

Private Pilot

Exam Information	Description
Exam number 659 Items 35 National Career Cluster Supply Chain & Transportation Certification available No, in pilot status	The Private Pilot ground school will give candidates the knowledge to take and pass the FAA written exam and prepare them for flight. Some of the areas of study will include aircraft operations, airplane controls, systems, navigation, and weather. Candidates will also study human factors and safety.

Exam Blueprint and Performance Skills

Standard	Percentage of exam score
1. Fundamentals of Flight*	26%
2. Flight Environment & FAR/AIM*	23%
3. Aviation Weather Products*	17%
4. Airplane Performance*	17%
5. Navigational Skills*	17%
6. Career Readiness	0%

*Includes performance skill evaluation

Standard 1 - Fundamentals of Flight (26% of exam score)

Candidates will be able to understand, demonstrate, and apply fundamentals of flight.

Objective 1 Candidates will identify opportunities within aviation.

1. Pilot training and license requirements.
2. Aviation opportunities and pathways (military, commercial, private, corporate, charter, Emergency Services, cargo, etc.).
3. License privileges and limitations.
4. Category, class, and type.

Objective 2 Candidates will understand and identify aircraft systems.

1. Parts of an aircraft including flight controls.
2. The powerplant and related systems.
3. Flight instruments (glass cockpits, steam instruments, etc.).

Objective 3 Candidates will collaboratively apply aerodynamic principles.

1. Four forces of flight (lift, weight, drag, and thrust).
2. Generation of lift (Bernoulli's Principle and Newton's Laws of Motion).
3. Three axes of flight.
4. Effects of center of gravity.
5. How aircraft design affects stability.
6. Aerodynamics of maneuvering flight.
7. Recognize stalls, spins, and recovery techniques.

Objective 4 Identify and explain the difference between sponsors and advertisers.

1. Medical Certificates.
2. Aeronautical decision making.
3. Aeromedical Factors

Optional: Standard performance evaluations on the final page of this document

Standard 2 - Flight Environment & FAR/AIM (23%)

Candidates will be able to understand and demonstrate the flight environment and Federal Aviation Regulation/Aeronautical Information Manual (FAR/AIM).

Objective 1 Candidates will be able to identify the components of safety of flight.

1. Right of way.
2. Collision Avoidance.
3. Visual Scanning.

4. Maneuver Safety.
5. Minimum Safe Alt.

Objective 2 Candidates will be able to identify and interpret the airport environment.

1. Controlled vs Uncontrolled airports.
2. Runway markings and signs and airport lighting.
3. Traffic pattern.
4. Runway incursions and Land and Hold Short Operations (LAHSO).
5. Sources of flight information.

Objective 3 Candidates will be able to operate safely and effectively within the National Airspace System.

1. Controlled and Uncontrolled Airspace.
2. Transponders/Automatic Dependent Surveillance-Broadcast(ADS-B).
3. Pilot/equipment requirements for airspace.
4. Special use airspace.
5. Temporary Flight Restrictions(TFR)/Air defense identification zone (ADIZ).
6. Intercept procedures.

Objective 4 Candidates will be able to effectively communicate throughout the flight process.

1. Radar and ATC services.
2. Radio procedures.
3. Proper radio phraseology.
4. Universal Coordinated Time (UTC or ZULU).
5. Emergency procedures.
6. Flight Service and filing flight plans.

Optional: Standard performance evaluations on the final page of this document

Standard 3 - Aviation Weather Products (17%)

Candidates will develop and demonstrate an ability to understand and interpret aviation weather products.

Objective 1 Candidates will be able to recognize meteorology for pilots.

1. Basic weather theory.
2. Weather patterns.
3. Weather hazards.

Objective 2 Candidates will analyze aviation weather services.

1. The forecasting process.
2. Printed reports and forecasts.
3. Graphic weather products (prognosis chart, surface analysis chart, etc.).

4. Sources of weather information (METAR, TAF, PIREP, etc.).
5. Interpret weather data.
6. Importance of using official aviation weather sources.

Optional: Standard performance evaluations on the final page of this document

Standard 4 - Airplane Performance (17%)

Candidates will be able to understand, predict, and calculate performance.

Objective 1 Candidates will demonstrate and calculate airplane performance.

1. Predicting performance (takeoff, climb performance, and landing data). Weight, balance, and proper aircraft loading.
2. Flight computers (E6B).
3. Calculate cross winds

Optional: Standard performance evaluations on the final page of this document

Standard 5 - Navigational Skills (17%)

Candidates will apply navigational skills to the flight planning process.

Objective 1 Candidates will be able to use navigational skills while flight planning and flying.

1. Navigational and aeronautical charts.
2. Pilotage and dead reckoning.
3. Radio-based navigation (VOR & ADF).
4. Satellite/GPS-based navigation.

Objective 2 Candidates will be able to plan a cross-country flight.

1. The flight planning process.
2. Navigational Log.
3. Obtain all available information in regard to the flight.
4. Filing a flight plan.
5. Post-flight debrief.

Optional: Standard performance evaluations on the final page of this document

Standard 6 - Career Readiness (0%)

Candidates will understand the importance of career readiness skills as it relates to participation in TSA (Technology Student Association), SkillsUSA, or any other related CTSO in aviation-related fields.

Performance Skills Evaluation

Exam name: Private Pilot

Candidate Name: _____

Performance assessments may be completed and evaluated any time before the certification is issued. The following performance skills can be used in connection with the associated standards and exam. The evaluator will function as the subject matter expert to determine if the candidate meets the skills requirements with a Yes/No for passing.

Standard 1 – Fundamentals of Flight - Investigate and identify parts of an aircraft. - Describe Airplane systems. - Collaboratively engage in discussions of Aerodynamic principles (Instrument failures)	Pass:
Standard 2 – Flight Environment & FAR/AIM - Identify and describe different air space on charts - Demonstrate communication and radio procedures in a traffic pattern	Pass:
Standard 3 – Aviation Weather Products Read and interpret weather data from reports and charts.	
Standard 4 – Airplane Performance - Calculate weight and balance - Calculate takeoff and landing data - Read and interpret performance charts	
Standard 5 – Navigational Skills - Read, understand, and interpret navigational and aeronautical charts - Complete a navigational log	

Evaluator Name: _____

Date: _____