

UAS Training and Certification Processes

It is crucial to train and mentor high performing professional pilots who can safely accomplish UAS missions in support of all agency missions. This document is intended to provide an overview of the UAS training and certification process (carding).

It's important to note that training and carding are two different authorities and documented as such. Training is conducted and documented utilizing Interagency Aviation Training Process (IAT) and/or National Wildfire Coordination Group (NWCG), and carding is done following the pilot standardization process of the sponsoring agency. Instructors and pilots need to be trained and/or carded respectively within both systems.

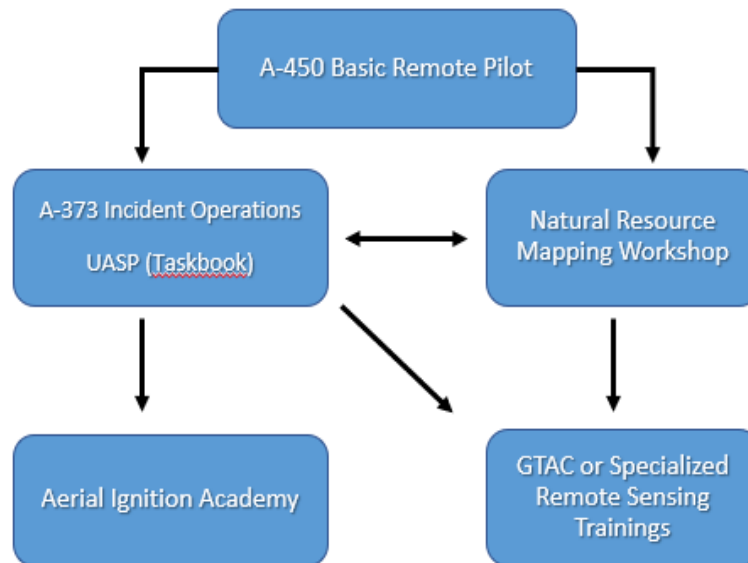
UAS SPECIFIC SITE LINKS

- [Interagency Unmanned Aircraft System \(UAS\) Program](#)
- [Interagency Fire Unmanned Aircraft Systems Subcommittee \(IFUASS\)](#)
- [National UAS Program SharePoint](#) – USFS ONLY link
- [Interagency Aviation Training \(IAT\)– Home Page](#)
- [Wildland Fire Learning Portal – UAS Page](#)
- [S-373, Unmanned Aircraft Systems \(UAS\) Incident Operations](#)

UAS TRAINING DISCIPLINES

All pilots will begin their training with [A-450 Small Unmanned Aircraft Systems Basic Remote Pilot Course](#). After completion of their initial pilot training, they will receive specialized training in either [Incident Operations](#) or [Natural Resource \(NR\) mapping](#). Incident operations training is focused on safe integration of UAS into the fire traffic area (FTA) and best suited for pilots with a background in fire operations. Aerial Ignition Academy is an advanced training for Incident Operations pilots that are seeking carding as an Aerial Ignition pilot. NR mapping workshop trains students to safely acquire precision aerial imagery best suited for pilots with a GIS background. After completing the initial round of training students will have opportunities to take additional specialized training provided, they have the appropriate background for them to be successful.

Becoming qualified as a UAS pilot, in addition to an employee's normal work duties, will take a significant amount of time and place an additional workload on them once they are carded. UAS is a continually evolving program and has multiple changes, from the training workload, flight time requirements, additional job duties, and aircraft updates. It's important to consider all of this when selecting an employee to become a UAS pilot.



SELECTION CONSIDERATIONS

Candidates demonstrating aptitude and professionalism for the UAS program will be given highest preference. Each region has a minimal training allocation; the Regional Aviation Officer (RAO), Regional Aviation Safety Manager (RASM), local Forest Aviation Officer (FAO), local Training Officer, and Regional UAS Specialists may work collaboratively to determine the best selections.

