NAME: GRADE:

University of Oklahoma

Department of Aviation

Primary Flying – AVIA 1222

The lessons in this homework packet correspond to each of the flight lessons you will fly. Each homework lesson is designed to prepare you for the tasks that you will be practicing for that specific training flight.

Each homework lesson consists of the overall objective of the corresponding flight lesson, a required reading list and study questions to reinforce your understanding of the material. In order to adequately prepare for each lesson, you are expected to complete the homework assignment before you come to fly. The maximum grade you may receive for an individual flight lesson if you fail to turn in your homework is a **70%**.

What you should bring to each flight lesson:

- Completed homework
- Completed weight and balance
- Syllabus ticket for that lesson
- Medical, photo ID and logbook

NAME: GRADE:

STAGE 1, LESSON 1
At the completion of this lesson, the student will have knowledge of aircraft systems and the necessity of checking their operation before flight. Additionally, the student will be familiar with the control systems and how they are used to maneuver the airplane on the ground and in the air.

READING ASSIGNMENT
Airplane Flying Handbook – Chapter 1 "Introduction to Flight Training"
Airplane Flying Handbook – Chapter 2 "Ground Operations"
Warrior POH – Section 1 "General"
Warrior POH – Section 7 "Airplane Systems"

STUDY QUESTIONS
FUEL SYSTEM

1. What two types of fuel can the Warrior use? _____ and _____
2. What color are these fuel grades? _____ and _____
3. How many fuel tanks does the Warrior have? _____
    a. Where is each fuel tank on the airplane? _____
4. What is the Warrior's total fuel capacity? _____gallons
5. Usable capacity for a tank when fuel is level with the bottom of the tab is _____gallons.
6. A fuel tank selector is located on the _____side wall, forward of the pilot's seat.

ENGINE

7. What type of engine does the Warrior have? _____, _____, _____, _____
8. What is the max rated horsepower? _____ HP @ _____RPM
9. What is the max oil capacity? _____ quarts

GENERAL

10. What is the max takeoff weight in the Normal category? _____lbs
11. What is the max weight limit for the baggage compartment? _____lbs

LANDING GEAR

12. What do you use to steer the nose gear on the ground? _____
13. The brake pedals for the Warrior are attached to the top of the _____pedals.

FLIGHT CONTROLS

14. The flap handle is located _____on the control console.
15. To extend the flaps, the flap handle is _____to the desired flap setting.
16. To retract the flaps, depress the _____on the end of the handle and _____the handle.
17. The right flap will support a load only in the _____position.

ELECTRICAL SYSTEM

18. The electrical system includes a _____-volt, ____-amp alternator; a _____-volt battery; a _____ regulator; and a master switch relay.

STALL WARNING

19. The stall warning horn activates at between _____and _____knots above stall speed.

NAME: GRADE:

STAGE 1, LESSON 2
At the completion of this lesson, the student will be able to make takeoffs with instructor assistance. Preflight activities will be conducted accurately, and the student will display an increased understanding and proficiency in coordinated airplane attitude control.

READING ASSIGNMENT
OU Supplementary Aviation Packet – Section 3 "Radio Procedures"
Aeronautical Information Manual – Chapter 2, Section 1 "Aeronautical Lighting and Airport Visual Aids"
Aeronautical Information Manual – Chapter 2, Section 3 "Airport Marking Aids and Signs"
Aeronautical Information Manual – Chapter 4, Section 3 "Airport Operations"
Warrior POH – Section 2 "Limitations"
Watch the "Radio Orientation and Tips" video at the bottom of the OU Aviation Flight Resources webpage

STUDY QUESTIONS
RADIO PROCEDURES

1. List the correct frequencies: AWOS _____ Tower _____ Ground _____ OU Traffic _____
2. What should you say if you didn't hear an air traffic control instruction? _____
3. What are the four elements to a basic radio call?

AIRPORT LIGHTING

4. What color are taxiway edge lights? _____
5. What color are taxiway centerline lights? _____
6. What color are runway edge lights? _____
7. What color beacon would you see at a lighted civilian land airport? _____

AIRPORT MARKINGS

8. What would the runway designator be for a runway aligned with a 357° magnetic heading? Runway _____
9. Two runways are parallel to each other, aligned with a 042° magnetic heading. What would the designator be for the runway on the left? Runway _____
10. If you were approaching from the opposite direction, what would the designator be for the same runway? Runway _____

AIRPORT OPERATIONS

11. What is the proper way to enter a traffic pattern? _____
12. What is the proper way to depart a traffic pattern? _____

AIRCRAFT LIMITATIONS

Provide the definition and numerical value (in KIAS) for each V-Speed.

	Definition	KIAS Value		Definition	KIAS Value
V_{NE}	_____	_____	V_A	_____	_____
V_{NO}	_____	_____	V_X	_____	_____
V_{FE}	_____	_____	V_Y	_____	_____

NAME: GRADE:

STAGE 1, LESSON 3

The student will perform unassisted takeoffs; however, landings will be completed with instructor assistance. The student will demonstrate correct communications and traffic pattern procedures.

