

# Remote Pilot and sUAS Certification

SHAWN LYNCH

# Overview

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- Commercial sUAS
- 14CFR Part 107
- Remote Pilot Written Exam
- Exam Preparation Courses
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- Flight Operations

# Introduction

- Shawn Lynch... lifelong aviator
- Fixed Wing Pilot, 1996
  - Private Pilot
  - Instrument Rated
  - Advanced Ground Instructor
- US Air Force, Air Battle Manager, 2002-2011
- Remote Control Pilot, 2011
  - Syma indoor helicopter
- Remote Pilot, sUAS, 2016
  - Photos for Realtors and Insurance Adjusters
  - Aerial Inspection and Mapping
  - Photography and Videography... Drones For Good, Drones for God
- Full Disclosure... DOK.1 and Rose State College

# Commercial sUAS

- Always reference <https://www.faa.gov/uas/> as your first reference
  - [https://www.faa.gov/uas/commercial\\_operators/become\\_a\\_drone\\_pilot/](https://www.faa.gov/uas/commercial_operators/become_a_drone_pilot/)
- Any flight supporting a business or to advance for commercial gain
- Governed by USC 14 CFR Part 107 “Federal Aviation Regulations”
- Be at Least 16 years old
- Be able to read, speak, write, and understand English
- Be in a physical and mental condition to safely fly a drone
- Pass the initial or recurrent aeronautical knowledge exam “Remote Pilot Written Exam”
  - Current Certificated Fixed and Rotor Wing Pilots can forgo RP Exam

# 14 CFR Part 107

- Regulations that apply to a Remote Pilot conducting Commercial Operations
- Written in a clear straight forward manner
- Requirements for obtaining and maintaining Remote Pilot Certificate
- Lays out the FAA expects a Remote Pilot to carry out flight operations
- Other FARs may be applicable
  - Part 61.56... Manned Pilot Flight Review
  - Part 91.17... Alcohol and Drugs (Usage)
    - “Eight hours bottle to throttle” then BAC less than .04
    - “affects the person's faculties in any way contrary to safety”
  - Part 91.19... Carriage of Narcotics, Marihuana, and Depressant or Stimulant Drugs or Substances

# FAA Airmen Certification Standards

- Document FAA-S-ACS-10A
  - Remote Pilot – Small Unmanned Aircraft Systems (Certification and Recurrent Knowledge Testing)
- Any quality preparation courses should be based on ACS
- Latest version, June 2018
- Extremely Specific, “Study Guide”
- All information Applicant responsible for
- 5 Subjects (for Initial)
  - Regulations
  - Airspace Classification and Operating Requirements
  - Weather
  - Loading and Performance
  - Operations

# Unmanned Aircraft General Exam

- Reference ACS Appendixes for helpful directions and strategies
- Multiple Choice Questions
  - **UAG:** Unmanned Aircraft General Small- 60 Questions, 2 hours
  - **UGR:** Unmanned General Recurrent- 40 Questions, 1.5 hours: Recurrent
- 70 percent is passing score
- Only available at FAA certified testing center... Airman Testing FAQ
  - [https://www.faa.gov/training\\_testing/testing/](https://www.faa.gov/training_testing/testing/)
  - <http://candidate.catstest.com/sitesearch.php>
- Save your Test Report
  - Forever or as long as you plan to be a Remote Pilot
  - Part of your Airmen Record

# Remote Pilot Written Exam

UAS Topics	Percentage of Items on Test
I. Regulations	15 – 25%
II. Airspace & Requirements	15 – 25%
III. Weather	11 – 16%
IV. Loading and Performance	7 – 11%
V. Operations	35 – 45%
<b>Total Number of Questions</b>	<b>60</b>

Area of Operation	Task	Percentage of Items on Test
I	A. General	30 – 40%
	B. Operating Rules	
	C. Remote Pilot Certification with an sUAS rating	
	D. Waivers	
II	A. Airspace Classification	30 – 40%
	B. Airspace Operational Requirements	
V	B. Airport Operations	20 – 30%
	C. Emergency Procedures	
	D. Aeronautical Decision-Making	
	F. Maintenance and Inspection Procedures	



