

Agenda

Presented By: Mark D. Jones, P.E.

Aerial Mapping Program Overview

UAS-Drone Platforms

Types of UAS/sUAS platforms	Uses of drone technology
Cameras	UAS costs

UAS Mapping Principles

General aerial photography	Ortho-photos
Photogrammetry	Terrain modeling
3D models	
LiDAR point clouds and scanning	
GIS dataset acquisition	

History and Development of the UAS Platforms

UAS Photogrammetry – Principles and Procedures

- Photogrammetry basics
- GPS and coordinate systems
 - Data georeferencing
- Survey control
 - Data acquisition
- Post processing and adjustments

Post Processing – Software Applications

Basic data requirements	
Computer hardware	
Commercial software applications	
Pix4D	DroneDeploy
AutoDesk	Others

Demonstration of Small Photogrammetry Project

- Live demonstration of a small project using Pix4D

FAA Commercial UAS Regulations

- Commercial use activities
- FAA Part 107 licensing requirements
 - Flight regulations for UAS
- Airspace restrictions

FAA Knowledge Test – General Overview

- Primer on the FAA Part 107 knowledge test
- Knowledge test areas of study
- Do I need to be a pilot?
- General do's and don'ts of UAS operations
- Commercial operator liability considerations

Unmanned Aircraft Systems (UAS) and Aerial Mapping: Technologies and Procedures

Lombard, IL - Wednesday, July 18, 2018



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Learning Objectives

You'll be able to:

Explore unmanned aircraft system (UAS), or drone, platforms.

Discuss the use of UAS for aerial photography, ortho-photos, terrain modeling, 3-D models and LiDAR.

Examine UAS photogrammetry principles and procedures.

Review commercial software, including Pix4D, DroneDeploy and AutoDesk.

Review FAA UAS regulations and get a primer on the FAA Part 107 knowledge test.



Unmanned Aircraft Systems (UAS) and Aerial Mapping: Technologies and Procedures

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Discuss the use of unmanned aircraft systems (UAS), or drones, for general aerial photography, terrain modeling, 3D models, LiDAR and GIS dataset acquisition

Explore procedures for UAS use for photogrammetry

Review commercial software applications, including Pix4D, DroneDeploy and AutoDesk

Examine FAA commercial UAS regulations

See a demonstration of a small photogrammetry project

Continuing Education Credits

This seminar offers 6.0 PDHs to professional engineers and land surveyors.



Faculty

Mark D. Jones, P.E. *Principal, Hartech Engineering & Consulting, LLC*

Mr. Jones, PE is president of Hartech Engineering which was founded in 2007 as a multi-discipline civil engineering consulting firm providing infrastructure, development and municipal design services for the public and private sectors. Bringing over 30 years of engineering expertise along with specific state-of-the-art, computer-aided technology to achieve efficient, cost saving design solutions, he also provides hydrology and hydraulic studies and reports along with general civil engineering support for prime consultants to PennDOT or local municipality projects. Mr. Jones is a licensed pilot and studied Military Civil Engineering while serving in the USAF and continues his Masters education locally through Penn State. Additionally, he is also a registered professional engineer in the states of Pennsylvania, Maryland, Arizona and Georgia.

Seminar Information

Hyatt Place Chicago - Lombard/Oak Brook
2340 South Fountain Square Drive
Lombard, IL 60148
(630) 932-6501

Registration
8:00 - 8:30 am

Morning Session
8:30 am - 12:00 pm

Lunch (On your own)
12:00 - 1:00 pm

Afternoon Session
1:00 - 4:00 pm

Tuition

\$279 for individual registration

\$259 for three or more simultaneous registrations.

Each registration includes a complimentary continental breakfast and printed seminar manual.

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 CD/manual package. You may also send another person to take your place.

Additional Learning

Webinar Series

HVAC Series

- **Heating, Ventilation and Air Conditioning Principles**
Thurs., June 7, 2018, 11:00 AM - 1:00 PM CDT
- **HVAC System Design Considerations**
Thurs., June 7, 2018, 1:30 - 2:30 PM CDT
- **Evaluating HVAC Systems and Equipment**
Fri., June 8, 2018, 11:00 AM - 12:00 PM CDT
- **HVAC System Controls and Techniques**
Fri., June 8, 2018, 12:30 - 2:30 PM CDT

Introduction to Vibrations

- **Introduction to Vibrations**
Thurs., June 14, 2018, 11:00 AM - 1:00 PM CDT
- **Eigenvalues, Eigenvectors and Motion**
Thurs., June 14, 2018, 1:30 - 3:00 PM CDT
- **Analysis and Test Methods**
Fri., June 15, 2018, 11:00 AM - 12:30 PM CDT
- **Designing for Vibration and Failure Analysis**
Fri., June 15, 2018, 1:00 - 2:30 PM CDT

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

Pedestrians and Bicycle Transport Planning

- **Introduction to Current Conditions and Trends in Biking and Walking**
Thurs., June 21, 2018, 11:00 AM - 12:30 PM CDT
- **Engineering and Infrastructure: Design for Walkability and Bikeability**
Thurs., June 21, 2018, 1:00 - 2:30 PM CDT
- **Developing a Walking and Biking Plan, Part I**
Fri., June 22, 2018, 11:00 AM - 12:30 PM CDT
- **Developing a Walking and Biking Plan, Part II**
Fri., June 22, 2018, 1:00 - 2:30 PM CDT

Structural Forensic Engineering

- **Introduction to the forensic Engineering Process**
Thurs., June 28, 2018, 11:00 AM - 1:00 PM CDT
- **Causes and Failures and the Forensic Engineering Report**
Thurs., June 28, 2018, 1:30 - 3:30 PM CDT
- **Forensic Examination of Structures and Use in Litigation**
Fri., June 29, 2018, 11:00 AM - 1:00 PM CDT

Continuing Education Credit Information

This seminar is open to the public and offers 6.0 PDHs to professional engineers in all states. Educators and courses are not subject to preapproval in Illinois.

This course also offers 6.0 PDHs to professional land surveyors in most states, including Illinois. Educators and courses are not subject to preapproval in Illinois.

HalfMoon Education is an approved continuing education sponsor for professional land surveyors and engineers in Indiana, Louisiana, Maryland, New York (NYSED Sponsor No. 35), North Carolina, and North Dakota. HalfMoon Education is also an approved education provider for Florida and New Jersey engineers (Approval No. 24GP00000700).

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 CD/Manual Package:

An audio recording of this seminar is available for \$289 (including shipping). Allow five weeks from the seminar date for delivery. 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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Tuition

() **I will be attending the live seminar.** Single Registrant - **\$279.00**. Three or more registrants from the same company registering at the same time - **\$259.00** each.

() **I am not attending.** Please send me the CD manual package for **\$289.00**. (S&H included. Please allow five weeks from seminar date for delivery)

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