

**University of Arkansas - Fort Smith**  
**5210 Grand Avenue**  
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**Fort Smith, AR 72913-3649**  
**479-788-7000**

### **General Syllabus**

#### **UAS 2443 UAS Aerial Imaging**

Credit Hours: 3

Lecture Hours: 2

Laboratory Hours: 2

Prerequisites: **UAS 2003** GIS Analysis OR UAS 2113 UAS Maintenance

Prerequisite or corequisite: **UAS 2343** UAS Remote Sensing

Effective Catalog: 2021-2022

## **I. Course Information**

### **A. Catalog Description**

An overall approach to aerial imaging using UAS in industrial and commercial applications. Students will learn how to take aerial photographs/videos of infrastructure, real estate, and industrial sites. Basic photogrammetry techniques and data processing will be taught.

### **B. Additional Information**

This course is an overview of aerial imaging, with practical applications for the workplace. The student's multi-rotor flying skills will be expanded into commercial and industrial applications.

## **II. Student Learning Outcomes**

### **A. Subject Matter**

Upon successful completion of this course, the student will be able to:

1. Apply basic aerial photography/videography concepts and techniques, such as exposure values, depth of field, lighting, impacts of airframe vibration on image quality, and camera operations.
2. Demonstrate basic photogrammetry flights and data processing.

### **B. University Learning Outcomes**

This course enhances student abilities in the following areas:

**Analytical Skills**

**Critical Thinking:** Students will draw conclusions and/or solve problems. They will access and evaluate appropriate information through written and electronic means and think critically to reach viable solutions to a problem and to justify those solutions.

**Quantitative Reasoning:** Students will apply mathematical and scientific reasoning skills to develop aerial imaging and aerial imaging projects.

**Communication Skills (Written and Oral)**

Students will compose coherent documents for aerial imaging appropriate to the intended audience.

**II. Major Course Topics**

- A. System safety
- B. Basic photography concepts
- C. Aerial stills photography and videography
- D. Commercial applications, to include real estate and infrastructure inspections
- E. Videography concepts
- F. Basic photogrammetry