

Lesson Objective:

- The student will become familiar with the aircraft systems and basic limitations of the aircraft to be used during mountain flight training

Lesson Items:

1. Aircraft familiarization: (Husky A-1B)
 - a. Brief history and overview (see attached)
 - b. Airframe
 - i. Chromoly Steel Tubing and (TIG) welding for strength and weight saving
 - ii. DuPont Ceconite fabric and dope covering super strong and durable (50 year life span)
 - iii. Aluminum cowling forward of cabin
 - c. Power plant and propeller
 - i. Power settings and propeller limitations
 - ii. Propeller control in wilderness areas
 - d. Landing gear
 - i. Conventional gear
 - ii. Bungee type shock absorption
 1. Bouncing tendency on hard landing due to gear splay and recoil
 - e. Limitations
 - f. Take-off and landing performance
 - g. PIC requirements
2. Short and soft field takeoff and landing procedures specific to aircraft
3. Stall/spin awareness
 - a. Load factor and stall speed
 - b. Accelerated maneuver stalls
4. Falling leaf Performance maneuvers
 - a. Canyon turns
 - i. Steep turns at minimum controllable airspeed
 - ii. Excessive airspeed course reversal
 - b.

Date: _____

Instructor: _____ Student: _____

Aviat Husky A-1B

1. Manufacturing and Design
 - a. Frank Christensen intended to restart production of the successful Super Cub manufactured by Piper. When purchasing the design rights proved to be unfeasible, Christensen decided to design a new aircraft conceptually based on the Cub but improved.
 - b. In 1987, Christensen's designs were certified only 18 months after being put on paper
 - c. Improvements over the Super Cub
 - i. Larger cabin
 - ii. Increase in useful load
 - iii. Night and IFR certification
 - d. Recent design implementation
 - i. 2005 – Redesign of the wing increasing the span of the semi-fowler flap and decreasing span of aileron (while increasing chord).
 1. New aerodynamically balanced aileron eliminates need for spades, which reduces effects of adverse yaw.
 2. Design of new wing increased max gross to 2,200lbs.
 - ii. “Independent suspension” – One-way shock absorber in gear decreases bouncing tendency of landing gear upon a hard landing and increased max gross to 2,250lbs.

Lesson Objective:

- The student will become familiar with weather patterns specific to mountain flying situations with emphasis on hazardous mountain flying conditions.

Lesson Items:

1. Basic Meteorology
 - a. Uneven heating
 - i. Effects on pressure and temperature
 - b. Pressure gradient force
 - c. Coriolis effect
 - d. High and low pressure circulation patterns
 - e. Interpolating winds aloft (isobars)
 - f. Surface winds are deflected across isobars at a 45°
2. Diurnal wind patterns
 - a. Mountain breeze (Evenings to mid-morning)
 - i. Cold air begins descending. Compression heats the air that now has enough momentum to continue displacing the now cooler air below.
 - ii. Plays a role in take-off and landing on sloping terrain
 - b. Valley breeze (Mid-mornings to evenings)
3. Orographic wind patterns (Effects of Winds Aloft)
 - a. Wind velocity may double or triple over ridgelines due to venturi action between terrain and stable air aloft
 - i. Resulting decrease in pressure results in altimeter reading higher than true
 - ii. Similar effects result as winds flow up canyons between mountain peaks
 - iii. Flights should be conducted under extreme caution when surface winds are ≥ 20 knots
 - b. Mountain Wave
 - i. Result of winds exceeding 20 knots in stable conditions. Most prominent when winds are perpendicular to the mountain ridge
 - ii. Air is forced aloft by terrain then descends due to the stable characteristics of the atmosphere but overshoot with diminishing oscillations
 - c. Updrafts and down drafts
 - d. Winds always flow through the path of least resistance (imagine water flowing over the terrain)
4. Canyon flying techniques
 - a. Canyon flying speed – Vp Chart (Mountain Flying Bible pg 3-43)

$$V_p = V_s \cdot \sqrt{(n \text{ limit})}$$

Vp: minimum banked maneuver speed

Vs: stall speed

N limit: Limit load factor (3.8 Gs)

