

GeoTED-UAS Faculty Institute Resources

Title: sUAS RPIC Log 20170718

Tags: Log, SUAS, RPIC, Pilot

Format: Excel

Creator: Daniel Cross

Description: An example of a remote pilot's log document. This document can be used as a template and can be modified to support individual needs.

Title: Battery Log

Format: Excel

Tags: Log, Battery, Battery Log

Creator: Daniel Cross

Description: An example of a sUAS battery use log. This document can be used as a template and can be modified to support individual needs.

Title: UAS Flight Log 20170818

Format: Excel

Tags: sUAS, UAS, log.

Creator: Daniel Cross

Description: An example of a sUAS vehicle log document page. This document can be used as a template and can be modified to support individual needs.

Title: UAS RPIC Log Cert Qual Page 20170718

Format: Excel

Tags: Qualification, Certification, Personal Information.

Creator: Daniel Cross

Description: An example of a qualification/certification page that could be included in a remote pilot's sUAS log book. This document can be used as a template and can be modified to support individual needs.

Title: UAS_Project_Checklist_20180201

Format: Excel

Tags: Checklist, project, multiuser.

Creator: Daniel Cross

Description: This is an example check list for an sUAS multi-pilot project. This documents is used as a check list to ensure that all safety and procedural aspects associated with the operation are completed prior to flight. This document can be used as a template and can be modified to support individual needs.

Title: What's in a Pixel

Format: Adobe PDF

Tags: Imagery, Digital Imagery, Pixel, LCD, Monitor, Sensor, Light, RM Spectrum, Band, Format, Multispectral, Hyperspectral, Monospectral, Thermal, LIDAR.

Creator: Cherie Aukland and Daniel Cross

Description: This document provides an overview of how digital images are created, stored and viewed. It includes information about how light is converted into digital files and then displayed on computer/TV screens, how monochrome and 3 color pixels function, explains images/screen/sensor resolution, the pros and cons of different file formats, how to view light spectra that is outside of the normal human experience, and nonvisual data such as elevation and thermography.

Title: Mission Planning Software-Apps

Format: Adobe pdf

Tags: sUAS image mosaic, image processing software

Creator: Tom Allen, George McCloud, Thomas Alberts, (Old Dominion University)

Description: This is a white paper / research document that provides a summary of several image processing applications that can be used to process and generate image mosaics, and other products (NDVI, etc.) derived from sUAS imagery. Some of the software options that are explored through this document are desktop applications, others software options are cloud based.

Title: 2.1_Battery Log

Format: Excel

Tags: Log, Battery, Battery Log

Creator: Daniel Cross

Description: This is an empty example of a sUAS battery use log. This document can be used as a template and can be modified to support individual needs.

Title: 3.1 Ground Control Points GeoTED_UAS 2018

Format: Adobe PDF

Tags: GCP, Ground Control Points, GNSS, GPS, Georeference, RTK, PPK.

Creator: Daniel Cross

Description: This document provides a brief overview of global navigation satellite systems, how they work, provides levels of accuracy, etc. This is followed up with how to improve the accuracy of GNSS including, RTK, PPK, survey grade GNSS, and ground control points. It concludes with an explanation of how to make or purchase good ground control points and how to integrate them into UAS operations and post processing.

Title: 3.1_LIDAR_Exercise

Format: Adobe PDF

Tags: LIDAR, DME0, Triangle mesh, point cloud, LAS, LAZ, TIN, GIS, ArcGIS.

Creator: Cherie Aukland

Description: The purpose of this hands-on exercise is to demonstrate the value of LIDAR data in finding historical constructed artifacts. The exercise will guide the user through the process of acquiring LIDAR data, processing the data for use in ArcGIS Desktop, and then canon fortification called a redoubt. The DEM used is derived from the LIDAR data and ArcGIS will recreate a similar product with the LIDAR being converted to a TIN first and then to other products.

Title: Multispectral Image Processing in ArcMap

Format: Adobe PDF

Tags: sensor, multispectral, processing, exercise

Creator: Valerie Thomas, Jill Derwin

Description: The purpose of this hands-on exercise is to provide an overview of some of the basic capabilities of multi-spectral remote sensing imagery using ArcGIS Desktop. Through this exercise, students: create a composite image, calculate SD, NDVI, and NDREI, and conduct supervised and unsupervised classification based on sUAS sample data provided.