READING ASSIGNMENT

Airplane Flying Handbook, Chapter 4 "Slow flight, Stalls, and Spins"
Airplane Flying Handbook, Chapter 5 "Takeoffs and Departure Climbs" (Normal Takeoff, Rejected Takeoff)
Warrior POH – Section 4 "Normal Procedures"
Warrior POH – Section 10 "Operating Tips"

STUDY QUESTIONS

1. What does the term "flight at minimum controllable airspeed" mean? _____
2. How many knots above stall speed should you strive to maintain during slow flight? _____
3. A stall occurs when _____, and lift degenerates rapidly.
4. An airplane will always stall when the wing exceeds its critical _____.
5. A stall can occur at any _____, in any _____, and with any _____.
6. Accelerated stalls occur when _____are imposed by steep turns, pull-ups, or abrupt flight path changes.
7. Power-off stalls simulate stall recovery techniques during what phase of flight? _____
8. Power-on stalls simulate stall recovery techniques during what phase of flight? _____
9. If you do not allow the airplane to fully recover from a preceding stall, what may occur? _____
10. If you do not maintain coordinated flight during stall maneuvers, what may occur? _____
11. The six steps for recovering from a spin are:

    (1) _____
    (2) _____
    (3) _____
    (4) _____
    (5) _____
    (6) _____

12. A normal takeoff is one in which the airplane is headed into the _____, the takeoff surface is _____ and of sufficient _____, and there are no _____.
13. What are two reasons we want to takeoff as nearly as possible into the wind?

    (1) _____
    (2) _____

14. Vy is the speed at which the airplane will gain the most _____in the shortest _____.

NAME: GRADE:

STAGE 1, LESSON 4

During this lesson, the student will review airspeed control maneuvers and be introduced to stalls from various flight conditions to increase understanding of airplane control during takeoff, cruise and landing. The student is introduced to stalls, ground reference maneuvers and local area navigation.

READING ASSIGNMENT
Warrior POH – Section 5 "Performance"
Airplane Flying Handbook – Chapter 6 "Ground Reference Maneuvers"
Airplane Flying Handbook – Chapter 8 "Approaches and Landings"
(Normal-Approach/Landings) 14 CFR 91.119 "Minimum Safe Altitudes"

STUDY QUESTIONS
MINIMUM SAFE ALTITUDES

1. Except when necessary for takeoff or landing, no person may operate an aircraft over a congested area below an altitude of _____feet above the highest obstacle within a horizontal radius of _____feet of the aircraft.
2. No person may operate an aircraft *anywhere* below an altitude allowing _____ without _____.
3. No person may operate below an altitude of _____above the surface in other than congested areas.

AIRCRAFT PERFORMANCE

4. What four factors does the "0° Flap Takeoff Performance" chart in your POH use to determine takeoff distance?
   (1) _____ (2) _____(3) _____(4) _____
5. How does a tailwind affect your landing distance? _____
6. What associated conditions is the "0° Flap Takeoff Performance" chart valid for?
   (1) _____ (2) _____(3) _____
7. Define pressure altitude: _____
8. Define density altitude: _____

MANEUVERS

9. Ground reference maneuvers should be flown at an altitude of _____to _____.
10. The rectangular course maneuver simulates conditions encountered in a _____.
11. How can you recognize wind drift in a rectangular course/traffic pattern and what should you do to compensate for it? _____
12. During S-Turns, the bank must be steepest during the turn on the _____side of the road because the groundspeed is _____.
13. The purpose of Turns Around A Point is to fly a circle of constant _____around a specified point to teach correction for _____.
14. A normal approach and landing is one in which the airplane is headed into the _____, there are no _____along the final approach path, and the landing surface is _____and of sufficient _____to bring the airplane to a complete stop.

****For this and all subsequent flights, compute takeoff and landing performance portion of your Weight/Balance form prior to the beginning of the lesson****

NAME: GRADE:

STAGE 1, LESSON 5

During this lesson, the student will practice the maneuvers listed for review to gain additional proficiency and demonstrate the ability to recognize and recover from full stalls. The instructor will demonstrate an accelerated stall.

READING ASSIGNMENT

Airplane Flying Handbook – Chapter 3 "Basic Flight Maneuvers"
Airplane Flying Handbook – Chapter 16, "Emergency Procedures"
Aeronautical Information Manual – Chapter 8 "Medical Facts for Pilots"

STUDY QUESTIONS

1. What are the four fundamental basic flight maneuvers?

   (1)_____(2) _____(3) _____(4) _____

2. The first steps necessary for surviving an encounter with IMC by a VFR pilot are:

   (1) _____

   (2) _____

   (3) _____

3. The primary instrument for attitude control is the _____.

4. The primary rule of attitude flying is: _____+ _____= _____

5. The only way to maintain airplane control while in inadvertent instrument conditions is to _____

   _____

6. What does the acronym IMSAFE stand for?
   I _____M_____S_____A_____F_____E_____

7. What are "the leans"? _____

   _____

NAME: GRADE:

STAGE 1, LESSON 6

The student will review the listed maneuvers and be introduced to systems and equipment malfunctions and the emergency approach and landing. The instructor will demonstrate a secondary stall.

