DRONE WORKFORCE SOLUTIONS (DWS) AGRICULTURAL AND FORESTRY DRONE COLLECTED IMAGERY CURRICULUM COMPETENCE

Course Description:

Drone Workforce Solutions, LLL (DWS), in partnership with Agremo, the world-wide leader in plant counting, plant analyses, and remote sensing technology, provides a training course for using small Unmanned Aircraft Systems (sUAS) in the Agricultural and Forestry industries. In this course, students will gain knowledge and skills on how to provide professional drone services and precise analytics to Agricultural producers in the areas of stand count, plant population, plant stress analysis, weed analysis, pest analysis, plant disease analysis, water stress analysis, flowering estimates and Eagle eye.

Measurable Performance Objectives (MPO): Upon course completion, the successful student will be capable of:

1. Understanding industries challenges (Agricultural and Forestry industries)
2. Understanding how Agremo system works - machine learning, AI, computer vision, knowledge base
3. Knowledge of Agremo analyses, their capabilities, and the benefits they provide for the growers (plant counting and plant health analyses)
4. Choosing the perfect time to fly (plant growth stage, time of the day, cloudiness, weather, structure of the field)
5. Setting a flight plan for mapping agricultural field (altitude, overlapping, field boundaries, image resolution)
6. Map requirements - stitching images, GeoTIFF file, a structure of the zip file
7. How to use the Agremo platform (creating a field, uploading a map, request for the analysis, platform features)
8. Reading analyses results (pdf report, shapefile, result map)

Method of instruction:

Lecture - 30%
Workshop - 20%
Field - 50%

Assessment Outcomes:

All assignments, tests, and drone performance training will be used to objectively determine if the student has attained a level of competence that enables them to meet the course objectives and be able to provide services to agricultural producers.

The following will be used in providing objective assessments:
1. Class Attendance
2. Class Participation
3. Flight Participation
4. Drone flying
5. Completing assignments

Course Requirements:

1. A FAA certified Part 107 commercial license (proof required)
2. A DJI Phantom 4 Pro drone or Mavick or better with a minimum 4K camera
3. A tablet (preferably an I-Pad)
4. Reading and understanding the materials provided
5. Successfully completing class homework assignments
6. Successfully completing in-class assignments
7. Successfully completing in-field assignments

Evaluation methodology:
1. 90% or more class attendance
2. 70% of homework completed
3. 90% drone proficiency