

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

Aerial Mapping -Technologies and Procedures
Fort Washington, PA - Friday, June 15, 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.

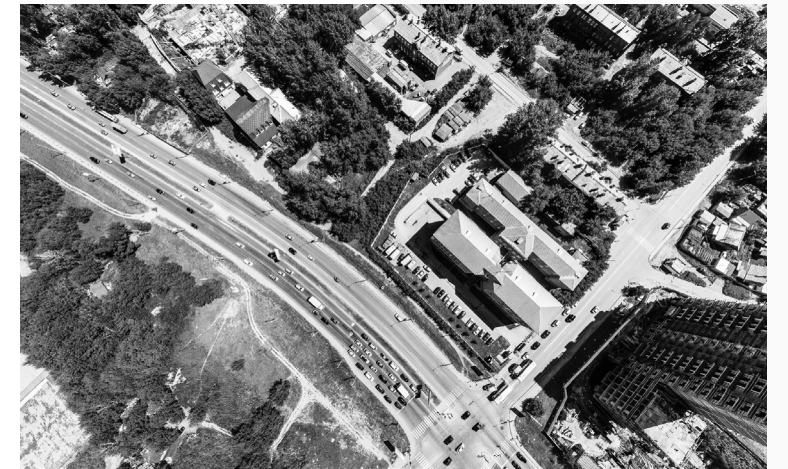
Review commercial software, including Pix4D, DroneDeploy and AutoDesk.

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



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 continuing education seminar provides
6.5 PDHs to professional land surveyors,
engineers and geologists*



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.

Here’s what past attendees had to say about the program and presenter Mark Jones:

“Loved the seminar!”—*CAD Designer*

“Very informative & useful course for mapping with drones. Covers basics to mission accomplishment.”—*Land Surveyor and Professional Engineer*

“Mark is very knowledgeable of material he presented. He also had a very good delivery & ability to teach. Open format for audience questions was very helpful.”—*Civil Engineering/Land Surveying/Architecture*

Seminar Information

Hilton Garden Inn Fort Washington 530 W. Pennsylvania Ave. Fort Washington, PA 19034 (215) 646-4637	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 - 4:30 pm
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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

National Electrical Code: Onsite Power Generation and Distribution

- **National Electric Code: Onsite Power Generation and Distribution Part 1**
Wed., June 6, 2018, 11:00 AM - 2:15 PM CDT
- **National Electric Code: Onsite Power Generation and Distribution Part 2**
Thurs., June 7, 2018, 11:00 AM - 2:15 PM CDT

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

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

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

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

Continuing Education Credit Information

This seminar is open to the public and provides 6.5 PDHs to professional land surveyors, engineers, and geologists in most states, including Pennsylvania. Educators and courses are not subject to preapproval in Pennsylvania.

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

The North Carolina Board for Licensing of Geologists has approved this course for 6.5 PDHs.

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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Complete the entire form. Attach duplicates if necessary.	
Registrant Information Name: _____ Company/Firm: _____ Address: _____ City: _____ State: _____ Zip _____ Occupation: _____ Email: _____ Phone: _____ Additional Registrants: Name: _____ Occupation: _____ Email: _____ Phone: _____ Name: _____ Occupation: _____ Email: _____ Phone: _____ 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 - \$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)
Checks: Make payable to HalfMoon Education Inc.
Credit Card: <i>Mastercard, Visa, American Express, or Discover</i> Credit Card Number: _____ Expiration Date: _____ CVV2 Code: _____ Cardholder Name: _____ Billing Address: _____ City: _____ State: _____ Zip: _____ Signature: _____ Email: _____