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**Federal Aviation
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Unmanned Aircraft Systems Airman Certification Standards

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**Flight Standards Service
Washington, DC 20591**

Acknowledgments

The U.S. Department of Transportation, Federal Aviation Administration (FAA), Airman Testing Standards Branch, AFS-630, P. O. Box 25082, Oklahoma City, OK, 73125 developed this Airman Certification Standards (ACS) document with the assistance of the subject matter experts in the area related to Unmanned Aircraft Systems (UAS).

Availability

This ACS is available for download from www.faa.gov. Please send comments regarding this document to AFS630comments@faa.gov.

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Foreword

The Federal Aviation Administration (FAA) has published the Unmanned Aircraft Systems (UAS) Airman Certification Standard (ACS) document to communicate the aeronautical knowledge standards for a Remote Pilot Certificate with a Small UAS Rating.

The FAA views the ACS as the foundation to an integrated and systematic approach to airman certification. The ACS is part of the safety management system (SMS) framework that the FAA uses to mitigate risks associated with airman certification training and testing. Specifically, the ACS, associated guidance, and test question components of the airman certification system are constructed around the four functional components of an SMS:

1. Safety Policy that defines and describes aeronautical knowledge and risk management as integrated components of the airman certification system;
2. Safety Risk Management processes through which internal stakeholders identify and evaluate regulatory changes, safety recommendations, or other factors that require modification of airman testing and training materials;
3. Safety Assurance processes to ensure the prompt and appropriate incorporation of changes arising from new regulations and safety recommendations; and
4. Safety Promotion in the form of ongoing engagement with both external stakeholders and FAA policy divisions.

The FAA has developed the ACS with the goal to drive a systematic approach to all components of the airman certification system which includes the knowledge test question development, course development, and guidance material. The FAA acknowledges and appreciates the many hours that these aviation experts have contributed toward this goal. This level of collaboration, a hallmark of a robust safety culture, strengthens and enhances aviation safety at every level of the airman certification system.

John S. Duncan
Director, Flight Standards Service

Revision History

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Introduction

Airman Certification Standards Concept

The goal of the airman certification process is to ensure the applicant possesses knowledge consistent with the privileges of the Remote Pilot Certificate with a Small Unmanned Aircraft Systems (UAS) Rating being exercised, as well as the ability to manage the risks of flight in order to act as a remote pilot in command (PIC).

In fulfilling its responsibilities for the airman certification process, the Federal Aviation Administration (FAA) Flight Standards Service (AFS) plans, develops, and maintains materials related to airman certification testing. These materials include several components. The FAA knowledge test measures mastery of the aeronautical knowledge areas listed in Title 14 of the Code of Federal Regulations (14 CFR) part 107. Other materials, such as computer testing supplements in the FAA CT-8080 series, an online training course, provide guidance to applicants on aeronautical knowledge and risk management.

The FAA recognizes that safe operations in today's complex National Airspace System (NAS) require a more systematic integration of aeronautical knowledge, risk management and flight proficiency standards. The FAA further recognizes the need to more clearly calibrate knowledge and risk management to the level of the Remote Pilot Certificate with a Small UAS Rating.

To accomplish this goal, the FAA drew upon the expertise of organizations and individuals across the aviation community to develop the ACS. The ACS integrates the elements of knowledge and risk management in 14 CFR part 107 for a Remote Pilot Certificate with a Small UAS Rating. It thus forms the comprehensive standard for what an applicant must know and consider for the safe conduct and successful completion of each Task to be tested on the knowledge test.

In keeping with this integrated and systematic approach, the knowledge task element sections of each Task stipulate that the applicant must demonstrate understanding of each specific item. The applicant demonstrates this understanding by passing the knowledge exam.

Using the ACS

The UAS ACS includes Areas of Operation and Tasks for the initial issuance of a Remote Pilot Certificate with a Small UAS Rating.

Each Task in the ACS is coded according to a scheme that includes four elements. For example:

UA.I.C.K1:

- UA** = Applicable ACS (Unmanned Aircraft Systems)
- I** = Area of Operation (Regulations)
- B** = Task (Operating Rules)
- K10** = Task element Knowledge 10 (Visual line of sight aircraft operations.)

Knowledge test questions are mapped to the ACS codes, which will soon replace the system of Learning Statement Codes (LSC). After this transition occurs, the Airman Knowledge Test Report (AKTR) will list an ACS code that correlates to a specific Task element for a given Area of Operation and Task. The learning statement code(s) translations may be found at www.faa.gov. Each learning statement code provides the applicant with information that will assist in future test taking.