Student selection should consider the following:

- Need to integrate UAS into their forest operations (i.e. priority landscapes, fire activity, or UAS usage).
- Previous experience in aviation (i.e., commercial pilot, military, air attack, other air operations positions).
- Supervisors' approval and performance of daily job duties.
- Availability of aircraft within a reasonable travel distance and proximity to other UAS carded pilots.
- Fire leadership qualifications, radio communication, coordination skills, GIS or other data interpretation skills.
- Availability to dedicate time to assist with diverse UAS-related activities, such as maintenance, training, flying, and extended support to forests in and out of multiple Regions is expected.
- management capacity of national, regional, and/or local aviation program.
- Letter of recommendation.

REQUIRED CERTIFICATE PRIOR TO SELECTION

- FAA part 107 Certificate required as minimum for consideration.

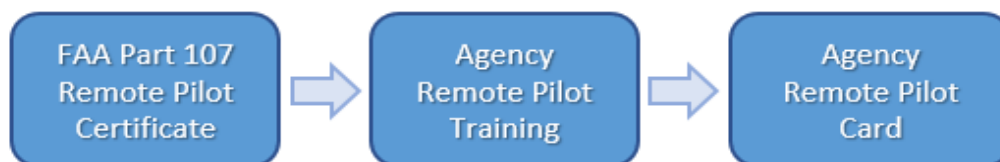
INTERAGENCY AVIATION TRAINING COURSE PREREQUISITES PRIOR TO SELECTION

USFS Employees

- **A-100** Basic Aviation Safety
- **A-110** Aviation Transportation of Hazardous Materials
- **A-200** Mishap Review
- **A-203** Basic Airspace
- **A-205** Risk Management (USFS – Only)
- **N9059** – Crew Resource Management 7 Skills (USFS – Only)

DOI Employees

- **A-100** Basic Aviation Safety
- **A-110** Aviation Transportation of Hazardous Materials
- **A-200** Mishap Review
- **A-203** Basic Airspace
- Coursework required by agency policy.



REMOTE PILOT EVALUATION AND CARDING

Carding Interagency UAS pilots on new aircraft or missions outside of A-450 must follow the established Interagency policies and procedures. Carding procedures may require prerequisites such as, attending in person training, minimum flight hours, specific NWCG qualifications, etc. The following three roles have been identified to ensure effective USFS/DOI Interagency (IA) UAS training: UAS IAT Instructor (“fully qualified” as defined by the IAT Guide- Part 3), UAS Evaluator, and



UAS Final Evaluator. Current aircraft, payloads, and missions requiring a final evaluation (check ride) from a UAS Final Evaluator are listed below.

- All aircraft within the Interagency UAS Fleet
- IGNIS II aerial ignition payload (After completing a IFUASS approved Ai Academy)
- Extended Line of Sight/ Beyond Visual Line of Sight - ELOS/BVLOS

Informally known as a “check ride”, a final evaluation is the objective, formal assessment of remote pilot performance on a particular aircraft, payload, and/or mission profile. The purpose of any remote pilot evaluation is to ensure that the training and subsequent knowledge, skills, and abilities of a remote pilot are consistent with department and bureau performance standards. Pilots can expect to be issued an OAS-30U/FS5700-20B upon completion of a successful check ride/final evaluation.

PILOT CARDING PROCESS

Student:

1. Students must possess a valid OAS-30U/FS5700-20B
 - a. Apart from initial carding that is completed in coordination with A450.
2. Obtain approval from their Regional UAS Specialist.
3. Complete all associated prework.
4. Attend A-454 Small Unmanned Aircraft System (sUAS) Add-on Course for the specific aircraft
 - a. This training can be completed as a standalone training or part of other UAS trainings.
 - i. Standalone trainings can include both the classroom and flight exercises, both portions need to be completed to obtain carding on the aircraft.
 1. UAS flight training lessons must be completed by the UAS Evaluator or Final Evaluator and discussed with the Trainee.
 2. When the student is ready for a final evaluation a Final Evaluator will complete the Remote Pilot Evaluation Form.
 - a. The completed Remote Pilot Evaluation Form will be provided to the student.
5. After successful completion of the A-454 Training and final flight evaluation the student will be carded.