# Exam Preparation Courses

- Means to an end... any way you can
- Many vendors and publishers produce, in person (colleges and vocational schools), online, apps, and published books to help folks prepare to pass
- All based on the FAA Airmen Certification Standards (ACS)... FREE
- Range of prices... from free and up
  - King Schools, \$129... <https://www.kingschools.com/>
  - Rupperecht Law, Free... <https://jrupprechtlaw.com/>
  - Drone U, \$47 monthly//\$470 annually... <https://www.thedroneu.com/>
  - Unmanned Safety Institute, \$499... <https://www.sportys.com/pilotshop/>
  - Aviation Supplies & Academics, various... <https://www.asa2fly.com/>
  - Gleim Publishing, \$19.95... <https://www.gleimaviation.com/drones/>
  - Dart Drones, \$250 or \$670... <https://www.dartdrones.com/>

# Exam Prep Tips

- Set a date for test... your goal
- Call, register, and pay for test
- Complete all material in your prep course
- Review every single question in your selected test book
- Take and retake a variety of online practice tests
- Take test ASAP once you reach consistent 85% or better scoring

# sUAS Application

- [https://www.faa.gov/uas/commercial\\_operators/become\\_a\\_drone\\_pilot/](https://www.faa.gov/uas/commercial_operators/become_a_drone_pilot/)
- Pass the UAG with a 70% or better
- Complete FAA Form 8710-13 Remote Pilot Certificate
  - FAA Airman Certificate and/or Rating Application
- FAA Integrated Airman Certificate and Rating Application (IACRA)
  - <https://iacra.faa.gov/IACRA/Default.aspx>
- Temporary Certificate issued (print this)
  - once IACRA application is submitted
  - TSA Background Check complete
- FAA will mail Permanent Certificate following internal processing

# sUAS Registration

- [www.faa.gov/uas/getting\\_started/register\\_drone/](http://www.faa.gov/uas/getting_started/register_drone/) is the only source for registration
  - \$5 for 3 years
  - Several “official” looking sites
  - May be legitimate, but take a service charge for filing
- All drones
  - involved in Part 107
  - Weigh under 55 pounds
- Drones 55 pounds and greater require registration with the FAA
- Label the drone with the registration number

# Flight Operations

- Carry Out the Same Process... Consistent Operations
  - Devise a Checklist
  - Builds Operations Flow and Proficiency
- Define Flight Area
  - Hazards, Obstacles
  - Airports, Military Nearby
    - Low Altitude Authorization and Notification Capability (LAANC)... "LANCE"
  - City, State, Federal Ordinances
- Check Weather
  - Winds
  - Temperature
  - Precipitation
- Insurance Needed?

# Flight Operations

- Crew requirements and briefing
  - Remote Pilot In Command
  - Visual Observer
  - Non Participants, Spectators
- Batteries, Control Station, and Accessories fully charged
- Remote Pilot Certificate and Government issued photo ID
- Special Safety Equipment Required
- Preflight Inspection
- Safe Takeoff and Landing Site

# Flight Operations

- Flight Control Checks once airborne
- Start conservative, expand risk as experience increases
- Maintain Visual Line of Sight
- No higher than 400 feet AGL (above ground level)
- Be disciplined to system warnings and battery levels
- If in doubt... land
- Consider keeping
  - Pilot Logbook
  - Aircraft Logbook

# Referenced Websites

- <https://www.faa.gov/uas/>
- [https://www.faa.gov/uas/commercial\\_operators/become\\_a\\_drone\\_pilot](https://www.faa.gov/uas/commercial_operators/become_a_drone_pilot)
- [https://www.faa.gov/training\\_testing/testing/](https://www.faa.gov/training_testing/testing/)
- <http://candidate.catstest.com/sitesearch.php>
- <https://www.kingschools.com/>
- <https://jrupprechtlaw.com/>
- <https://www.thedroneu.com/>
- <https://www.sportys.com/pilotshop/>
- <https://www.asa2fly.com/>
- <https://www.gleimaviation.com/drones/>
- <https://www.dartdrones.com/>
- [https://www.faa.gov/uas/commercial\\_operators/become\\_a\\_drone\\_pilot/](https://www.faa.gov/uas/commercial_operators/become_a_drone_pilot/)
- <https://iacra.faa.gov/IACRA/Default.aspx>



# Questions

- [s.lynch\\_DOK1@outlook.com](mailto:s.lynch_DOK1@outlook.com)
- FAA Flight Standards District Office (FSDO)
- FAA Southwest Region Legal Counsel Office, Ft. Worth, TX
- Thanks for your attention