- b. Flying the upwind side of the canyon – divide canyon into thirds
 - i. Fly upwind 1/3 of canyon
 - ii. If winds are calm fly the right side of canyon for collision avoidance
 - iii. 100-300 yards to take advantage of orographic lifting
 - iv. Contour flying
- c. #1 rule – never flying past the point of no return (power off glide would allow a turn to lower terrain)
 - i. Remain in a position where you may turn toward lower terrain
- d. Narrow canyon flying (not recommended)
 - i. Narrow canyon: turn radius exceeds $\frac{1}{2}$ of canyon width (Mountain Flying Bible pg 3-44)
 - ii. Fly on the downdraft side of canyon to provide better performance should a turn around be required.

1. Note – a course reversal when flying the downdraft side of a canyon will result in a tailwind during the turn and increase in turn radius
- iii. Minimum canyon width: **Never** enter a canyon with a width of $2 \times \text{radius} + 200'$
- e. Ridge crossing
 - i. Evaluating crossing altitude
 1. 2,000' for high wind conditions
 2. Position where a power off dive would hit the center of the ridge top
 - ii. Headwinds while flying up a canyon will almost always result in a downdraft at the head of the canyon
 - iii. Tailwinds while flying up a canyon often result in an updraft at the head of the canyon
 - iv. Approach (45°)

Date: _____

Instructor: _____ Student: _____

Lesson Objective:

- Learn techniques for evaluating the relative hazards of particular unimproved landing strips

Lesson Items:

1. Basic limitations
 - a. Pilot experience
 - b. Aircraft performance
 - c. Landing gear configurations and tire size
 - d. Weather
 - i. Density altitude limitations
 - ii. Recent precipitation
 - iii. LLWS

Evaluating Relative Hazards and setting personal minimums for unimproved strips

2. Airport Environment
 - a. Runway lengths
 - b. Airport elevation
 - c. Proximity to terrain (42U)
 3. Approach/Departure
 - a. Approach
 - i. Abrupt turns on final
 - ii. Non-standard pattern
 - iii. Airstrip not visible on ½ mile final
 - iv. 50' obstacle
 - v. Approach over water/cliff
 - vi. No go-around from flare
 - vii. Rwy selection dictated by terrain, not winds
 - b. Departure
 - i. Abrupt turn required after departure
 - ii. Endo of runway not visible
 - iii. Departure over abrupt dropoff
 - iv. Rwy selection dictated by terrain, not winds
 4. Runway surface Hazards
 - a. No runway markings
 - b. No windsock
 - c. Overgrown grass
 - d. Loose gravel
 - e. Soft sand
 - f. Extremely soft sand (>1" footprint)
 - g. Mud
 - h. Deep erosion/water on runway
 - i. Deterioration due to rodents or large animals
 - j. Dogleg
 - k. Bumps
 - l. Dips
 - m. Adverse gradient
 - n. Runway has scattered brush >1 ft.
 - o. Dense brush
 - p. Full runway length not usable
 5. Other hazards.
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Date: _____

Instructor: _____

Student: _____

Lesson Objective:

- Learn proper take-off and landing technique on unimproved strips

Pre Take-off:

1. Taxi procedures
 - a. Initial power setting when aircraft has sunk into soft surface
 - b. Run-up
 - c. Control deflection during soft field taxi
2. Flap configuration
 - a. Manufacturer recommendation
 - b. Match flaps with full scale deflection of ailerons
 - c. Dangers and advantages to deflecting flaps while rolling for take-off

Take-offs:

1. Holding brakes on take-off
 - a. Propeller aerodynamics, aircraft must have forward momentum to gain thrust efficiency
 - b. Potential damage to propeller and elevator surfaces
 - c. Beneficial for turbo/supercharged aircraft – allows for a gradual application of full power
2. Power application during final 30° of runway alignment.
3. Hazards of abrupt power application
 - a. Carburetor lag
 - b. Possible detonation from initial lean mixture
4. Rotate to a cruise attitude during ground roll to achieve the most aerodynamic profile
5. Evaluating acceleration during takeoff – 71% of liftoff speed by 50% of the runway available
 - a. Does not guarantee obstacle clearance
6. Tailwind takeoffs (dictated by terrain)
 - a. Mornings tend to produce valley breeze averaging about 4-6 knots resulting in a tailwind when landing uphill
 - b. Evenings tend to produce more intense Mountain Breeze averaging about 10-12 knots, which may dictate the choice to depart uphill or downhill
 - c. 110% of calculated takeoff distance plus tailwind component divided by rotate speed (Mnt Flying Bible pg 2-41)
7. Upslope and downslope
 - i. For takeoff upslope from 1°-2° add 10% per degree
 - ii. For downslope, decrease 5% per degree
8. Practice with several different strips

Date: _____

Instructor: _____

Student: _____

Lesson Objective:

- The student will become familiar with operating characteristics of the training aircraft by performing slow flight and stalls as well as maximum performance take-offs and landings.
- The flight will be performed at an airfield with a hard surface and of adequate length to verify the student's proficiency in maximum performance take-offs and landings prior to operations on actual soft or short field surfaces.

Completion Standards:

- Slow flight and stalls shall be performed to the standard specified in the current version of the Commercial Pilot PTS.
- Take-off and landing procedures shall be performed to the standard specified in the current version of the Commercial Pilot PTS with the exception of the forward slip to land, this maneuver shall be performed the standard specified in the current version of the Private Pilot PTS.

| | Satisfactory: | Needs Improvement: | | Satisfactory: | Needs Improvement: |
|--------------------------------------|--------------------------|--------------------------|----------------------------------|--------------------------|--------------------------|
| <u>Preflight Preparation:</u> | | | | | |
| Weather Info | <input type="checkbox"/> | <input type="checkbox"/> | Max Performance T/O and Landings | <input type="checkbox"/> | <input type="checkbox"/> |
| Performance and Limitations | <input type="checkbox"/> | <input type="checkbox"/> | Stall Speed and Load Factor | <input type="checkbox"/> | <input type="checkbox"/> |

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|---------------------------------|--------------------------|--------------------------|-----------------------|--------------------------|--------------------------|
| <u>Preflight Action:</u> | | | | | |
| Preflight Inspection | <input type="checkbox"/> | <input type="checkbox"/> | Crosswind Taxiing | <input type="checkbox"/> | <input type="checkbox"/> |
| Engine Starting | <input type="checkbox"/> | <input type="checkbox"/> | Before Take-off Check | <input type="checkbox"/> | <input type="checkbox"/> |

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|--|--------------------------|--------------------------|--|--|--|
| <u>Airport Base Operations:</u> | | | | | |
| Traffic Patterns | <input type="checkbox"/> | <input type="checkbox"/> | | | |

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|--|--------------------------|--------------------------|----------------------------------|--------------------------|--------------------------|
| <u>Take-offs, Landings, and Go-Arounds:</u> | | | | | |
| Crosswind Take-off & Climb | <input type="checkbox"/> | <input type="checkbox"/> | Soft Field Approach and Landing | <input type="checkbox"/> | <input type="checkbox"/> |
| Soft Field Take-off & Climb | <input type="checkbox"/> | <input type="checkbox"/> | Short Filed Approach and Landing | <input type="checkbox"/> | <input type="checkbox"/> |
| Short Field Take-off & Climb | <input type="checkbox"/> | <input type="checkbox"/> | Forward Slip to Land | <input type="checkbox"/> | <input type="checkbox"/> |
| Crosswind Take-off and Landing | <input type="checkbox"/> | <input type="checkbox"/> | Go Around/Rejected Landing | <input type="checkbox"/> | <input type="checkbox"/> |

| | | | | | |
|---------------------------------------|--------------------------|--------------------------|----------------------------------|--------------------------|--------------------------|
| <u>Slow Flight and Stalls:</u> | | | | | |
| Maneuvering During Slow Flight | <input type="checkbox"/> | <input type="checkbox"/> | Accelerated Stalls | <input type="checkbox"/> | <input type="checkbox"/> |
| Power-Off Stalls | <input type="checkbox"/> | <input type="checkbox"/> | Spin Awareness | <input type="checkbox"/> | <input type="checkbox"/> |
| Power-On Stalls | <input type="checkbox"/> | <input type="checkbox"/> | Tuck-under stalls (Demonstrated) | <input type="checkbox"/> | <input type="checkbox"/> |