The current knowledge test management system does not have the capability to print ACS codes. Until a new test management system is in place, the Learning Statement Codes, such as Pilot Learning Statement (PLT) codes will continue to be displayed on the AKTR. The PLT codes are linked to references leading to broad subject areas. By contrast, each ACS code is tied to a unique Task element in the ACS itself. Because of this fundamental difference, there is no one-to-one correlation between PLT codes and ACS codes.

For those applicants who do not pass the knowledge test, remedial instruction and an endorsement from an instructor is not required for retesting. See Appendix A for details on passing the Unmanned Aircraft General – Small (UAG) knowledge test.

The FAA encourages applicants to use this ACS during the knowledge test preparation and as a reference to ensure the applicant is adequately prepared for the knowledge test. The FAA will revise this ACS as circumstances require.

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I. Regulations

| | |
|------------------------|--|
| Task | <i>Task A. General</i> |
| References | 14 CFR part 107, subpart A; AC 107 |
| Objective | To determine that the applicant exhibits competence in knowledge and risk management associated with the general regulatory requirements of 14 CFR part 107. |
| Knowledge | The applicant demonstrates understanding of: |
| <i>UA.I.A.K1</i> | 1. The applicability of 14 CFR part 107 to small unmanned aircraft operations. |
| <i>UA.I.A.K2</i> | 2. Definitions used in 14 CFR part 107. |
| <i>UA.I.A.K3</i> | 3. Falsification, reproduction or alteration, such as the certificate, rating, authorization, record, or report. |
| <i>UA.I.A.K4</i> | 4. Accident Reporting. |
| <i>UA.I.A.K5</i> | 5. Inspection, testing, and demonstration of compliance. |
| Risk Management | [Reserved] |
| | |
| Skills | [Not applicable] |
| | |

I. Regulations

| | |
|------------------------|--|
| Task | Task B. Operating Rules |
| References | 14 CFR parts 48 and 107 subpart B; AC 107 |
| Objective | To determine that the applicant exhibits competence in knowledge and risk management associated with the operating rules of 14 CFR part 107, registration rules of 14 CFR part 48, and associated regulations. |
| Knowledge | The applicant demonstrates understanding of: |
| <i>UA.I.B.K1</i> | 1. Registration requirements for small unmanned aircraft systems. |
| <i>UA.I.B.K2</i> | 2. The conditions for safe operation. |
| <i>UA.I.B.K3</i> | 3. Medical condition(s) that would interfere with safe operation. |
| <i>UA.I.B.K4</i> | 4. Responsibility and authority of the remote pilot in command. |
| <i>UA.I.B.K5</i> | 5. Regulatory deviation and reporting requirements of in-flight emergencies. |
| <i>UA.I.B.K6</i> | 6. Hazardous operations, such as careless or reckless behavior or allowing an object to be dropped. |
| <i>UA.I.B.K7</i> | 7. Operating from a moving aircraft or moving land- or water-borne vehicle. |
| <i>UA.I.B.K8</i> | 8. Alcohol or drugs and the provisions on prohibition of use. |
| <i>UA.I.B.K9</i> | 9. Daylight operation. |
| <i>UA.I.B.K10</i> | 10. Visual line of sight aircraft operations. |
| <i>UA.I.B.K11</i> | 11. Visual observer. |
| <i>UA.I.B.K12</i> | 12. Operation of multiple small unmanned aircraft. |
| <i>UA.I.B.K13</i> | 13. Carriage of hazardous material. |
| <i>UA.I.B.K14</i> | 14. Staying safely away from other aircraft and right-of-way rules. |
| <i>UA.I.B.K14a</i> | a. See and avoid other aircraft and other potential hazard considerations of the remote pilot in command |
| <i>UA.I.B.K15</i> | 15. Operation over people. |
| <i>UA.I.B.K16</i> | 16. Prior authorization required for operation in certain airspace. |
| <i>UA.I.B.K17</i> | 17. Operation in the vicinity of airports. |
| <i>UA.I.B.K18</i> | 18. Operation in prohibited or restricted areas. |
| <i>UA.I.B.K19</i> | 19. Flight restrictions in the proximity of certain areas designated by notice to airmen. |
| <i>UA.I.B.K20</i> | 20. Preflight familiarization, inspection, and actions for aircraft operations. |
| <i>UA.I.B.K21</i> | 21. Operating limitations for small unmanned aircraft. |
| <i>UA.I.B.K22</i> | 22. Model aircraft operation status. |
| <i>UA.I.B.K23</i> | 23. Flights defined as public aircraft operations. |
| <i>UA.I.B.K24</i> | 24. Requirements for a Remote Pilot Certificate with a Small UAS Rating. |
| Risk Management | [Reserved] |
| | |
| Skills | [Not applicable] |