A-456 SMALL UNMANNED AIRCRAFT SYSTEM (sUAS) ELOS/BVLOS TRAINING:

Student:

1. Student must attend an Interagency ELOS/BVLOS Guidance and Training classroom course. This is typically taught as a portion of the initial two-week A450 and S373/Resource mapping course.
 - b. Interagency ELOS/BVLOS Guidance and Training consists of classroom and flight exercises. This training can be completed as a standalone training or part of other UAS trainings.
 - i. Standalone trainings can include both the classroom and flight exercises.
 - ii. When Interagency ELOS/BVLOS Guidance and Training is combined with S-373 or the UAS Mapping workshop students will only receive the classroom portion of the training. The flight exercise portion will be completed in the field at a later date.
 1. UAS ELOS/BVLOS flight training lessons must be completed by the UAS Evaluator or Final Evaluator and discussed with the Trainee.
 2. When the student is ready for a final evaluation a Final Evaluator or designee will complete the Remote Pilot Evaluation Form.
 - a. The completed Remote Pilot Evaluation Form will be provided to the student.
2. After completing the Interagency ELOS/BVLOS Guidance and Training, the student will be carded for ELOS/BVLOS operations.
3. The Interagency ELOS/BVLOS Guidance and Training Course will be documented using the Interagency Aviation Training (IAT) [A-456 - Small Unmanned Aircraft System \(sUAS\) ELOS/BVLOS](#) course entered in IAT.

AERIAL IGNITION CARDING PROCESS

Student:

1. Student must attend an IFUASS approved Aerial Ignition Workshop.
 - a. After completing the Ai workshop, the student will be carded as an aerial ignition trainee.
2. The Trainee must participate in UAS aerial ignition operations with a fully qualified UAS aerial ignition pilot.
 - a. The fully qualified UAS aerial ignition pilot must be designated as a UAS Evaluator or Final Evaluator and identified as such on the UAS Master qualification list.
 - b. UAS Ai Mission Evaluation Forms must be completed by the UAS Evaluator or Final Evaluator and discussed with the Trainee.
 - c. When the Trainee is ready for a final evaluation a UAS Final Evaluator or designee will complete the final UAS Ai Mission evaluation form and recommend the student become fully qualified.
 - i. The final UAS Ai Mission evaluation form should be sent to pilots regional UAS specialist/OAS designee.
3. The Aerial Ignition Workshop will be documented using the Interagency Aviation Training (IAT) A-454 - Small Unmanned Aircraft System (sUAS) Add-on Course.

AIRCRAFT AND APPROVED USES

Contact your Regional Specialist or Agency UAS personnel for any specifics regarding cost and the purchasing process of UAS aircraft.

A450/S373
Aircraft



Anafi

Mapping
Aircraft

USFS APPROVED
ONLY



Switchblade

Ai and Mapping
Aircraft



Alta

EXTERNAL UAS EDUCATION OPPORTUNITIES

There are opportunities for those interested in UAS operations to further their knowledge through more traditional education pathways. Several universities provide courses that would provide future pilots and users with an increased understanding of UAS, basic aviation knowledge, aviation safety and risk, and help them develop and train the skills necessary to be a safe, effective, and efficient pilots. A few of these opportunities are listed below, this list is not comprehensive, there are several other programs that exist both in person and online that can be taken. While these courses help future pilots gain the knowledge skills and abilities to be successful, these are not equivalencies for the interagency courses as listed above.

Online Learning

- Embrey Riddle Aeronautical University
 - [Small Unmanned Aircraft Systems Operations | Embry-Riddle Aeronautical University \(erau.edu\)](https://erau.edu)
- FAA Safety Wings courses
 - [Safer Skies Through Education - FAA - FAASafety.gov](https://faasafety.gov)
- Treasure Valley University
 - [Aviation Safety Management Systems \(tvcc.cc\)](https://tvcc.cc)