READING ASSIGNMENT
Aeronautical Information Manual – Chapter 7, Section 3 "Wake Turbulence"
Aeronautical Information Manual – Chapter 6, Section 1 "Emergency Procedures"
Airplane Flying Handbook – Chapter 16 "Emergency Procedures"
Warrior POH – Section 3 "Emergency Procedures"

STUDY QUESTIONS
EMERGENCY PROCEDURES

1. Who is directly responsible for and the final authority as to the operation of an aircraft? _____
2. Pilots who become apprehensive for their safety for any reasons should _____.
3. _____is a condition of being threatened by serious danger and requiring immediate assistance.
4. _____is a condition of being concerned about safety and requiring timely, but not immediate assistance.
5. What speed should you trim the Warrior for if you lose engine power in flight? _____KIAS
6. During an emergency approach for landing, three factors that should govern your approach planning are _____, _____, and _____.
7. The objective of an emergency descent is _____.
8. What should you do with the floor vents and side window in the event of an electrical fire? _____

WAKE TURBULENCE

9. The greatest vortex strength occurs when the aircraft is _____, _____and _____.
10. Vortex circulation is _____, _____, and _____the wingtips.
11. What wind condition requires maximum caution with respect to wake turbulence? _____
12. What wake turbulence avoidance procedure should you take if landing behind a larger aircraft on the same runway? _____

NAME: GRADE:

STAGE 1, LESSON 7

During the lesson, the student will practice the review maneuvers to gain proficiency. The student is introduced to more systems and equipment malfunctions, emergency procedures, emergency descent, forward slips to a landing and light signals.

READING ASSIGNMENT

Aeronautical Information Manual – Chapter 4, Section 2 "Radio Communications Phraseology/Techniques"
Aeronautical Information Manual – Chapter 4, Section 4-3-13 "Traffic Control Light Signals"
Airplane Flying Handbook – Chapter 8, "Approaches and Landings" (Intentional Slips, Go-Arounds)
Warrior POH – Section 6 "Weight and Balance"

STUDY QUESTIONS

1. When might a pilot need to execute a Go-Around and what are the procedures for this maneuver?

   _____

   _____

2. If you notice you are high on approach, you could use a forward slip to landing in order to dissipate _____without gaining _____.

3. List the steps to take if you are in the OU practice area and have reason to believe your radio transmitter may be inoperative.

   (1) Remain _____

   (2) Join _____

   (3) Monitor _____

   (4) Look _____

   (5) Acknowledge _____

4. Match each light gun signal to its meaning

_____	Steady Green	A. (In flight) Airport Unsafe – Do not land
_____	Flashing Green	B. (In flight) Give way to other aircraft and continue circling
_____	Steady Red	C. (On ground) Return to starting point on airport
_____	Flashing Red	D. Exercise extreme caution
_____	Flashing White	E. (On ground) Cleared for takeoff / (In flight) Cleared to land
_____	Alternating Red and Green	F. (On ground) Cleared to taxi / (In air) Return for landing

5. What is the basic weight and balance formula? _____x _____= _____

6. How much fuel do we allow for engine start, taxi and run up? _____lbs

For this and all subsequent flights, compute the weight and center of gravity of the aircraft prior to the beginning of the lesson.

NAME: GRADE:

STAGE 1, LESSON 8

The student will display the ability to solo the training airplane safely in the local area. At no time will the safety of the flight be in question.

READING ASSIGNMENT
Aeronautical Information Manual – Chapter 3 "Airspace"
14 CFR 91.159 "VFR cruising altitude or flight level"
Airplane Flying Handbook – Chapter 7 "Airport Traffic Patterns"

STUDY QUESTIONS

1. What class of airspace surrounds Max Westheimer Airport? _____
2. What are the vertical limits of this class of airspace? _____to _____AGL
3. What equipment must you have in order to operate in this class of airspace? _____
4. How is this airspace depicted on your sectional chart? _____
5. What must you establish with ATC prior to entering this airspace? _____
6. If you call tower and they respond, "Crimson 1 standby" – may you enter the airspace? _____
7. If they respond, "Aircraft calling Westheimer Tower, standby" – may you enter the airspace? _____
8. What class of airspace are you in if you are at 3,500 MSL in the practice area? _____
9. How far from clouds must you remain in this class of airspace if you are below 10,000 MSL?

   _____above

   _____below

   _____laterally

10. What class of airspace surrounds Will Rogers Airport? _____
11. How is this class of airspace depicted on the sectional chart? _____
12. What equipment must you have in order to operate in this class of airspace?

    (1) _____(2) _____

13. What must you establish with ATC prior to entering this class of airspace? _____
14. Below what altitude do you **not** have to comply with the VFR cruising altitude requirements? _____AGL
15. When approaching an airport, the traffic pattern should be entered at _____to the midfield downwind.
16. The standard airport traffic pattern altitude is _____AGL.
17. Unless indicated otherwise, the standard traffic pattern is a _____-hand pattern.

NAME: GRADE:

STAGE 1, LESSON 9
During this lesson, the student will practice the listed maneuvers.