I. Regulations

| | |
|------------------------|--|
| Task | <i>Task C. Remote Pilot Certification</i> |
| References | 14 CFR part 107, subpart C; AC 107 |
| Objective | To determine that the applicant exhibits competence in knowledge and risk management associated with the Remote Pilot Certification. |
| Knowledge | The applicant demonstrates understanding of: |
| <i>UA.I.C.K1</i> | 1. Offenses involving alcohol or drugs. |
| <i>UA.I.C.K2</i> | 2. Refusal to submit to a drug or alcohol test or to furnish test results. |
| <i>UA.I.C.K3</i> | 3. Eligibility for a Remote Pilot Certificate with a Small UAS Rating. |
| <i>UA.I.C.K4</i> | 4. Aeronautical knowledge recency. |
| Risk Management | [Reserved] |
| | |
| Skills | [Not applicable] |
| | |

I. Regulations

| | |
|------------------------|--|
| Task | <i>Task D. Waivers</i> |
| References | 14 CFR part 107, subpart D; AC 107 |
| Objective | To determine that the applicant exhibits competence in knowledge and risk management associated with regulator waivers. |
| Knowledge | The applicant demonstrates understanding of: |
| <i>UA.I.D.K1</i> | 1. The waiver policy and the understanding of the regulatory subject matter, equivalent level of safety requirement, and special provisions in a waiver. |
| Risk Management | [Reserved] |
| | |
| Skills | [Not applicable] |
| | |

II. Airspace Classification and Operating Requirements

| | |
|------------------------|---|
| Task | <i>Task A. Airspace Classification</i> |
| References | AC 107; FAA-H-8083-25; AIM |
| Objective | To determine that the applicant exhibits competence in knowledge and risk management associated with the airspace classifications. |
| Knowledge | The applicant demonstrates understanding of: |
| <i>UA.II.A.K1</i> | 1. General airspace |
| <i>UA.II.A.K1a</i> | a. Class B controlled airspace |
| <i>UA.II.A.K1b</i> | b. Class C controlled airspace |
| <i>UA.II.A.K1c</i> | c. Class D controlled airspace |
| <i>UA.II.A.K1d</i> | d. Class E controlled airspace |
| <i>UA.II.A.K1e</i> | e. Class G uncontrolled airspace |
| <i>UA.II.A.K2</i> | 2. Special-use airspace, such as prohibited, restricted, warning, military operations, alert, and controlled firing. |
| <i>UA.II.A.K3</i> | 3. Other airspace areas, such as Airport Advisory Services, Military Training Routes (MTRs), Temporary Flight Restrictions (TFRs), Parachute Jump Operations, Terminal Radar Service Areas (TRSAs), National Security Areas (NSA) and Visual Flight Rules (VFR) routes. |
| <i>UA.II.A.K4</i> | 4. Air Traffic Control (ATC) and the National Airspace System (NAS). |
| Risk Management | [Reserved] |
| | |
| Skills | [Not applicable] |
| | |

II. Airspace Classification and Operating Requirements

| | |
|------------------------|--|
| Task | <i>Task B. Airspace Operational Requirements</i> |
| References | AC 107; AIM; SAFO 10015 |
| Objective | To determine that the applicant exhibits satisfactory knowledge and risk management associated with the airspace operational requirements. |
| Knowledge | The applicant demonstrates understanding of: |
| <i>UA.II.B.K1</i> | 1. Basic weather minimums. |
| <i>UA.II.B.K2</i> | 2. Concepts relating to ATC clearances and permissions. |
| <i>UA.II.B.K3</i> | 3. Maximum altitude limit. |
| <i>UA.II.B.K4</i> | 4. Operations near airports. |
| <i>UA.II.B.K5</i> | 5. Potential flight hazards. |
| <i>UA.II.B.K5a</i> | a. Common aircraft accident causal factors |
| <i>UA.II.B.K5b</i> | b. Avoid flight beneath unmanned balloons |
| <i>UA.II.B.K5c</i> | c. Emergency airborne inspection of other aircraft |
| <i>UA.II.B.K5d</i> | d. Precipitation static |
| <i>UA.II.B.K5e</i> | e. Light amplification by stimulated emission of radiation (laser) operations and reporting illumination of aircraft |
| <i>UA.II.B.K5f</i> | f. Avoid flight in the vicinity of thermal plumes, such as smoke stacks and cooling towers |
| <i>UA.II.B.K5g</i> | g. Flying in the wire environment |
| <i>UA.II.B.K6</i> | 6. Temporary flight restrictions (TFRs) airspace. |
| <i>UA.II.B.K7</i> | 7. Notices to Airmen (NOTAMs) system including how to obtain an established NOTAM through Flight Service. |
| Risk Management | [Reserved] |
| | |
| Skills | [Not applicable] |
| | |

