

Pilot Certification and Aircraft Registration for Non-Hobby Users of Small Unmanned Aircraft Systems (sUAS)

Terry Spurlock
Associate Professor
and Extension Plant
Pathologist (Arkansas
FAASTeam member)

James Robbins
Extension Specialist/
Professor - Horticulture

Joe Mari Maja
Research
Sensor Engineer,
Clemson University

Larry Purcell
Professor and
Alzheimer Chair for
Soybean Research

Shane Gadberry
Extension Specialist/
Professor -
Animal Science

Jason A. Davis
Application Technologist
Crop, Soil & Environmental
Science

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In just a few years, small unmanned aircraft systems (sUAS), or drones, have gone from being an expensive novelty, usually associated with military applications, to relatively affordable systems used by hobbyists. Importantly, sUAS also found diverse applications in photography, mining, archaeology, law enforcement and rescue operations, real estate, and agriculture, to name just a few. Until recently, commercial use of sUAS in the U.S. has been limited due to restrictive and vague rules and regulations. This fact sheet will outline some of the considerations that a potential non-hobby (commercial) operator must consider before flying. If you would like to fly for fun or work, the Federal Aviation Administration (FAA) offers a good portal for "Getting Started" (https://www.faa.gov/uas/getting_started/).

Aircraft Registration

Whether you fly your aircraft for hobby or commercial applications, you must register your aircraft. If the aircraft takeoff weight is more than 0.55 lbs or less than 55 lbs, it is classified as a small unmanned aircraft system (sUAS), and registration uses a simple online portal (<https://faadronezone.faa.gov/#/>).



Example of sUAS registration number prominently displayed on the aircraft.

Once you create an account and enter your information, you will immediately receive your aircraft registration number. The registration number must be clearly marked on the outside of the aircraft and cannot be contained within an enclosed compartment such as a battery case. The aircraft registration cost is currently \$5. Registration of a public aircraft owned and operated by a government agency, is currently free. Aircraft registration for commercial operators is valid for 3 years. To register, a user must be 13 years of age or older. If your aircraft weighs at least 55 lbs at takeoff, you will use the paper (N-number) registration process (https://www.faa.gov/licenses_certificates/aircraft_certification/aircraft_registry/UA/). You will receive a renewal letter from the FAA if your aircraft is within two months of your registration expiration date. The letter provides renewal

instructions and a “Renewal Online Security Code” which you will use to renew your registration online (<http://registry.faa.gov/renewregistration>). You may opt to renew your registration using the Aircraft Registration Renewal Application Form (Form AC 8050-1B), and mail it with the renewal fee of \$5.00. If for any reason, the owner does not want to renew the aircraft registration but wants to keep or reserve the N-number assigned to the aircraft, the owner must indicate this on the form and enclose a first year’s \$10.00 registration fee. If no renewal is received, the FAA will cancel the N-number, and the N-number will be unavailable for five years.

Remote Pilot Certification

In the U.S., flight regulations related to sUAS are overseen by the FAA. In addition to information outlined in this fact sheet, the FAA has an online portal (https://www.faa.gov/uas/commercial_operators/become_a_drone_pilot/) that outlines the process ‘to become a drone pilot’.

Educational Users

The October 5, 2018 reauthorization legislation (H.R. 302) for the FAA included two options (https://www.faa.gov/uas/educational_users/) for educational users: Option #1 is to fly under Part 107 and Option #2 is to fly under the rules for recreational flyers. For more information please see the section entitled Recreational Flyers & Modeler Community-Based Organizations (https://www.faa.gov/uas/recreational_fliers/). **Lack of financial compensation is not a good indicator of whether or not sUAS use is educational or recreational. When in doubt, operating under Part 107 regulations is the best idea.**

Commercial Users

A major advancement for commercial and public users in the U.S. was the issuance of the permanent flight regulations for commercial use of sUAS on August 29, 2016. Referred to as Part 107 (14 CFR part 107), these permanent regulations apply to a broad spectrum of commercial uses, including academic researchers using sUAS. For academic researchers, Part 107 provides a simpler and more rational pathway compared to the alternative, a Certificate of Authorization (COA). It is important to stress that if producers, consultants, real estate agents, etc., are piloting a sUAS in any way for their business, then they must have Remote Pilot Certification; otherwise, they are out of compliance with FAA regulations. **Remember that the FAA considers**

a farmer’s use of a sUAS as a commercial use even when the aircraft is being used on their own farm. Unlike the interim flight regulations, Part 107 does NOT require a Class 2 medical exam.