READING ASSIGNMENT
Read the below FAASTEAM paper on the “impossible turn”
FAA-P-8740-44 • AFS–920

1. What happened to both aircraft when they decided to turn back to the airfield?
2. Having started the emergency procedure only 300 feet above the ground, you and your wonderplane now would be at what altitude?
3. How many degrees of bank should be regarded as the absolute maximum during the impossible turn?
4. Is there ever a time that the impossible turn may be deemed the best course of action?
5. What is your minimum altitude that you would consider turning back to the airfield?
6. In your own words, what is the purpose of this publication?

I challenge you next time you arrive or depart from KOUN to consider possible emergency landing locations for each runway and discuss them in your takeoff briefing.

STAGE 1, LESSON 10
No specific reading or homework assigned. Student is responsible for all the preceding material.

STAGE 1, LESSON 11
No specific reading or homework assigned. Student is responsible for all the preceding material.

STAGE 1, LESSON 12
The student should score at least 70% on the end of stage quiz. In addition, the instructor is responsible for reviewing those questions missed

No specific reading or homework assigned. Student is responsible for all the preceding material.

STAGE 1, LESSON 13
This lesson and Stage I are complete when the student can competently perform preflight duties and all other procedures necessary for the safe conduct of a solo flight in the local training area. Altitude will be maintained within 150 feet, headings within 15 degrees and airspeed within 5 knots.

No specific reading or homework assigned. Student is responsible for all preceding material.

NAME: GRADE:

STAGE 2, LESSON 1
This lesson is complete when the student successfully accomplishes a supervised solo as directed by the instructor. The student will adhere to established traffic pattern procedures and demonstrate that solo flight in the traffic pattern can be accomplished safely.

READING ASSIGNMENT
Aeronautical Information Manual – "Pilot/Controller Glossary"
Airplane Flying Handbook – Chapter 5 "Takeoff and Departure Climbs" (Crosswind Takeoff)
Airplane Flying Handbook – Chapter 8 "Approaches and Landings" (Crosswind Approach and Landing)

STUDY QUESTIONS

1. What is meant by the following ATC instructions?

   Hold Short: _____

   Line up and wait: _____

   Cleared for takeoff: _____

   Can you acknowledge these instructions by simply saying "Roger?" _____

2. What are the two usual methods of performing a crosswind approach and landing?

   (1) _____

   (2) _____

3. During a crosswind approach, drift is controlled through the use of _____and the heading is controlled through use of _____.
4. During a crosswind landing, the _____main wheel should be the first to touchdown.
5. What is the maximum demonstrated crosswind component for the Warrior? _____knots
6. After landing in a crosswind, aileron inputs should steadily _____as the airplane decelerates.
7. You are departing Runway 35 and AWOS is reporting the wind is blowing from 050 at 25 knots. Use the crosswind component chart on your E6B or any other source to determine the following:

   Headwind component: _____

   Crosswind component: _____
8. During a crosswind takeoff, aileron inputs should gradually _____as the airplane accelerates.

NAME: GRADE:

STAGE 2, LESSON 2

The student will be able to explain what runway conditions necessitate the use of soft-field and short-field takeoff and landing techniques. Additionally, the student will be able to demonstrate the correct procedure to be used under these conditions, although proficiency will not be at the private pilot level.

READING ASSIGNMENT

Airplane Flying Handbook – Chapter 5 "Takeoffs and Departure Climbs" (Ground Effect, Short-Field, Soft-Field)
Airplane Flying Handbook – Chapter 8 "Approaches and Landings" (Ground Effect, Short-Field, Soft-Field, Faulty)
OU Supplementary Aviation Packet – Section 5 "Takeoffs"
OU Supplementary Aviation Packet – Section 6 "Landings"

STUDY QUESTIONS

1. The goal of a soft-field takeoff is to transfer _____ as rapidly as possible as the takeoff roll proceeds.

2. What is different between the soft-field and short-field takeoff when taxiing onto the runway?

3. During a soft-field takeoff, why do we want the airplane to accelerate in ground effect before resuming our climb?

4. What is the proper technique to follow after touchdown during a soft-field landing? _____

5. What is the proper technique to follow after touchdown during a short-field landing? _____

NAME: GRADE:

STAGE 2, LESSON 3

This lesson is complete when the student has conducted the assigned dual flight. During the lesson, the student should attempt to gain proficiency in each of the above listed maneuvers.