III. Weather

| | |
|------------------------|---|
| Task | Task A. Sources of Weather |
| References | AC 107; FAA-H-8083-25; AIM |
| Objective | To determine that the applicant exhibits satisfactory knowledge and risk management associated with sources of weather information. |
| Knowledge | The applicant demonstrates understanding of: |
| <i>UA.III.A.K1</i> | 1. Internet weather briefing and sources of weather available for flight planning purposes. |
| <i>UA.III.A.K2</i> | 2. Aviation routine weather reports (METAR). |
| <i>UA.III.A.K3</i> | 3. Terminal aerodrome forecasts (TAF). |
| <i>UA.III.A.K4</i> | 4. Weather charts. |
| <i>UA.III.A.K5</i> | 5. Automated surface observing systems (ASOS) and automated weather observing systems (AWOS). |
| Risk Management | [Reserved] |
| | |
| Skills | [Not applicable] |
| | |

III. Weather

| | |
|------------------------|---|
| Task | Task B. Effects of Weather on Performance |
| References | AC 107; AIM; FAA-H-8083-25; AC 00-06 |
| Objective | To determine that the applicant exhibits competence in knowledge and risk management associated with effects of weather on performance. |
| Knowledge | The applicant demonstrates understanding of: |
| <i>UA.III.B.K1</i> | 1. Weather factors and their effects on performance: |
| <i>UA.III.B.K1a</i> | a. Density altitude |
| <i>UA.III.B.K1b</i> | b. Wind and currents |
| <i>UA.III.B.K1c</i> | c. Atmospheric stability, pressure, and temperature |
| <i>UA.III.B.K1d</i> | d. Air masses and fronts |
| <i>UA.III.B.K1e</i> | e. Thunderstorms and microbursts |
| <i>UA.III.B.K1f</i> | f. Tornadoes |
| <i>UA.III.B.K1g</i> | g. Icing |
| <i>UA.III.B.K1h</i> | h. Hail |
| <i>UA.III.B.K1i</i> | i. Fog |
| <i>UA.III.B.K1j</i> | j. Ceiling and visibility |
| <i>UA.III.B.K1k</i> | k. Lightning |
| Risk Management | [Reserved] |
| | |
| Skills | [Not applicable] |
| | |

IV. Loading and Performance

| | |
|------------------------|--|
| Task | Task A. Loading and Performance |
| References | AC 107; FAA-H-8083-25 |
| Objective | To determine that the applicant exhibits competency in the knowledge and risk management associated with the loading and performance of a small unmanned aircraft systems. |
| Knowledge | The applicant demonstrates understanding of: |
| <i>UA.IV.A.K1</i> | 1. General loading and performance: |
| <i>UA.IV.A.K1a</i> | a. Effects of loading changes |
| <i>UA.IV.A.K1b</i> | b. Balance, stability, and center of gravity |
| <i>UA.IV.A.K2</i> | 2. The importance and use of performance data to predict the effect on the aircraft's performance. |
| Risk Management | [Reserved] |
| | |
| Skills | [Not applicable] |
| | |

V. Operations

| | |
|------------------------|--|
| Task | <i>Task A. Radio Communications Procedures</i> |
| References | AC 107; AIM |
| Objective | To determine that the applicant exhibits competency in the knowledge and risk management associated with radio communications. |
| Knowledge | The applicant demonstrates understanding of: |
| <i>UA.V.A.K1</i> | 1. The airport operations with and without an operating control tower. |
| <i>UA.V.A.K2</i> | 2. The description and use of a Common Traffic Advisory Frequency (CTAF) to monitor manned aircraft communications. |
| <i>UA.V.A.K3</i> | 3. Recommended traffic advisory procedures used by manned aircraft pilots, such as self-announcing of position and intentions. |
| <i>UA.V.A.K4</i> | 4. Aeronautical Advisory Stations (UNICOM) and associated communication procedures used by manned aircraft pilots. |
| <i>UA.V.A.K5</i> | 5. Automatic Terminal Information Service (ATIS). |
| <i>UA.V.A.K6</i> | 6. Aircraft call signs and registration numbers. |
| <i>UA.V.A.K7</i> | 7. The phonetic alphabet. |
| <i>UA.V.A.K8</i> | 8. Phraseology: figures, altitudes, directions, speed, and time. |
| Risk Management | [Reserved] |
| | |
| Skills | [Not applicable] |
| | |