FAA Part 107 Exam

Hold manned pilot certificate:

If you already hold a pilot certificate issued under 14 CFR part 61 and you have completed a flight review within the previous 24 months, you can receive Remote Pilot Certification if you complete a few simple steps. First, you need to complete a free online course, Part 107 Small Unmanned Aircraft Systems (small UAS) ALC451, which is available at the FAA Safety Team website (Initial: <https://www.faasafety.gov/gslac/ALC/CourseLanding.aspx?cID=451> ; Recurrent: <https://www.faasafety.gov/gslac/ALC/CourseLanding.aspx?cID=515>). Next, you need to complete FAA Form 8710-13 (FAA Airman Certificate and/or Rating Application for a Remote Pilot Certificate: https://www.faa.gov/documentLibrary/media/Form/FAA_Form_8710-13..pdf) and get the form signed by a recognized authority (e.g., FAA certified flight instructor). Similar to commercial users, Part 61 pilot certificate holders with a current flight review (in accordance with 14 CFR part 61.56) must successfully complete an online course to satisfy the Part 107 remote pilot recurrent training requirement.

Do not hold manned pilot certificate:

There are two groups of test takers, those taking the Remote Pilot exam for the first time (initial), and those renewing their certification (recurrent).

Test Preparation:

For those who have no prior exposure to the Private Pilot FAA Knowledge Test, preparing for the Remote Pilot Exam may seem like studying a foreign language. For those with no prior knowledge of this subject area, it will likely require at least 30 hours to prepare for the test. Study time for those renewing their license should be 1/3 of the initial time. The FAA offers an overview of the ‘certification standards’ for both the initial and recurrent testing (https://www.faa.gov/uas/commercial_operators/become_a_drone_pilot/). A number of vendors provide test preparation materials including sample test questions. Test preparation materials vary from \$0 to \$800. Examples of test preparation materials include:

- FAA Remote Pilot – Small Unmanned Aircraft Systems Study Guide – August 2016: https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/media/remote_pilot_study_guide.pdf

(Based on our experience, simply using this study guide is insufficient to pass the exam.)

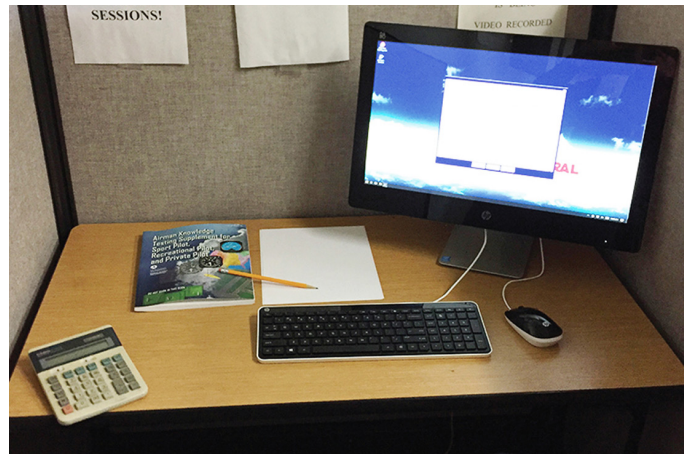
- RemotePilot101.com: <https://remotepilot101.com/>.
- King Schools: <https://www.kingschools.com/courses/supplemental/drone/uas-drone-certificate-course.asp>.
- Aviation Supplies & Academics, Inc.: <https://www.asa2fly.com/Virtual-Test-Prep-Remote-Pilot-P4043.aspx>.
- Drone Pilot Ground School: <https://www.dronepilotgroundschool.com/>.
- DroneU: <https://www.thedroneu.com/>.
- Gleim Aviation: <https://www.gleimaviation.com/drones/>.
- The Drone Professor: (initial): <https://www.thedroneprofessor.com/course/107-study-guide/> ; (recurrent): <https://www.thedroneprofessor.com/course/rpc-recurrent-exam-preparation/>.
- Rupprecht Law: <https://jrupprechtlaw.com/part-107-test-study-guide>.

Taking the Test:

Initial test:

If you are taking the test for the first time (initial) you must create an account with the Integrated Airman Certification and Rating Application (IACRA) portal (<https://iacra.faa.gov/IACRA/Default.aspx>). If you do not already have a pilot (private, commercial) license, your application will need to be vetted by the Transportation Security Administration (TSA) as a part of the application process. The IACRA application process should take about 15 minutes, and there is currently no fee. Once you have created your account and have your FAA Tracking Number (FTN) you can schedule your test with PSI Services and locate a testing center through their website (<https://faa.psiexams.com/faa/login>). When registering for an initial exam be sure to select “Unmanned Aircraft General- Small (UAG)” as your exam category. The cost of the initial exam is currently \$160.

On the day of your test, go to your designated testing center. Bring a photo ID and your appointment confirmation. Once you are checked in, the proctor will seat you in a testing cubicle. The test is taken using a computer terminal. Your testing cubicle will likely consist of a monitor, keyboard, mouse, blank paper tablet, pencil, and the Airman Knowledge Testing Supplement for Sport Pilot, Recreational Pilot, Remote Pilot, and Private Pilot (https://www.faa.gov/training_testing/testing/supplements/media/sport_rec_private_akts.pdf). A significant number of the test questions utilize illustrations in the supplement book, but the same information can be viewed on the computer monitor using dropdown illustrations. You can bring your own simple calculator,



Example of a pilot certification testing station. The calculator was not provided by the testing center.

but the online testing system provides a dropdown menu with a calculator. You may also bring a magnifying glass to help you read the FAA Airman Knowledge Testing Supplement. The testing center will also go over other testing ‘Do’s & Don’ts’ with you.