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|---------------------------------------|--------------------------|--------------------------|--|--|--|
| <u>Post-flight Procedures:</u> | | | | | |
| After Landing Parking, and Securing | <input type="checkbox"/> | <input type="checkbox"/> | | | |

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|---------------------------------------|--------------------------|--------------------------|-----------------|--------------------------|--------------------------|
| <u>Special Emphasis Areas:</u> | | | | | |
| Positive Aircraft Control | <input type="checkbox"/> | <input type="checkbox"/> | Checklist Usage | <input type="checkbox"/> | <input type="checkbox"/> |
| Positive Exchange of Flight Controls | <input type="checkbox"/> | <input type="checkbox"/> | | | |

Date: _____
 Instructor: _____ Student: _____

Lesson Objective:

- The student will be introduced to canyon flying techniques en-route to a landing strip located in mountainous terrain.
- Maximum performance take-offs and landings will be performed at a landing strip located in close proximity to rising terrain.
- The student will be introduced to emergency procedures specific to flying in canyons and mountainous terrain.

Completion Standards:

- The student shall demonstrate positive aircraft control while operating 100-300 yards from terrain to take advantage of orographic lift (conditions permitting).
- The student shall demonstrate proficiency in identifying possible areas of wind-shear and/turbulence while operating in mountainous terrain.
- The student shall demonstrate an understanding of the effects of load factor in maneuvering flight to include stall and spin awareness.

Suggested Air Strips

- Morgan County Airport 42U
- Russ McDonald Heber City Municipal 36U

| | Satisfactory: | Needs Improvement: | | Satisfactory: | Needs Improvement: |
|-------------------------------|--------------------------|--------------------------|-----------------------------|--------------------------|--------------------------|
| Preflight Preparation: | | | | | |
| Weather Info | <input type="checkbox"/> | <input type="checkbox"/> | Canyon winds | <input type="checkbox"/> | <input type="checkbox"/> |
| Performance and Limitations | <input type="checkbox"/> | <input type="checkbox"/> | Stall Speed and Load Factor | <input type="checkbox"/> | <input type="checkbox"/> |

| | | | | | |
|--------------------------|--------------------------|--------------------------|-------------------|--------------------------|--------------------------|
| Preflight Action: | | | | | |
| Preflight Inspection | <input type="checkbox"/> | <input type="checkbox"/> | Crosswind Taxiing | <input type="checkbox"/> | <input type="checkbox"/> |

| Take-offs, Landings, and Go-Arounds: | | | | | |
|---|--------------------------|--------------------------|----------------------------------|--------------------------|--------------------------|
| Crosswind Take-off & Climb | <input type="checkbox"/> | <input type="checkbox"/> | Soft Field Approach and Landing | <input type="checkbox"/> | <input type="checkbox"/> |
| Soft Field Take-off & Climb | <input type="checkbox"/> | <input type="checkbox"/> | Short Filed Approach and Landing | <input type="checkbox"/> | <input type="checkbox"/> |
| Short Field Take-off & Climb | <input type="checkbox"/> | <input type="checkbox"/> | Forward Slip to Land | <input type="checkbox"/> | <input type="checkbox"/> |
| Crosswind Take-off and Landing | <input type="checkbox"/> | <input type="checkbox"/> | Go Around/Rejected Landing | <input type="checkbox"/> | <input type="checkbox"/> |