V. Operations

| | |
|------------------------|---|
| Task | Task B. Airport Operations |
| References | AC 107; FAA-H-8083-25; AIM |
| Objective | To determine that the applicant exhibits competency in the knowledge and risk management associated with airport operations. |
| Knowledge | The applicant demonstrates understanding of: |
| <i>UA.V.B.K1</i> | 1. The types of airports, such as towered, uncontrolled towered, heliport, and seaplane bases. |
| <i>UA.V.B.K2</i> | 2. ATC towers, such as ensuring the remote pilot can monitor and interpret ATC communications to improve situational awareness. |
| <i>UA.V.B.K3</i> | 3. Runway markings and signage. |
| <i>UA.V.B.K4</i> | 4. Traffic patterns used by manned aircraft pilots. |
| <i>UA.V.B.K5</i> | 5. Security Identification Display Areas (SIDA). |
| <i>UA.V.B.K6</i> | 6. Sources for airport data: |
| <i>UA.V.B.K6a</i> | a. Aeronautical charts |
| <i>UA.V.B.K6b</i> | b. Chart Supplements |
| <i>UA.V.B.K7</i> | 7. Avoiding bird and wildlife hazards and reporting collisions between aircraft and wildlife. |
| Risk Management | [Reserved] |
| | |
| Skills | [Not applicable] |
| | |

V. Operations

| | |
|------------------------|--|
| Task | Task C. Emergency Procedures |
| References | AC 107; FAA-H-8083-25; SAFO 15010, SAFO 10017, SAFO 09013 |
| Objective | To determine that the applicant exhibits competency in the knowledge and risk management associated with emergency procedures. |
| Knowledge | The applicant demonstrates understanding of: |
| UA.V.C.K1 | 1. Emergency planning and communication. |
| UA.V.C.K2 | 2. Characteristics and potential hazards of lithium batteries: |
| UA.V.C.K2a | a. Safe transportation, such as proper inspection and handling |
| UA.V.C.K2b | b. Safe charging |
| UA.V.C.K2c | c. Safe usage |
| UA.V.C.K2d | d. Risks of fires involving lithium batteries |
| UA.V.C.K3 | 3. Loss of aircraft control link and fly-aways. |
| UA.V.C.K4 | 4. Loss of Global Positioning System (GPS) signal during flight and potential consequences. |
| UA.V.C.K5 | 5. Frequency spectrums and associated limitations. |
| Risk Management | [Reserved] |
| | |
| Skills | [Not applicable] |
| | |

V. Operations

| | |
|------------------------|--|
| Task | <i>Task D. Aeronautical Decision-Making</i> |
| References | AC 107; FAA-H-8083-25; AC 60-22 |
| Objective | To determine that the applicant exhibits competency in the knowledge and risk management associated with aeronautical decision-making. |
| Knowledge | The applicant demonstrates understanding of: |
| <i>UA.V.D.K1</i> | 1. Aeronautical Decision-Making (ADM): |
| <i>UA.V.D.K1a</i> | a. Effective team communication |
| <i>UA.V.D.K1b</i> | b. Task management |
| <i>UA.V.D.K2</i> | 2. Crew Resource Management (CRM). |
| <i>UA.V.D.K3</i> | 3. Situational awareness. |
| <i>UA.V.D.K4</i> | 4. Hazardous attitudes. |
| Risk Management | [Reserved] |
| | |
| Skills | [Not applicable] |
| | |

V. Operations

| | |
|------------------------|--|
| Task | Task E. Physiology |
| References | AC 107; FAA-H-8083-25 |
| Objective | To determine that the applicant exhibits competency in the knowledge and risk management associated with physiological factors affecting remote pilot performance. |
| Knowledge | The applicant demonstrates understanding of: |
| <i>UA.V.E.K1</i> | 1. Physiological considerations and their effects on safety, such as dehydration and heatstroke. |
| <i>UA.V.E.K2</i> | 2. Drug and alcohol use. |
| <i>UA.V.E.K3</i> | 3. Prescription and over-the-counter medication. |
| <i>UA.V.E.K4</i> | 4. Hyperventilation. |
| <i>UA.V.E.K5</i> | 5. Stress and fatigue. |
| <i>UA.V.E.K6</i> | 6. Factors effecting vision. |
| <i>UA.V.E.K7</i> | 7. Fitness for flight. |
| Risk Management | [Reserved] |
| | |
| Skills | [Not applicable] |
| | |

V. Operations

| | |
|------------------------|---|
| Task | <i>Task F. Maintenance and Inspection Procedures</i> |
| References | AC 107 |
| Objective | To determine that the applicant exhibits competency in the knowledge and risk management associated with maintenance and inspection procedures. |
| Knowledge | The applicant demonstrates understanding of: |
| <i>UA.V.F.K1</i> | 1. Basic maintenance. |
| <i>UA.V.F.K2</i> | 2. Preflight inspection. |
| <i>UA.V.F.K3</i> | 3. Techniques to mitigate mechanical failures of all elements used in small UAS operations, such as the battery and/or any device(s) used to operate the small UAS. |
| <i>UA.V.F.K4</i> | 4. Appropriate record keeping. |
| Risk Management | [Reserved] |
| | |
| Skills | [Not applicable] |
| | |

