surveyor, Founder of Geospatial Applications, LLC*

Mr. Simon has nearly 20 years of land surveying experience and enjoys bringing innovative and disruptive technologies into the surveying and mapping profession. He is intimately familiar with RTK surveying (GPS/ GNSS), static control, map projections, and coordinate systems, and he is certified by the National Geodetic Survey as an OPUS projects manager. Mr. Simon received his FAA Part 107 sUAS license in 2017, and he has been refining workflows to allow sUAS photogrammetry to be utilized effectively in the mountains and forests of Southwestern Colorado. He has completed nearly 30 aerial mapping projects utilizing sUAS for both public and private clients including the State of Colorado’s Fort Lewis College, for the Whalen Gymnasium Expansion. Mr. Simon has a passion for photography, mountain biking and fly fishing. In his free time can be found outside in the mountains surrounding Durango, Colorado.

Seminar Information

Albuquerque Marriott Pyramid North	Registration	Lunch (On your own)
5151 San Francisco Road NE	8:00 - 8:30 am	12:15 - 1:15 pm
Albuquerque, NM 87106	Morning Session	Afternoon Session
(505) 821-3333	8:30 am - 12:15 pm	1:15 - 5:00 pm

Tuition
\$289 for individual registration
\$269 for three or more simultaneous registrations.

Included with your registration:
Complimentary continental breakfast and printed seminar manual.

Receive a reduced tuition rate of \$101 by registering to be our on-site coordinator for the day. For availability and job description, please visit www.halfmoonseminars.org.

How to Register

- Visit us online at www.halfmoonseminars.org
- Mail-in or fax the attached form to 715-835-6066
- Call customer service at 715-835-5900

Cancellations: Cancel at least 48 hours before the start of the seminar, and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another seminar or the self-study package. You may also send another person to take your place.

Additional Learning

Webinar Series

Distributed Batteries for Solar PV Systems

- **Distributed Batteries for Solar PV Systems, Part I**
Wed., Nov. 6, 2019, 11:00 AM - 2:15 PM CST
- **Distributed Batteries for Solar PV Systems, Part II**
Thurs., Nov. 7, 2019, 11:00 AM - 2:15 PM CST

Complying with ADA Standards for Accessible Design

- **Complying with State & Federal Accessibility Requirements**
Thurs., Nov. 7, 2019, 11:00 AM - 1:30 PM CST
- **Applying the 2010 & A117.1 Accessibility Standards**
Fri., Nov. 8, 2019, 11:00 AM - 1:30 PM CST

For more information and other online learning opportunities visit:
www.halfmoonseminars.org/webinars/

Fire Protection and Building Codes

- **Fire Protection and Life Safety Design**
Tues., Nov. 12, 2019, 11:00 AM - 12:00 PM CST
- **Occupancy Classifications**
Tues., Nov. 12, 2019, 12:30 - 2:30 PM CST
- **Means of Egress**
Tues., Nov. 19, 2019, 11:00 AM - 1:00 PM CST
- **Fire Protection Features and Equipment**
Tues., Nov. 19, 2019, 1:30 - 3:00 PM CST

Structural Forensic Engineering

- **Introduction to the Forensic Engineering Process**
Tues., Nov. 12, 2019, 11:00 AM - 1:00 PM CST
- **Causes of Failures and the Forensic Engineering Report**
Tues., Nov. 12, 2019, 1:30 - 3:30 PM CST
- **Forensic Examination of Structures and Use in Litigation**
Wed., Nov. 13, 2019, 11:00 AM - 1:00 PM CST

Continuing Education Credit Information

This seminar is open to the public and offers 7.0 PDHs to professional engineers and land surveyors in all states. Educators and courses are not subject to preapproval in New Mexico.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00000700), North Carolina, and North Dakota. HalfMoon Education is deemed an approved continuing education sponsor for New York engineers and land surveyors.

The Association of State Floodplain Managers has approved this event for 6.5 CECs.

Attendance will be monitored, and attendance certificates will be available after the seminar for most individuals who complete the entire event. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

Can’t Attend? Order the Manual and Audio from the Live Seminar as a Self-Study Package!

Audio recordings of this seminar are available for purchase starting at \$269. See registration panel for more information and please refer to specific state licensing rules or certification requirements to determine if this learning method is eligible for continuing education credit.

Registration

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Complete the entire form. Attach duplicates if necessary.	
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() I am not attending. Please send me the self-study package: <input type="checkbox"/> Downloadable MP3 Audio/PDF Manual for \$269.00 . <input type="checkbox"/> CD/Manual Package for \$289.00 . <input type="checkbox"/> USB/Manual Package \$289.00 . (S&H included. Please allow five weeks from seminar date for delivery)	
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