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
San Diego, CA - Thursday, March 19, 2020

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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.

Examine aircraft types, cameras and software.

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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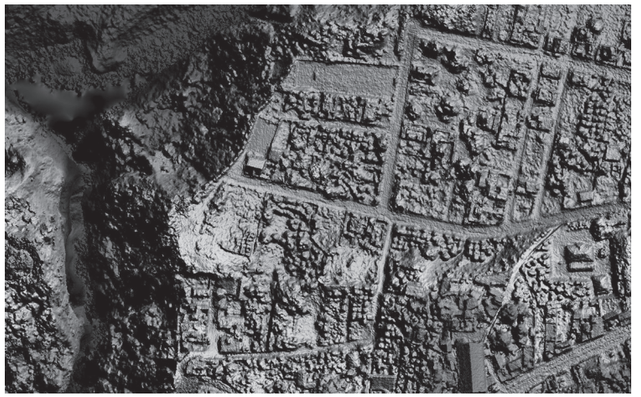

Examine the regulation of commercial small unmanned aircraft systems (sUAS)

Explore commercial sUAS systems for surveying and engineering applications

Integrate GPS, terrestrial and sUAS data into CAD and GIS

Discuss preflight and post-flight procedures

Consider adding a beneficial sUAS program into your surveying company

Continuing Education Credits

This course offers California professional engineers, professional land surveyors, and geologists a 7.0 hour continuing education opportunity. It will qualify for continuing education credit in most states with mandatory continuing education. Details are inside brochure.

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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 he can be found outside in the mountains surrounding Durango, Colorado.

Here's what past attendees had to say about the program and presenter Edwin "Chip" Simon:

"Mr. Simon is very knowledgeable - lots of valuable information." – Land Surveyor

"Content is very useful and will implement into our practice" – Civil Engineer

Additional Learning

Webinar Series

Foundations in Cold Regions

- **Introduction to Foundations in Cold Regions**
  Thurs., Feb. 20, 2020, 11:00 AM - 12:30 PM CST
- **Shallow Foundation Design in Cold Regions**
  Thurs., Feb. 20, 2020, 1:00 - 2:30 PM CST
- **Deep Foundation Design in Cold Regions**
  Fri., Feb. 21, 2020, 11:00 AM - 12:30 PM CST
- **Foundation Construction in Cold Regions**
  Fri., Feb. 21, 2020, 1:00 - 2:00 PM CST

Soil Mechanics and Slope Stability

- **Soil Investigation and Classification**
  Tues., Feb. 25, 2020, 11:00 AM - 1:00 PM CST
- **Reviewing Hydraulic and Mechanical Properties of Soils**
  Tues., Feb. 25, 2020, 1:30 - 3:00 PM CST
- **Determining and Increasing Bearing Capacity**
  Wed., Feb. 26, 2020, 11:00 AM - 1:00 PM CST
- **Determining and Increasing Slope Stability**
  Wed., Feb. 26, 2020, 1:30 - 3:00 PM CST

Designing for Climate Resilience

- **Current and Anticipated Climate Effects on Structures and Communities**
  Thurs., Feb. 27, 2020, 11:00 AM - 12:30 PM CST
- **Assessing the Impact of Sea Level Rise, Changing Temperature and Changing Weather Patterns**
  Thurs., Feb. 27, 2020, 1:00 - 3:00 PM CST
- **Studying the Impact of Extreme Weather**
- **Events on Structures and Communities**
  Fri., Feb. 28, 2020, 11:00 AM - 12:30 PM CST
- **Adapting Sites, Outdoor Spaces, New Construction and Existing Buildings to Withstand Extreme Weather Events**
  Fri., Feb. 28, 2020, 1:00 - 3:00 PM CST

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

Seminar Information

Courtyard Mission Valley Hotel Circle
595 Hotel Circle South
San Diego, CA 92108
(619) 291-5720

Registration
8:00 - 8:30 am

Morning Session
8:30 am - 12:15 pm

Lunch (On your own)
12:15 - 1:15 pm

Afternoon Session
1:15 - 5:00 pm

Tuition

$299 for individual registration
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- 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.

Continuing Education Credit Information

This seminar is open to the public and offers a seven-hour continuing education opportunity to professional engineers and land surveyors, and geologists. Continuing education is not required for license maintenance or renewal in California.

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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 $279. 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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How to Register

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Complete the entire form. Attach duplicates if necessary.

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Additional Registrants:

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Email address is required for credit card receipt, program changes, and notification of upcoming seminars and products. Your email will not be sold or transferred.

( ) I need special accommodations. Please contact me.

Tuition

( ) **I will be attending the live seminar.** Single Registrant - **$299.00**. Three or more registrants from the same company registering at the same time - **$279.00** each.

( ) **I am not attending.** Please send me the self-study package:

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☐ CD/Manual Package for **$299.00**. ☐ USB/Manual Package **$299.00**.
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