INTRODUCTION TO DRONES & UAS FOR UTILITIES

September 15, 2020
Online | Central Time

EUCI ONLINE COURSE

EUCI is pleased to offer this one-day course on our online interactive platform. Enjoy a valuable learning experience with a smaller impact on your time and at reduced cost. You will gain new knowledge, skills, and hands-on experience in just one day from the comfort of your remote location.

OVERVIEW

This program is designed to provide utilities who are exploring the potential for utilizing Unmanned Aerial Systems (UAS) with a solid foundation about the capabilities and limitations of the technology. The workshop will also provide you with the tools to adapt current processes to leverage this rapidly developing technology as well as identify when drones present a real opportunity for ROI. The program will be divided into morning and afternoon sessions, each with a specific ocus. The morning session will present information about UAS hardware, regulations, use cases and specific onsiderations your operations will want to address when starting up a large utility drone project. The afternoon session will cover advanced UAS technologies such as autonomous UAS inspections, Beyond Visual Line Of Sight (BVLOS) operations, and software technology that can help organize and expedite the analysis of the huge quantities of data typically collected with remote sensing technology.

LEARNING OUTCOMES

- Describe the current ecosystem for UAS hardware and command and control systems
- Discuss which use cases currently provide the most ROI and how this may evolve in the future
- Examine what types of payloads are available for drone operations and how these various sensor systems intersect with utility UAS program goals
- Explore the FAA's regulatory environment that both enables and restricts the use of drone technology
- Describe best practices when starting up a large utility UAS program including managing contractors, creating program documentation, and issues around accessing private property and customer interactions
- Explain the options available for securely transferring data from the field o the party responsible for processing the data
- Look at software that can help extract value from the mountain of data that is usually produced by UAS remote sensing operations
- Explore advanced flig t Concepts of Operations (ConOps), particularly BVLOS and autonomous flig t operations
- Discuss guidelines for evaluating current processes that likely will be adapted or replaced in the future
- Adjust/reset current Utility expectations such as Defect Find Rate, data storage needs, etc.
- Examine important new UAS initiatives such as Remote ID and Unmanned Traffic anagement (UTM)

WHO SHOULD ATTEND

The interactive, technical course will offer hands on support for energy stakeholders interested in UAS/UAV, line inspections, safety, and training.

COURSE RECORDING

A recording of this program will be available for three days from either the end of the program (or three days from the date of purchase, if you purchase the recording after the session ends). It is presented in four-hour sessions and can be watched an unlimited number of times for three days (for the registrant). There is no additional cost beyond the registration fee.

AGENDA

TUESDAY, SEPTEMBER 15, 2020 - CENTRAL TIME

8:45 – 9:00 am	**Log on and Sound Check**

Morning Session

9:00 – 9:30 am   **Introduction to UAS Operations and Use Cases**
Overview of UAS aircraft types and sensor systems

9:30 – 10:00 am   **The FAA and the UAS Regulatory Environment**
- Beyond line of sight approval
- 14 CFR Part 107

10:00 – 10:15 am   **Morning Break**

10:15 – 11:00 am   **Utility UAS Operations**
- Defining the p oject
- Specifying deliverables
- Creating program documentation
- How do you keep track and communicate with a widely dispersed workforce?

11:00 am – 12:00 pm   **Structuring the Project Operations**
- How to set up project goals
- Contractors – selecting qualified   endors
- Customers
- Project management
- Safety – How can you structure compensation in order to incentivize productivity without compromising safety?

12:00 – 1:00 pm   **Lunch Break**

Afternoon Session - Data Processing and Advanced UAS Pperations

1:00 – 1:30 pm   **Handling Project Data and Critical Infrastructure Information (CII) Considerations**
- Data ethics and privacy
- Mandates for critical data

1:30 – 2:00 pm   **Data Processing**
- Analysis of LiDAR data
- Staffing the   ta center
- Procedure and techniques

2:000 – 3:00 pm   **Software for Extracting Value from UAS Pperations**
- Analysis of digital elevation models
- Creation of autonomous inspection flig t plans
- Automated inspections

3:00 – 3:15 pm   **Afternoon Break**

AGENDA

TUESDAY, SEPTEMBER 15, 2020 - CENTRAL TIME (CONTINUED)

3:15 – 4:00 pm   **Advanced UAS Operations - BVLOS and Autonomous Operations**
- Uploading and managing field d ta
- Review of inspection assets
- Creation of inspection reports

4:00 – 4:30 pm   **What the Future Holds for UAS Technology**
- What drones would be acceptable?
- What cameras? Or is it a case of meeting a certain resolution requirement?