READING ASSIGNMENT
Jeppesen Private Pilot Textbook – Chapter 8C "Flight Computers"
Jeppesen Private Pilot Textbook – Chapter 9A "Pilotage and Dead Reckoning"

STUDY QUESTIONS
Match the term with its definition

_____ True Course	A. Direction the longitudinal axis (nose) points with respect to magnetic north
_____ Magnetic Course	B. Speed of an aircraft in relation to the ground over which it is flying
_____ True Airspeed	C. Navigation based on calculations of time, speed, distance and direction
_____ Magnetic North	D. Direction the longitudinal axis (nose) points with respect to true north
_____ Ground Speed	E. Direction the north end of a compass will point in response to the earths magnetic field
_____ Variation	F. Intended or desired direction of flight as measured on a chart
_____ Deviation	G. Correction applied to your heading in order to track the desired course
_____ True Heading	H. Navigation based on use of outside visual landmarks
_____ Magnetic Heading	I. True course corrected for magnetic variation
_____ Wind Correction Angle	J. Compass error caused by magnetic interference from aircraft instruments
_____ Pilotage	K. Speed at which an aircraft is moving relative to the air mass in which it is flying
_____ Dead Reckoning	L. Angular difference between true north and magnetic

north Use your E6B to solve the following questions

Fuel burn rate: 9.0 Gallons per hour
Flight time: 30 minutes
Total fuel burn: _____gallons

Fuel burn rate: 10.5 Gallons per hour
Flight time: 1 hour, 20 minutes
Total fuel burn: _____gallons

Groundspeed: 90 knots
Time elapsed: 20 minutes
Distance traveled: _____NM

Groundspeed: 110 knots
Time elapsed: 12 minutes
Distance traveled: _____NM

Wind direction: 050 @ 25 knots
True course: 360°
True Airspeed: 100 KTAS
Groundspeed: _____knots
Wind Correction Angle: _____left/right

NAME: GRADE:

STAGE 2, LESSON 4

The student will demonstrate proficiency in VOR navigation. This includes VOR orientation, tracking, and course interception. The student should also have adequate knowledge in all areas of the pre-flight discussion.

READING ASSIGNMENT
Aeronautical Information Manual – Chapter 1, Section 1-1-18 “Global Positioning System (GPS)”

STUDY QUESTIONS
For this lesson, your homework will be to complete the 1 hour online AOPA course titled “VFR GPS Guide: Garmin 430/530”.

Bring the completion certificate to your instructor at the beginning of this flight lesson.

URL: http://flash.aopa.org/asf/vfrgps/index.cfm?keycode=FX07CRS

NAME: GRADE:

STAGE 2, LESSON 5

The student will perform takeoffs and landings smoothly, while maintaining good directional control. All approaches will be stabilized, and airspeed will be within five knots of that desired. The student will also display the correct recovery techniques from unusual attitudes and should be able to initiate emergency climbs and descents by instrument reference using radio aids and radar services.

READING ASSIGNMENT
Jeppesen Private Pilot Textbook – Chapter 9B "VOR Navigation"
Aeronautical Information Manual – Chapter 1, Section 1-1-1 through 1-1-8

STUDY QUESTIONS

1. List the three classes of VORs and their respective service volumes.

	CLASS	ALTITUDE	RANGE
(1)	_____	_____	_____
(2)	_____	_____	_____
(3)	_____	_____	_____

2. How are VORs depicted on sectional charts? _____

3. How would you tune and identify a VOR? _____

4. Why is it important to not only tune, but also identify a VOR before using it for navigation? _____

5. Will the indications of a VOR receiver change depending on your heading? _____

6. You are lost and decide to tune and identify a VOR that just so happens to be located on a nearby airport. You rotate the OBS and the CDI needle centers when the course index is pointing at "15" on your VOR receiver with the "FROM" flag highlighted.

   (A) What cardinal direction are you from this particular VOR? _____

   (B) If you wanted to fly directly to the VOR from your current position, what heading would you fly? _____

   (C) If you left the course index pointing at "15" while you flew this heading, what situation would you be experiencing? _____

   (D) How could you fix this? _____

   (E) If you were correctly sensing, and the wind pushed you slightly east of your course, what direction would the CDI needle move in this scenario (left or right)? _____

7. You are flying on a heading of 060° and you are on the 270° radial from the Will Rogers VOR. Your instructor asks you to intercept the 310° radial and fly it outbound (away from the VOR).
   (A) What would you rotate the OBS to? _____
   (B) Would you expect to see a "TO" or "FROM" flag when you selected this radial? _____
   (C) What direction would the CDI needle be deflected based on your present position (left or right)? _____
   (D) What heading would you turn to in order to intercept the 310° radial at a 45° angle? _____

NAME: GRADE:

STAGE 2, LESSON 6

This lesson is complete when the student has conducted the assigned solo flight. During the lesson, the student should attempt to gain proficiency in each of the above listed maneuvers.

READING ASSIGNMENT
Warrior POH – Section 5 "Performance"
Aeronautical Information Manual – Chapter 7, Section 1-4 "Preflight Weather Briefing"
Aeronautical Information Manual – Chapter 7, Section 1-5 "Enroute Flight Advisory Service"

STUDY QUESTIONS

1. What is the primary source for obtaining preflight briefings? _____
2. What are the three basic types of preflight weather briefings? _____, _____, _____
3. If you were departing for a flight in 1 hour, what kind of briefing would you request? _____
4. If you were departing tomorrow morning, what kind of a briefing would you request? _____
5. During your cross country flight, who would you contact for in-flight weather advisories? _____
6. What frequency would you use to contact them? _____
7. If you were flying in Crimson 1 near the Sayre VOR within the boundaries of Ft. Worth Center airspace, how would you contact Flight Watch? "_____"
8. Refer to Section 5.5 "Flight Planning Example" and the "Time, Fuel and Distance to Climb" chart in your

   POH. Cruise pressure altitude: 6,000

   Cruise Air Temperature: 5° C
   Airport pressure altitude: 1000
   Airport elevation temperature: 25° C
   Provide the time, fuel and distance to climb from the airport to cruise
   altitude: TIME _____minutes
   FUEL _____gallons
   DISTANCE _____NM

9. What wind speed is the distance derived from this chart based on? _____
10. How would the distance to reach top of climb be affected if you encountered a strong headwind during climb?