| Performance Maneuvers: Slow Flight and Stalls: | | | | | |
|---|--------------------------|--------------------------|---------------------------|--------------------------|--------------------------|
| Maneuvering During Slow Flight | <input type="checkbox"/> | <input type="checkbox"/> | Spin Awareness | <input type="checkbox"/> | <input type="checkbox"/> |
| Accelerated Stalls | <input type="checkbox"/> | <input type="checkbox"/> | Normal and Truning Stalls | <input type="checkbox"/> | <input type="checkbox"/> |

| Performance Maneuvers: | | | | | |
|---|--------------------------|--------------------------|--|--|--|
| Steep Turns @ Minimum Controllable Airspeed | <input type="checkbox"/> | <input type="checkbox"/> | | | |

| Mountain Flying Techniques: | | | | | |
|------------------------------------|--------------------------|--------------------------|----------------------|--------------------------|--------------------------|
| Ridge Crossing | <input type="checkbox"/> | <input type="checkbox"/> | Detecting Wind Shear | <input type="checkbox"/> | <input type="checkbox"/> |
| Flying Orographic Lift | <input type="checkbox"/> | <input type="checkbox"/> | | | |

| Emergency Operations: | | | | | |
|--|--------------------------|--------------------------|--|--------------------------|--------------------------|
| Canyon Course Reversal | <input type="checkbox"/> | <input type="checkbox"/> | Downdraft Procedures (Discussion Only) | <input type="checkbox"/> | <input type="checkbox"/> |
| Turbulence Penetration (Discussion Only) | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> |

| Special Emphasis Areas: | | | | | |
|--------------------------------|--------------------------|--------------------------|--|--------------------------|--------------------------|
| Positive Aircraft Control | <input type="checkbox"/> | <input type="checkbox"/> | Wire Strike Avoidance | <input type="checkbox"/> | <input type="checkbox"/> |
| CFIT | <input type="checkbox"/> | <input type="checkbox"/> | Single Pilot Resource Management (SRM) | <input type="checkbox"/> | <input type="checkbox"/> |
| ADM/Risk Management | <input type="checkbox"/> | <input type="checkbox"/> | | | |

Date: _____
Instructor: _____

Student: _____

Lesson Objective:

- The student will be introduced to actual short/soft field procedures.

Completion Standards:

- The student will demonstrate appropriate short/soft field techniques on a confined strip.

Suggested Air Strips:

- Delle
- Spiral Jetty
- Stockton
- Morgan
- Heber

| | | Satisfactory: | Needs Improvement: | | | Satisfactory: | Needs Improvement: |
|---|--------------------------|--------------------------|---------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Preflight Preparation: | | | | | | | |
| Weather Info | <input type="checkbox"/> | <input type="checkbox"/> | Airstrip Information | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Performance and Limitations | <input type="checkbox"/> | <input type="checkbox"/> | | | | | |
| Take-offs, Landings, and Go-Arounds: | | | | | | | |
| Crosswind Take-off & Climb | <input type="checkbox"/> | <input type="checkbox"/> | Soft Field Approach and Landing | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Soft Field Take-off & Climb | <input type="checkbox"/> | <input type="checkbox"/> | Forward Slip to Land | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Crosswind Take-off and Landing | <input type="checkbox"/> | <input type="checkbox"/> | Go Around/Rejected Landing | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Date: _____

Instructor: _____

Student: _____

Lesson Objective:

- The student will further develop the skills necessary for actual short field procedures.

Completion Standards:

- The student will demonstrate appropriate short field techniques on a confined strip.

Suggested Air Strips:

- Delle
- Spiral Jetty
- Stockton

| | | Satisfactory: | Needs Improvement: | | | Satisfactory: | Needs Improvement: |
|--|--------------------------|--------------------------|----------------------------------|--------------------------|--------------------------|---------------|--------------------|
| <u>Preflight Preparation:</u> | | | | | | | |
| Weather Info | <input type="checkbox"/> | <input type="checkbox"/> | Airstrip Information | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Performance and Limitations | <input type="checkbox"/> | <input type="checkbox"/> | | | | | |
| <u>Take-offs, Landings, and Go-Arounds:</u> | | | | | | | |
| Crosswind Take-off & Climb | <input type="checkbox"/> | <input type="checkbox"/> | Short Field Approach and Landing | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Short Field Take-off & Climb | <input type="checkbox"/> | <input type="checkbox"/> | Forward Slip to Land | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Crosswind Take-off and Landing | <input type="checkbox"/> | <input type="checkbox"/> | Go Around/Rejected Landing | <input type="checkbox"/> | <input type="checkbox"/> | | |