4:30 – 5:00 pm   **Lessons Learned and Program Review**
- Transmission structure inspection
- Data analysis
- Review an inspection report

5:00 pm   **Adjourn**

INSTRUCTOR

Chris McMurtry
Solutions Architect, Sharper Shape

In his role as the Solutions Architect for Sharper Shape, Inc., Chris McMurtry is focused on designing unmanned aerial solutions based around the company's class leading "full-stack" hardware and software tools. Chris first became i volved with drone technology for film and elevision production work, but he soon became convinced that unmanned aerial technology could do far more than just produce compelling entertainment content. This led to the creation of one of the first   AS services companies that specialized in using drone technology for utility inspections. Since 2013 Chris has been focused on finding the fit or UAS applications in the energy sector, with the goal of helping utilities transform their inspection and maintenance programs.

IACET CREDITS

EUCI has been accredited as an Authorized Provider by the International Association for Continuing Education and Training (IACET). In obtaining this accreditation, EUCI has demonstrated that it complies with the AN-SI/IACET Standard which is recognized internationally as a standard of good practice. As a result of their Au-thorized Provider status, EUCI is authorized to offer IACET CEUs for its programs that qualify under the AN-SI/IACET Standard.

EUCI is authorized by IACET to offer 0.6 CEUs for the course.

INSTRUCTIONAL METHODS

PowerPoint presentations and open discussion will be used

ONLINE COURSE DELIVERY & PARTICIPATION DETAILS

We will be using Microsoft Teams to facilitate your participation in the upcoming event. You do not need to have an existing Teams account in order to participate in the broadcast – the online course will play in your browser and you will have the option of using a microphone to speak with the room and ask questions, or type any questions in via the chat window and our on-site representative will relay your question to the instructor.

- You will receive a meeting invitation which will include a link to join the meeting.
- Separate meeting invitations will be sent for the morning and afternoon sessions of the online course.
  o You will need to join the appropriate meeting at the appropriate time.
- If you are using a microphone, please ensure that it is muted until such time as you need to ask a question.
- The remote meeting connection will be open approximately 30 minutes before the start of the online course. We encourage you to connect as early as possible in case you experience any unforeseen problems.

REQUIREMENTS FOR SUCCESSFUL COMPLETION

You must be logged in for the entire presentation and send in the evaluation after the online course is completed.

> *"I was skeptical about the remote learning platform but in fact i found this to be more efficient and overall better than an in person class!!! it was nice to be able to type questions out and have them answered at a good point in the discussion instead of derailing the presentation."*
>
> Deputy Director, City of Naperville

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PLEASE SELECT

◯ **INTRODUCTION TO DRONES & UAS FOR UTILITIES ONLINE COURSE**
SEPTEMBER 15, 2020: US $795 (Single Connection)

� **PACK OF 5 CONNECTIONS:** US $3,575

◯ **PACK OF 10 CONNECTIONS:** US $5,965

Online Course Delivery & Participation Details

See page 5 for information

How did you hear about this event? (direct e-mail, colleague, speaker(s), etc.)

Print Name | Job Title

Company

Address

City | State/Province | Zip/Postal Code | Country

Phone | Email

CREDIT CARD INFORMATION

Name on Card | Billing Address

Account Number | Billing City | Billing State

Exp. Date | Security Code (last 3 digits on the back of Visa and MC or 4 digits on front of AmEx) | Billing Zip Code/Postal Code

OR Enclosed is a check for $ _____ to cover _____ registrations.

Substitutions & Cancellations
Your registration may be transferred to a member of your organization up to 24 hours in advance of the event. Cancellations must be received on or before July 17, 2020 in order to be refunded and will be subject to a US $195.00 processing fee per registrant. No refunds will be made after this date. Cancellations received after this date will create a credit of the tuition (less processing fee) good toward any other EUCI event. This credit will be good for six months from the cancellation date. In the event of non-attendance, all registration fees will be forfeited. In case of course cancellation, EUCI's liability is limited to refund of the event registration fee only. For more information regarding administrative policies, such as complaints and refunds, please contact our offices .
EUCI reserves the right to alter this program without prior notice.

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