The initial test consists of 60 questions and you are allotted 2 hours. Once the proctor logs you in, you will run through approximately eight sample questions that will help familiarize you with the testing format and ‘help tabs/tools’ at the bottom of the screen. One of the tabs in either exam allows you to mark questions that you wish to review later before completing your exam. Once you have submitted your test, you will have the opportunity to see which questions you answered incorrectly (unless you scored 100%), but you cannot change your answers at this time. Once you complete the test review (optional), the proctor will complete the process that will immediately indicate your score. To pass you must receive a grade of 70% or higher.

Post Exam (initial):

The testing center will print out a Computer Test Report including your Exam ID and Score. The form indicates to “please allow 24 to 48 hours for your examination results to upload to IACRA. The FAA will mail you a plastic license card within six to eight weeks. Your license should be kept with you at all times during flight operations and you must show it to officials if asked. The license must be renewed every two years.

Recurrent test:

As of April 6, 2021 the process for recurrent testing for non-part 61 pilots has changed. Recurrent testing is now completed on-line for free through the www.faa.gov portal and is required every 24 months. Prior to

April 6, the process and fee (\$160) for renewing your licenses was essentially the same as initial testing. For recurrent testing, you may need to log in to your existing IACRA account if you don't recall your FAA Tracking Number (FTN). Before taking the on-line test, which is free, you will want to prepare yourself for the test. As with the initial test, there are several options to accomplish this. Many of the previously noted training resources have recurrent training versions that can be helpful in preparation. One additional option is to use the FAA's sUAS Recurrent course (https://www.faa.gov/gslac/ALC/course_content.aspx?pf=1&pre-view=true&cID=677). You need to create an account first and enroll in the ALC-677: Part 107 Small UAS Recurrent Non-Part 61 Pilots. Go to the "Activities, Courses, Seminars & Webinars" tab and locate the "Courses" tab underneath. Click on the "View Available Courses" and locate the ALC-677. Click on the "Enroll" link under the "Action" list. It will take approximately two hours or less to complete the course online. You will have the option to complete the course section in one setting or you can save and come back later. You will be better prepared for the exam if you can complete the course without disruption. You can locate your course under "Courses in Progress" page. There is an introduction and three chapters on the course that must be completed to obtain access to the exam: 1. Part 107 sUAS Recurrent - Non-61 Pilots, 2. Resources and 3. Glossary. The main course consists of sections that vary in length and cover all aspects of pilot-in-command, (PIC), responsibilities. Part 2 is a list of "Resources" as supporting material that you need to review. The list is:

1. **FAA Unmanned Aircraft Systems Website**
2. **FAA Regulatory and Guidance Library**
3. **FAA Regulations and Policies Website**
4. **FAA Airman Testing Standards Branch Website**
5. **FAA Airline Safety Website**

DISCLAIMER: No endorsement is implied or discrimination intended for firms or references included or excluded from this document. This fact sheet is for educational purposes only and not meant to provide legal or regulatory advice for the safe and legal operation of any small unmanned aircraft system. It is the responsibility of the sUAS user to read, understand, and follow all FAA regulations. Users are also subject to state laws in which they operate.

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DR. JAMES ROBBINS is Extension specialist/professor - horticulture and **DR. SHANE GADBERRY** is Extension specialist/professor - animal science with the University of Arkansas System Division of Agriculture in Little Rock; **DR. LARRY PURCELL** is professor and Alzheimer chair for soybean research with the Department of Crop, Soil, and Environmental Sciences at the University of Arkansas in Fayetteville; **DR. JOE MARI MAJA** is research sensor engineer at Clemson University located in Blackville, South Carolina. **DR. TERRY SPURLOCK** is Extension associate professor and plant pathologist with the University of Arkansas System Division of Agriculture in Lonoke. **JASON A. DAVIS** is an application technologist with the University of Arkansas System Division of Agriculture in Batesville.

The last required course section, Glossary, shows the important abbreviations or words/topics for the course: Examples; AIS - Abbreviated Injury Scale, ACR - Airman Certification Representative, ACS - Airman Certification Standards.

After completing the course, the "exam" button will activate. You have the option to immediately take the exam, or defer it until a future date. The multiple choice exam consists of 45 questions and you are allotted 90 minutes. You will need to take the exam in a single session. You need to score a 100% to pass the exam. Don't fret, if you answered some questions incorrectly, it will let you go back and correct them. Once you pass the exam, you will be asked to provide feedback and will have the option to view or email your certificate. You can also access your certificate under your account "Common Task" followed by "Print Course Certificates". Your completed test will be followed by an email from the FAA Safety Team validating your test. Your certificate must be with you along with your original card at all times during flight operations, and you must show it to officials if asked. Regulations change over time and the recurrent exam provides an opportunity to fly within the guidelines of the new regulations. A recurrent exam is required every 24 months; however, pilots can retake the course sooner if needed to demonstrate knowledge of new regulations.

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