Title: Part 107 in Detail

Format: Adobe PDF

Tags: RPIC, FAA, Part 107, sUAS, exam

Creator: Daniel Cross

Description: This presentation provides an overview of some of the more pressing issues that are associated with the FAA's Remote Pilot Knowledge Test.

Title: The Physics of Flight

Format: Adobe PDF presentation

Tags: Physics, flight, lift

Creator: Daniel Cross & Matt Fields

Description: This presentation provides an overview of lift, motors, and some of the major components of a sUAS. This presentation can be used to support in the preparation of the FAA's Remote Pilot Knowledge Test.

Title: The Principles of UAS Operation

Format: Adobe PDF presentation

Tags: Safety, airspace, regulations, Part 107, overview

Creator: Daniel Cross & Matt Fields

Description: This presentation provides an overview of sUAS lingo and terminology, a summary of regulations and best operation practices, and an overview of airspace. This presentation can be used as a workshop overview, with topics to go into further detail later.

Title: Mastering the Aeronautical Chart - An Introduction to VFR Sectionals: Part 1

Format: Video (6:12 minutes)

Available online at: <https://www.youtube.com/watch?v=JB-rrdtpFKs&list=PLEHyYp32cIJH3E-4mPIbg6DxUCVxHnixs&index=1>

Tags: Aeronautical, chart, map, sectional

Creator: Daniel Cross, John McGee, Jim Campbell

Description: This video can be used as supplemental material to prepare for the mapping and charting component of the FAA Remote Pilot Knowledge Test.

Title: Mastering the Aeronautical Chart - Layout and Ancillary Information: Part 2

Format: Video (6:41 minutes)

Available online at: <https://www.youtube.com/watch?v=uLoLSShOHkM&list=PLEHyYp32cIJH3E-4mPIbg6DxUCVxHnixs&index=2>

Tags: Aeronautical, chart, map, sectional

Creator: Daniel Cross, John McGee, Jim Campbell

Description: This video can be used as supplemental material to prepare for the mapping and charting component of the FAA Remote Pilot Knowledge Test.

Title: Mastering the Aeronautical Chart - The Legend: Part 3

Available online at: <https://www.youtube.com/watch?v=jT3U62aMy7k&list=PLEHyYp32cIJH3E-4mPIbg6DxUCVxHnixs&index=3>

Format: Video (8:46 minutes)

Available online at:

Tags: Aeronautical, chart, map, sectional

Creator: Daniel Cross, John McGee, Jim Campbell

Description: This video can be used as supplemental material to prepare for the mapping and charting component of the FAA Remote Pilot Knowledge Test.

Title: Mastering the Aeronautical Chart - Normal Use Airspace: Part 4

Available online at: <https://www.youtube.com/watch?v=AWIU7wTBRZI&list=PLEHyYp32cIJH3E-4mPIbg6DxUCVxHnixs&index=4>

Format: Video (8:46 minutes)

Available online at:

Tags: Aeronautical, chart, map, sectional

Creator: Daniel Cross, John McGee, Jim Campbell

Description: This video can be used as supplemental material to prepare for the mapping and charting component of the FAA Remote Pilot Knowledge Test.

Title: Mastering the Aeronautical Chart - Special Use Airspace: Part 5

Available online at:

<https://www.youtube.com/watch?v=T6VMatO9h3U&list=PLEHyYp32cIJH3E-4mPIbg6DxUCVxHnixs&index=5>

Format: Video (6:43 minutes)

Available online at:

Tags: Aeronautical, chart, map, sectional

Creator: Daniel Cross, John McGee, Jim Campbell

Description: This video can be used as supplemental material to prepare for the mapping and charting component of the FAA Remote Pilot Knowledge Test.

Title: Mastering the Aeronautical Charts - How to Read and Create Flight Plans with Sectionals: Part 6

Available online at: <https://www.youtube.com/watch?v=r05Jf4ITXOA&list=PLEHyYp32cIJH3E-4mPIbg6DxUCVxHnixs&index=6>

Format: Video (9:42 minutes)

Available online at:

Tags: Aeronautical, chart, map, sectional

Creator: Daniel Cross, John McGee, Jim Campbell

Description: This video can be used as supplemental material to prepare for the mapping and charting component of the FAA Remote Pilot Knowledge Test.