NAME: GRADE:

STAGE 2, LESSON 7

This lesson is complete when the student reviews the listed flight maneuvers with special emphasis on correcting any deficient areas.

READING ASSIGNMENT

Watch the video listed below about VFR flight into IMC
https://www.youtube.com/watch?v=bLmzy8ZPgtc

1. What was the pilot's first indication that the flight should have been discontinued?
2. If the decision was made to continue the flight what plan would you have in place if you were to encounter inclement weather along your route?
3. When the aircraft called flight watch, why was VFR not recommended?
4. At what point during the route of flight would you have decided to turn around?
5. What factors present at the time of the accident contributed to the crash?
6. attitude recovery

NAME: GRADE:

STAGE 2, LESSON 8
The student will demonstrate the skill to perform cross-country flight. This includes accurate and complete preflight planning, weather analysis, use of FAA publications and charts, adherence to the preplanned flight and the use of pilotage and dead reckoning.

READING ASSIGNMENT
14 CFR 91.151 “Fuel Requirements for Flight in VFR Conditions”
14 CFR 91.153 “VFR Flight Plan: Information required”
14 CFR 91.155 “Basic VFR Weather Minimums”
14 CFR 91.157 “Special VFR Weather Minimums”
Aeronautical Information Manual – Chapter 5, Section 5-1-14 “Closing VFR/DVFR Flight Plans”

STUDY QUESTIONS
This lesson is the first of two dual cross-country flights. Your homework assignment is to obtain a cross country route from your flight instructor and show up for this lesson on time with complete cross country flight plans for each leg of the flight.

Review “Section XII: Cross Country Flight Planning” in the OU Supplementary Information for Flight Students document on the OU Aviation website for additional assistance.

NAME: GRADE:

STAGE 2, LESSON 9
The student will display an understanding of the importance of attitude control. Altitude should be controlled within +/- 150 feet during level turns, straight and level flight, and flight at minimum controllable airspeed. Night stall techniques will be demonstrated. Landing approaches should be stabilized using a constant airspeed and rate of descent to touchdown. Landings will be to a full stop (with each involving a flight in the traffic pattern at an airport.

READING ASSIGNMENT
Airplane Flying Handbook – Chapter 10 "Night Operations"
14 CFR 91.205, Paragraph (c) – Equipment Requirements, Visual Flight Rules (Night)
Warrior POH – Section 2.19 "Kinds of Operations Equipment List"

STUDY QUESTIONS

1. Two types of nerves located in the eye are the _____, located in the center of the retina, and the _____.

2. The function of the _____is to detect color, details and far-away objects. The _____function in shades of gray and assist in peripheral vision.

3. At night, should pilots use direct or off-center viewing during collision avoidance scanning? _____

4. Significant deterioration in night vision can occur at cabin pressure altitudes as low as _____feet due to decreased oxygen content at this altitude.

5. Provide a short explanation of the following night illusions and what you can do to overcome them:

   Autokinesis _____

   _____

   Black hole approach _____

   _____

   Somatogravic Illusion _____

   _____

   False Horizon _____

   _____

6. List the equipment required to operate VFR at night:

   (1) _____

   (2) _____

   (3) _____

   (4) _____

   (5) _____

   (6) _____

NAME: GRADE:

STAGE 2, LESSON 10

This lesson will be complete when the student conducts a night cross-country with the proper techniques to be used during flights out of the local training area.

READING ASSIGNMENT

Airplane Flying Handbook – Chapter 10 "Night Operations"
14 CFR 61.57(b)
14 CFR 1.1 (*Night*)
14 CFR 91.209

STUDY QUESTIONS

1. At night, the first indication of flying into restricted visibility conditions is _____.

2. Although legal to do so, flying over terrain that is completely devoid of lights at night may not be advisable without the pilot holding a _____rating, due to the lack of visual references available.

3. If you experience an engine failure at night, plan an emergency approach to a _____portion of the terrain below you, but close to _____in order to facilitate rescue, if necessary.

4. Approaching an airport at night, you should fly toward the _____until the lights outlining the runway are distinguishable.

5. Match each definition of "night" with its significance:

_____Sunset to sunrise	A. May log night flight during this time
_____End of evening civil twilight to passengers beginning of morning civil twilight	B. Must be night current to carry
_____1 hour after sunset to 1 hour before sunrise	C. Must turn on position lights

6. Does night currency count toward day currency? _____

7. Prior to a night cross country flight, you should check the availability and status of _____at any airports of intended landing.

8. If you saw an airport beacon that had two quick white flashes followed by a green flash, what kind of airport would you be looking at? _____

9. List four types of lighted checkpoints the Airplane Flying Handbook suggests would be appropriate for a night cross country.