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Appendix 1: The Knowledge Test Eligibility, Prerequisites and Testing Centers

Applying for a Remote Pilot Certificate with a Small UAS Rating

When applying for a Remote Pilot Certificate with a Small UAS Rating, in addition to the eligibility requirements of 14 CFR part 107, section 107.61, the applicant must meet one of the following:

- Applicant must provide an AKTR, which shows that the applicant has passed the initial aeronautical knowledge test as described in section 107.73.
- If the person holds a pilot certificate issued under part 61 and meets the recency requirements specified in section 61.56, the applicant must provide a certificate of completion of a part 107 initial training course. A qualifying initial training course is available at www.faasafety.gov. The applicant must also show, via logbook entry or other method acceptable to the Administrator, that they meet the flight review requirements of section 61.56.

The application must be submitted to a Flight Standards District Office (FSDO), a designated pilot examiner (DPE), an airman certification representative for a pilot school, a certified flight instructor (CFI), or other person authorized by the Administrator to process the application.

Knowledge Test Description

The knowledge test is an important part of the airman certification process. Applicants who do not meet the requirements in 14 CFR part 107.61 (d)(1), must pass the knowledge test before preparing an application for a Remote Pilot Certificate with a Small UAS Rating.

The knowledge test consists of objective, multiple-choice questions. There is a single correct response for each test question. Each test question is independent of other questions. A correct response to one question does not depend upon, or influence, the correct response to another.

| UAS Topics | Percentage of Items on Test |
|----------------------------------|-----------------------------|
| I. Regulations | 15 – 25% |
| II. Airspace & Requirements | 8 – 15% |
| III. Weather | 11 – 16% |
| IV. Loading and Performance | 7 – 11% |
| V. Operations | 13 – 18% |
| Total Number of Questions | 60 |

English Language Proficiency

In accordance with the requirements of 14 CFR part 107, section 107.61(b) and the FAA Aviation English Language Proficiency standard, throughout the application and testing process, the applicant must demonstrate the ability to read, write, speak, and understand the English language.

Knowledge Test Requirements

To verify your eligibility to take the knowledge test, you must meet the following in accordance with the requirements of AC 107:

- An applicant to take the knowledge test must be at least 14 years of age.
- Proper identification must be provided which contains the applicant's—
 - (i) Photograph;

- (ii) Signature;
- (iii) Date of birth;
- (iv) If the permanent mailing address is a post office box number, then the applicant must provide a current government-issued address.
- A list of acceptable documents used to provide proper identification can be found in Advisory Circular 61-65, Certification: Pilots and Flight and Ground Instructors (as amended).
- Achieving a score of 70% or better is required to be considered as satisfactorily passing the knowledge test for a Remote Pilot Certificate with a Small UAS Rating.

Retaking the UAS knowledge test after a failure:

- 14 CFR part 107, section 107.71 specifies that an applicant who fails the knowledge test may not retake the knowledge test for 14 calendar days from the date of the previous failure.
- An applicant retesting **after failure** is required to submit the applicable AKTR indicating failure to the testing center prior to retesting.
- No instructor endorsement or other form of written authorization is required to retest after failure.
- The original failed AKTR must be retained by the proctor and attached to the applicable daily log.

Note: *If the testing center is approved for electronic filing, the proctor must: initial the AKTR within the embossed seal; file the AKTR IAW their AKT ODA Holder's Procedures Manual; and destroy the AKTR. **The proctor must verify the original failed AKTR has been successfully captured and stored prior to destruction.***

If the applicant no longer possesses the AKTR, he or she may request a duplicate replacement issued by AFS-760.

Knowledge Test Centers

The FAA authorizes hundreds of knowledge testing center locations that offer a full range of airman knowledge tests. For information on authorized testing centers and to register for the knowledge test, contact one of the providers listed at <http://www.faa.gov/Authorized Testing Centers>.

Knowledge Test Registration

When you contact a knowledge testing center to register for a test, please be prepared to select a test date, choose a testing center, and make financial arrangements for test payment when you call. You may register for test(s) several weeks in advance, and you may cancel in accordance with the testing center's cancellation policy.

Appendix 2: Knowledge Test Procedures and Tips

Before starting the actual test, the testing center will provide an opportunity to practice navigating through the test. This practice or tutorial session may include sample questions to familiarize the applicant with the look and feel of the software, such as selecting an answer, marking a question for later review, monitoring time remaining for the test, and other features of the testing software.