Date: _____

Instructor: _____

Student: _____

This Lesson is optional at the digression of the customer

Lesson Objective:

- The student will be introduced to uphill landings at an airport preferably with more than a 3% grade.
- The student will be introduced to operations at significantly high density altitudes (8,000+ DA)
- The student will demonstrate increased proficiency in emergency procedures specific to flying in canyons and mountainous terrain.

Completion Standards:

- The student shall demonstrate increased proficiency in short and soft field landing techniques.
- The student shall demonstrate proficiency in identifying possible areas of wind-shear and/turbulence while operating in mountainous terrain.
- The student shall demonstrate an understanding of the effects of load factor in maneuvering flight to include stall and spin awareness.
- The student shall demonstrate increase proficiency in identifying hazards associated with the landing environment to include take-off requirements.

Suggested Air Strips

- Scofield
- Morgan County (landing RW3)

| | Satisfactory: | Needs Improvement: | | Satisfactory: | Needs Improvement: |
|-------------------------------|--------------------------|--------------------------|--------------|--------------------------|--------------------------|
| Preflight Preparation: | | | | | |
| Weather Info | <input type="checkbox"/> | <input type="checkbox"/> | Canyon winds | <input type="checkbox"/> | <input type="checkbox"/> |
| Performance and Limitations | <input type="checkbox"/> | <input type="checkbox"/> | ADM/Judgment | <input type="checkbox"/> | <input type="checkbox"/> |

Take-offs, Landings, and Go-Arounds:

| | | | | | |
|--------------------------------|--------------------------|--------------------------|----------------------------------|--------------------------|--------------------------|
| Crosswind Take-off & Climb | <input type="checkbox"/> | <input type="checkbox"/> | Soft Field Approach and Landing | <input type="checkbox"/> | <input type="checkbox"/> |
| Soft Field Take-off & Climb | <input type="checkbox"/> | <input type="checkbox"/> | Short Filed Approach and Landing | <input type="checkbox"/> | <input type="checkbox"/> |
| Short Field Take-off & Climb | <input type="checkbox"/> | <input type="checkbox"/> | Forward Slip to Land | <input type="checkbox"/> | <input type="checkbox"/> |
| Crosswind Take-off and Landing | <input type="checkbox"/> | <input type="checkbox"/> | Go Around/Rejected Landing | <input type="checkbox"/> | <input type="checkbox"/> |

Performance Maneuvers:

| | | |
|---|--------------------------|--------------------------|
| Steep Turns @ Minimum Controllable Airspeed | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|

Mountain Flying Techniques:

| | | | | | |
|------------------------|--------------------------|--------------------------|----------------------|--------------------------|--------------------------|
| Ridge Crossing | <input type="checkbox"/> | <input type="checkbox"/> | Detecting Wind Shear | <input type="checkbox"/> | <input type="checkbox"/> |
| Flying Orographic Lift | <input type="checkbox"/> | <input type="checkbox"/> | | | |

Special Emphasis Areas:

| | | |
|---------------------|--------------------------|--------------------------|
| ADM/Risk Management | <input type="checkbox"/> | <input type="checkbox"/> |
|---------------------|--------------------------|--------------------------|

Date: _____

Instructor: _____

Student: _____

Lesson Objective:

- This lesson is meant to be performed as a comprehensive evaluation of the material covered in lessons 1-5

Completion Standards:

- The student shall demonstrate increased proficiency in short and soft field landing techniques.
- The student shall demonstrate proficiency in identifying possible areas of wind-shear and/turbulence while operating in mountainous terrain.
- The student shall demonstrate an understanding of the effects of load factor in maneuvering flight to include stall and spin awareness.
- The student shall demonstrate increase proficiency in identifying hazards associated with the landing environment to include take-off requirements.
- The student shall demonstrate increased proficiency in emergency operations in mountainous and canyon environments
- The student shall demonstrate sufficient aeronautical decision making and judgment while operating in mountainous terrain

| | Satisfactory: | Needs Improvement: | | Satisfactory: | Needs Improvement: |
|--------------------------------------|--------------------------|--------------------------|--------------|--------------------------|--------------------------|
| <u>Preflight Preparation:</u> | | | | | |
| Weather Info | <input type="checkbox"/> | <input type="checkbox"/> | Canyon winds | <input type="checkbox"/> | <input type="checkbox"/> |
| Performance and Limitations | <input type="checkbox"/> | <input type="checkbox"/> | ADM/Judgment | <input type="checkbox"/> | <input type="checkbox"/> |

Take-offs, Landings, and Go-Arounds:

| | | | | | |
|--------------------------------|--------------------------|--------------------------|----------------------------------|--------------------------|--------------------------|
| Crosswind Take-off & Climb | <input type="checkbox"/> | <input type="checkbox"/> | Soft Field Approach and Landing | <input type="checkbox"/> | <input type="checkbox"/> |
| Soft Field Take-off & Climb | <input type="checkbox"/> | <input type="checkbox"/> | Short Filed Approach and Landing | <input type="checkbox"/> | <input type="checkbox"/> |
| Short Field Take-off & Climb | <input type="checkbox"/> | <input type="checkbox"/> | Forward Slip to Land | <input type="checkbox"/> | <input type="checkbox"/> |
| Crosswind Take-off and Landing | <input type="checkbox"/> | <input type="checkbox"/> | Go Around/Rejected Landing | <input type="checkbox"/> | <input type="checkbox"/> |

Slow Flight and Stalls:

| | | | | | |
|--------------------------------|--------------------------|--------------------------|----------------|--------------------------|--------------------------|
| Maneuvering During Slow Flight | <input type="checkbox"/> | <input type="checkbox"/> | Spin Awareness | <input type="checkbox"/> | <input type="checkbox"/> |
| Accelerated Stalls | <input type="checkbox"/> | <input type="checkbox"/> | | | |

Performance Maneuvers:

| | | |
|---|--------------------------|--------------------------|
| Steep Turns @ Minimum Controllable Airspeed | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|

Mountain Flying Techniques:

| | | | | | |
|------------------------|--------------------------|--------------------------|----------------------|--------------------------|--------------------------|
| Ridge Crossing | <input type="checkbox"/> | <input type="checkbox"/> | Detecting Wind Shear | <input type="checkbox"/> | <input type="checkbox"/> |
| Flying Orographic Lift | <input type="checkbox"/> | <input type="checkbox"/> | | | |

Emergency Operations:

| | | | | | |
|--|--------------------------|--------------------------|--|--------------------------|--------------------------|
| Canyon Course Reversal | <input type="checkbox"/> | <input type="checkbox"/> | Downdraft Procedures (Discussion Only) | <input type="checkbox"/> | <input type="checkbox"/> |
| Turbulence Penetration (Discussion Only) | <input type="checkbox"/> | <input type="checkbox"/> | Simulated Engine Failure | <input type="checkbox"/> | <input type="checkbox"/> |

Special Emphasis Areas:

| | | | | | |
|---------------------------|--------------------------|--------------------------|--|--------------------------|--------------------------|
| Positive Aircraft Control | <input type="checkbox"/> | <input type="checkbox"/> | Wire Strike Avoidance | <input type="checkbox"/> | <input type="checkbox"/> |
| CFIT | <input type="checkbox"/> | <input type="checkbox"/> | Single Pilot Resource Management (SRM) | <input type="checkbox"/> | <input type="checkbox"/> |
| ADM/Risk Management | <input type="checkbox"/> | <input type="checkbox"/> | | | |

Date: _____

Instructor: _____

Student: _____