   (1) _____

   (2) _____

   (3) _____

   (4) _____

NAME: GRADE:

STAGE 2, LESSON 11
The student should score at least 70% on the quiz. In addition, the instructor is responsible for reviewing those questions missed.

No specific reading or homework assigned. Student is responsible for all preceding material.

STAGE 2, LESSON 12
The student will demonstrate the ability to plan and conduct cross country flights and a thorough knowledge of flight planning, preflight actions, weather analysis and the use of all available publications. During the flight, the student will demonstrate the correct use of three methods of navigation, the ability to correctly determine location at any time, the ability to compute ETA's within 10 minutes and the correct technique for establishing a course to an alternate airport.

No specific reading or homework assigned. Student is responsible for all preceding material.

NAME: GRADE:

STAGE 3, LESSON 1

The student will demonstrate cross country proficiency by completing the flight as planned without incident. The instructor should review the completed navigation log during the post-flight evaluation to determine whether it was completed and used correctly.

READING ASSIGNMENT

Jeppesen Private Pilot Textbook – Chapter 6 “Meteorology for Pilots”

STUDY QUESTIONS

1. The student (with instructor approval) will determine destinations for their second VFR cross country flight. This flight must be at least 250 nautical miles, with landings (to a full stop) at a minimum of three points and one segment of the flight consisting of a straight-line distance of at least 100 nautical miles between the takeoff and landing locations. Show up for the lesson on time with complete cross country flight plans for each leg of the flight.

2. As part of your flight planning, you give AWOS a call at 5AM. The observation indicates “wind calm, clear below 10,000, visibility 3 miles, temperature 15, dew point 14, Altimeter setting 30.25.” Do you think the visibility will get better or worse in the next few hours? Why?

3. A quick glance at the weather map in the newspaper indicates a cold front is moving into the area. What type of weather can you expect? Same question for a warm front.

   Cold Front: _____

   Warm Front: _____

NAME: GRADE:

STAGE 3, LESSON 2
Any maneuvers which do not meet private pilot standards should be reviewed with the student and assigned for solo practice.

READING ASSIGNMENT
Private Pilot ACS – Area of Operation II "Preflight Procedures"
Private Pilot ACS – Area of Operation III "Airport Operations"
Private Pilot ACS – Area of Operation IV "Takeoffs, Landings and Go-Arounds"
Private Pilot ACS – Area of Operation VI "Ground Reference Maneuvers"

STUDY QUESTIONS

1. What are the ACS standards for airspeed for normal, short field, and soft field takeoffs? _____KIAS

1. According to the ACS you must touch down within how many feet of the designated landing spot on a normal landing?_____Short Field Landing?

2. What are the ACS standards for maintaining airspeed and altitude while performing ground reference maneuvers?

   Airspeed _____ Altitude _____

3. At what altitude does the ACS say ground reference maneuvers should be performed? _____

4. What are the ACS standards for airspeed and altitude when flying in the traffic pattern? Airspeed _____ Altitude _____

5. What is a "Hot Spot" on an airport taxi diagram? _____

NAME: GRADE:

STAGE 3, LESSON 3
The lesson will consist of a minimum of 3 takeoffs and landings to a full stop (with each landing involving a flight in the traffic pattern) at an airport with an operating control tower. During the lesson, the student should attempt to correct any weak performance areas determined in flight lesson 3.

READING ASSIGNMENT
Private Pilot ACS – Area of Operation I "Preflight Preparation"
Jeppesen Private Pilot Textbook – Chapter 7 "Interpreting Weather Data"

STUDY QUESTIONS

1. In addition to FSS, what are other sources of weather information for making your go/no-go decision?

2. To get a picture of atmospheric pressure patterns at the earth's surface, you could refer to what chart?

3. What chart is useful during the preflight planning process for determining general weather conditions and areas of IFR and MVFR weather? _____

4. Define the weather phenomena covered by SIGMET's, Convective SIGMET's and AIRMET's.

   SIGMETS: _____

   Convective SIGMET: _____

   AIRMET: _____

5. The _____chart can be used to plan your flight to avoid areas of low visibility and ceilings, as well as regions where turbulence and icing may exist.

6. After visiting Aviationweather.gov before your flight, you see the following PIREP:

   ```
   ICT UA /OV ICT/TM 1320/FLUNKN/TP BE55/SK OVC020-TOP040/SKC/TB LGT/RM DURC
   LGT TURB IN CLOUDS
   ```

   (1) Where was this PIREP submitted? _____
   (2) What type of PIREP is this – urgent or routine? _____
   (3) What type of aircraft submitted this PIREP? _____
   (4) How thick was the cloud layer? _____
   (5) What was the sky condition above the cloud layer? _____
   (6) What altitude was the aircraft when it submitted the PIREP? _____
   (7) What phase of flight was the aircraft in when it experienced turbulence? _____

NAME: GRADE:

STAGE 3, LESSON 4
The student will display an understanding of the importance of attitude control. Night stall techniques will be reviewed. Landing approaches should be stabilized using a constant airspeed and rate of descent to touchdown. Landings will be to a full stop (with each landing involving a flight in the traffic pattern) at an airport. Any maneuvers which do not meet private pilot practical test standards should be reviewed with the student and assigned for daytime solo practice.