Acceptable Materials

The applicant may use the following aids, reference materials, and test materials, as long as the material does not include actual test questions or answers.

| Acceptable Materials | Unacceptable Materials | Notes |
|---|---|---|
| Supplement book provided by proctor | Written materials that are handwritten, printed, or electronic | Testing centers may provide calculators and/or deny the use of personal calculators. |
| All models of aviation-oriented calculators or small electronic calculators that perform only arithmetic functions | Electronic calculators incorporating permanent or continuous type memory circuits without erasure capability. | Unit Member (proctor) may prohibit the use of your calculator if he or she is unable to determine the calculator's erasure capability |
| Calculators with simple programmable memories, which allow addition to, subtraction from, or retrieval of one number from the memory; or simple functions, such as square root and percentages | Magnetic Cards, magnetic tapes, modules, computer chips, or any other device upon which pre-written programs or information related to the test can be stored and retrieved | Printouts of data must be surrendered at the completion of the test if the calculator incorporates this design feature. |
| Scales, straightedges, protractors, plotters, navigation computers, blank log sheets, holding pattern entry aids, and electronic or mechanical calculators that are directly related to the test | Dictionaries | Before, and upon completion of the test, while in the presence of the Unit Member, actuate the ON/OFF switch or RESET button, and perform any other function that ensures erasure of any data stored in memory circuits |
| Manufacturer's permanently inscribed instructions on the front and back of such aids, such as formulas, conversions, regulations, signals, weather data, holding pattern diagrams, frequencies, weight and balance formulas, and ATC procedures | Any booklet or manual containing instructions related to use of test aids | Unit Member makes the final determination regarding aids, reference materials, and test materials |

Test Tips

When taking a knowledge test, please keep the following points in mind:

- Carefully read the instructions provided with the test.
- Answer each question in accordance with the latest regulations and guidance publications.
- Read each question carefully before looking at the answer options. You should clearly understand the problem before trying to solve it.
- After formulating a response, determine which answer option corresponds with your answer. The answer you choose should completely solve the problem.

- Remember that only one answer is complete and correct. The other possible answers are either incomplete or erroneous.
- If a certain question is difficult for you, mark it for review and return to it after you have answered the less difficult questions. This procedure will enable you to use the available time to maximum advantage.
- When solving a calculation problem, be sure to read all the associated notes.
- For questions involving use of a graph, you may request a printed copy that you can mark in computing your answer. This copy and all other notes and paperwork must be given to the testing center upon completion of the test.

Cheating or Other Unauthorized Conduct

To avoid test compromise, computer testing centers must follow strict security procedures established by the FAA and described in FAA Order 8080.6 (as amended), Conduct of Airman Knowledge Tests. The FAA has directed testing centers to terminate a test at any time a test unit member suspects that a cheating incident has occurred.

The FAA will investigate and, if the agency determines that cheating or unauthorized conduct has occurred, any airman certificate or rating you hold may be revoked. You will also be prohibited from applying for or taking any test for a certificate or rating under 14 CFR part 107, section 107.69 for a period of one year.

Testing Procedures for Applicants Requesting Special Accommodations

An applicant with learning or reading disability may request approval from AFS-630 through the local Flight Standards District Office (FSDO) or International Field Office/International Field Unit (IFO/IFU) to take airman knowledge test using one of the three options listed below, in preferential order:

Option 1: Use current testing facilities and procedures whenever possible.

Option 2: Use a self-contained, electronic device which pronounces and displays typed-in words, such as the Franklin Speaking Wordmaster®) to facilitate the testing process.

Note: *The device should consist of an electronic thesaurus that audibly pronounces typed-in words and presents them on a display screen. The device should also have a built-in headphone jack in order to avoid disturbing others during testing.*

Option 3: Request the proctor's assistance in reading specific words or terms from the test questions and/or supplement book. To prevent compromising the testing process, the proctor must be an individual with no aviation background or expertise. The proctor may provide reading assistance only (i.e., no explanation of words or terms). When an applicant requests this option, the applicant must contact the AFS-630 for assistance in selecting the test site and assisting the proctor.

Appendix 3: Airman Knowledge Test Report

Immediately upon completion of the knowledge test, the applicant receives a printed AKTR documenting the score with the testing center's raised, embossed seal. The applicant must retain the original AKTR.

An AKTR with passing results is valid for 24 calendar months. To exercise the privileges of the Remote Pilot Certificate with a Small UAS Rating, the applicant must comply with 14 CFR part 107, section 107.65.

To obtain a duplicate AKTR due to loss or destruction of the original, the applicant must mail a signed request accompanied by a check or money order made payable to the FAA in the amount of \$12.00 the following address:

Federal Aviation Administration
Airmen Certification Branch, AFS-760
P.O. Box 25082
Oklahoma City, OK 73125

To obtain a copy of the application form or a list of the information required, please see the [AFS-760 web page](#).

FAA Knowledge Test Question Coding

Each Task in the ACS includes an ACS code. This ACS code will soon be displayed on the airman test report to indicate what Task element was proven deficient on the Knowledge Exam.

The ACS coding consists of four elements. For example: this code is deciphered as follows:

UA.I.C.K1:

- UA** = Applicable ACS (Unmanned Aircraft Systems)
- I** = Area of Operation (Regulations)
- B** = Task (Operating Rules)
- K10** = Task element Knowledge 1 (Visual line of sight aircraft operations.)

Knowledge test questions are mapped to the ACS codes, which will soon replace the system of "Learning Statement Codes." After this transition occurs, the AKTR will list an ACS code that correlates to a specific element for a given Area of Operation and Task.

To obtain a copy of the LSC that will be found on the AKTR, please refer to www.faa.gov.

Appendix 4: References

This ACS is based on the following 14 CFR parts, FAA guidance documents, manufacturer's publications, and other documents.

| Reference | Title |
|-----------------|---|
| 14 CFR part 48 | Registration and Marking requirements for Unmanned Aircraft Systems |
| 14 CFR part 71 | Designation of Class A, B, C, D and E Airspace Areas; Air Traffic Service Rotes; and Reporting Points |
| 14 CFR part 107 | Operation and Certification of Small Unmanned Aircraft Systems |
| AC 00-06 | Weather Advisory Circular |
| AC 60-22 | Aeronautical Decision Making |
| AC 91-57 | Model Aircraft Operating Standards |
| AC 150-5200-32 | Reporting Wildlife Aircraft Strikes |
| AC-107 | Small |
| AIM | Aeronautical Information Manual |
| FAA-H-8083-25 | Pilot's Handbook of Aeronautical Knowledge |
| SAFO 09013 | Fighting Fires Caused By Lithium Type Batteries in Portable Electronic Devices |
| SAFO 10015 | Flying in the wire environment |
| SAFO 10017 | Risks in Transporting Lithium Batteries in Cargo by Aircraft |
| SAFO 15010 | Carriage of Spare Lithium Batteries in Carry-on and Checked Baggage |

Note: Users should reference the current edition of the reference documents listed above. Safety Alerts for Operators (SAFOs) and the current edition of all FAA publications can be found at www.faa.gov.

Appendix 5: Abbreviations and Acronyms

The following abbreviations and acronyms are used in this ACS.

| Abb/Acronym | Definition |
|-------------------|--|
| 14 CFR | Title 14 of the Code of Federal Regulations |
| AAS | Airport Advisory Services |
| AC | Advisory Circular |
| ACS | Airman Certification Standards |
| ADM | Aeronautical Decision-Making |
| AFS | Flight Standards Service |
| AELP | Aviation English Language Proficiency |
| AIM | Aeronautical Information Manual |
| AKTR | Airman Knowledge Test Report |
| ASOS | Automated Surface Observation System |
| ATIS | Automatic Terminal Information Service |
| AWOS | Automated Weather Observation System |
| CTAF | Common Traffic Advisory Frequency |
| CFI | Chief Flight Engineer |
| Chart Supplements | Chart Supplements |
| CRM | Crew Resource Management |
| DPE | Designated Pilot Examiner |
| FAA | Federal Aviation Administration |
| FSDO | Flight Standards District Office |
| GCS | Ground Control Station |
| GPS | Global Positioning System |
| IFO | International Field Office |
| IFU | International Field Unit |
| LSC | Learning Statement Code |
| MOA | Military Operating Areas |
| METAR | Aviation Routine Weather Reports (Meteorological Aerodrome Report) |
| MTR | Military Training Routes |
| NAS | National Airspace System |
| NOTAMs | Notices to Airmen |
| NSA | National Security Areas |
| PIC | Pilot-in-Command |
| PLT | Pilot Learning Statement Code |
| SAFO | Safety Alert for Operators |
| SIDA | Security Identifications Display Area |
| SMS | Safety Management System |
| TAF | Terminal Area Forecast |

| Abb/Acronym | Definition |
|-------------|----------------------------------|
| TFR | Temporary Flight Restrictions |
| TRSA | Terminal Radar Service Areas |
| UA | Unmanned Aircraft |
| UAS | Unmanned Aircraft Systems |
| UNICOM | Universal Integrated Community |
| UTC | Coordinated Universal Time |
| VFR | Visual Flight Rules |
| VMC | Visual Meteorological Conditions |

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