READING ASSIGNMENT
Warrior POH – Section 1 "General"
Warrior POH – Section 7 "Description and Operation of the Airplane and Its Systems"
Private Pilot ACS – Area of Operation I "Preflight Preparation"

STUDY QUESTIONS

1. What aircraft component provides the electrical charge to the spark plugs? _____
2. How many cylinders does the Warrior's engine have? _____
3. How many spark plugs per cylinder? _____ Why? _____
4. How many spark plugs are connected to each magneto? _____
5. If we lose electrical power, will the engine die? Why or why not? _____
6. If we lose electrical power and subsequently (for an unrelated reason), the engine dies – will we be able to restart the engine? _____ Why or why not? _____
7. What is the purpose of the fuel vents below each wing? _____
8. What operating principle is the carburetor based on? _____
9. What three instruments comprise the pitot-static system?
   (1) _____
   (2) _____
   (3) _____
10. What instruments comprise the vacuum system?
    (1) _____ (2) _____
11. How is the turn coordinator powered? _____
12. What de-icing/anti-icing equipment does the Warrior have?
    (1) _____
    (2) _____
    (3) _____

NAME: GRADE:

STAGE 3, LESSON 5
Any maneuvers which do not meet private pilot standards should be reviewed with the student and assigned for solo practice.

READING ASSIGNMENT
Private Pilot ACS – Area of Operation I "Preflight Preparation"
14 CFR 61.3 "Requirements for certificates, ratings and authorizations"
14 CFR 6.17 "Temporary Certificate"
14 CFR 61.19 "Duration of pilot and instructor certificates"
14 CFR 61.23 "Medical Certificates: Requirement and Duration"
14 CFR 61.29 "Replacement of a lost or destroyed airman or medical certificate or knowledge test report"
14 CFR 61.51 "Pilot Logbooks"

STUDY QUESTIONS
1. What flight time are you required to log in a logbook?

   (1) _____

   (2) _____

2. What is the minimum class of medical required for a private pilot certificate? _____

3. If you are 22 years old and obtain a third class medical, how long is it valid for? _____

5. Does your private pilot certificate expire? _____

6. What must you do to maintain currency to carry passengers?

   (1) _____

   (2) _____

7. Once you pass your private pilot checkride, how long is your temporary certificate valid? _____

8. What three documents must you have on you when acting as a required crewmember aboard a US aircraft?

   (1) _____

   (2) _____

   (3) _____

9. If you accidentally run your wallet through the washing machine and destroy your medical certificate, how would you get a replacement? Be specific. _____

10. If your wallet gets stolen out of your car, how would you get a replacement pilot certificate? Be specific.

NAME: GRADE:

STAGE 3, LESSON 6

READING ASSIGNMENT
Private Pilot ACS – Area of Operation I "Preflight Preparation"
14 CFR 91.9 "Civil aircraft flight manual, marking and placard requirements"
14 CFR 91.203 "Civil aircraft: certifications required"
14 CFR 91.409 "Inspections"
14 CFR 21.197 "Special Flight Permits"

STUDY QUESTIONS

1. What documents must be aboard an aircraft each time you fly?
(1) _____
(2) _____
(3) _____
(4) _____

2. How long is the registration certificate valid for? _____

3. How long is the airworthiness certificate valid for? _____

4. The 100-hour limitation may be exceeded by not more than _____hours while en route to reach a place where the inspection can be done.

5. What is significant about the excess time used to reach the place of inspection? _____

6. Name four reasons you might apply for a special flight permit:

(1) _____

(2) _____

(3) _____

(4) _____

NAME: GRADE:

STAGE 3, LESSON 7
Each maneuver and procedure should be performed at the proficiency level of the private pilot.

READING ASSIGNMENT
Private Pilot ACS – Area of Operation I "Preflight Preparation"
Advisory Circular 91-67 "Minimum Equipment Requirements for General Aviation"
14 CFR 91.213 "Inoperative Instruments and Equipment"
Warrior POH – Kinds of Operations Equipment List

STUDY QUESTIONS

1. What is a minimum equipment list? _____

2. What equipment cannot be listed on an aircraft's MEL?

   (1) _____

   (2) _____

   (3) _____

   (4) _____

3. What must you do to inoperative instruments and equipment prior to flight?

   (1) _____

   (2) _____

4. What is the final step in the pilot decision making sequence when operating without an MEL? (See Fig. 2 in Advisory Circular 91-67, "Pilot Decision Sequence When Operating Without an MEL")

STAGE 3, LESSON 7!
The student should score at least 70% on the quiz. In addition, the instructor is responsible for reviewing those questions missed.

No specific reading or homework assigned. Student is responsible for all preceding material.

STAGE 3, LESSON 8
The student will demonstrate proficiency in strict accordance with the Private Pilot Practical Test Standards and will be at least equal in scope, depth and difficulty of that flight test.

No specific reading assigned. Student is responsible for all preceding material.