

Semper Fly Helicopters

14 CFR PART 141 FLIGHT SCHOOL



**AVIA 4121 - COMMERCIAL PILOT FLIGHT STAGE I
ROTORCRAFT / HELICOPTER
CERTIFICATION COURSE
FLIGHT TRAINING MANUAL**

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SECTION 1 - FLIGHT TRAINING SYLLABUS

1.1 - Course Requirements and Objectives

Enrollment Prerequisites

The Semper Fly Helicopters Commercial Pilot Rotorcraft / Helicopter Flight Training Course is designed to have the students concurrently enrolled in the associated Semper Fly Helicopters Commercial Pilot Rotorcraft / Helicopter Ground Training Course. As such, students must meet the following criteria:

1. Minimum Age: 17
2. English Proficiency - Students must be proficient in reading, writing, and speaking English to comply with FAA regulations
3. Financial Readiness - Students must be able to provide proof of ability to finance the training program, either through personal funds, loans, or GI Bill benefits for eligible veterans
4. Interview and Assessment - Semper Fly Helicopters reserves the right to conduct an interview in which the motivation and fitness for flight training can be assessed
5. Required Documents
 - A. U.S. Citizens
 - i. Proof of U.S. Citizenship
 - ii. Valid, unexpired U.S. passport OR
 - iii. Original or government-issued birth certificate of the U.S., American Samoa, or Swains Island AND a government-issued picture identification OR
 - iv. Original certification of birth abroad with raised seal (Form FS-545 or Form DS-1350) AND a government-issued picture identification OR
 - v. Original certificate of U.S. citizenship with raised seal (Form N-560 or N-561) or a Certificate of Repatriation (Form N-581) AND government-issued picture ID OR
 - vi. Original U.S. Naturalization Certificate with raised seal (Form N-550 or N-570) AND a government-issued picture ID
 - vii. FAA Class I or Class II Medical
 - viii. FAA Airman's Certificate: Private Pilot Certificate (Rotorcraft)
 - ix. FAA Airman's Certificate: Instrument Pilot Certificate (Rotorcraft)
 - x. FAA Knowledge Test (if completed)
 - B. Foreign Nationals
 - i. Passport
 - ii. Visa
 - iii. FAA Class I or Class II Medical
 - iv. Complete TSA Training application

Additionally, all students must satisfy the requirements identified in Part 141; Appendix D, applicable to the certificate or rating sought by the learner. If the student is degree seeking, they must meet the enrollment criteria of the University of Oklahoma Aviation Department

Flight Training Course Objective

The student will obtain the knowledge, skill, and aeronautical experience necessary to meet the requirements for a Commercial Pilot Certificate with a Rotorcraft / Helicopter category rating.

Flight Training Course Completion Standards

The student must demonstrate through written tests, flight tests, and show through appropriate records that he or she meets the knowledge, skill, and experience requirements necessary to obtain a Commercial Pilot Certificate with a Rotorcraft / Helicopter category rating, while maintaining the standards set in the Semper Fly Helicopters Standard Operating Procedures and Safety Policies Manual and the Airman Certification Standards.

Flight Training Curriculum

Flight school for the Commercial Pilot student is accomplished by enrollment in the Semper Fly Helicopters pilot course and a minimum of 115 flight hours. An outline for each lesson is provided in the following Flight Training Syllabus. The flight instructor will be responsible for student knowledge who obtained credit by exam or who have not taken these courses.

Flight Training Textbooks

The flight-training course is structured by the Helicopter Pilot Textbook. Jeppesen Sanderson, Inc., the Federal Regulations FAR/AIM. Flight training lessons generally follow the sequence and content of these textbooks. Other required reference materials are listed in the Introduction Section of the Airman Certification Standards.

Training Records

Semper Fly Helicopters will establish and maintain current and accurate records of the participation of each student enrolled in the aviation program. These records will include as a minimum the date the student was enrolled, a chronological log of the student's course attendance, the subjects, and flight operations covered in the student's training, and the names and grades of any tests taken by the student. Additionally, a record will be maintained on the date the student graduated, terminated training, or transferred to another school. Whenever a student graduates, terminates training, or transfers to another school, the student's record will be certified to that effect by the chief instructor. The school will retain each student record for at least 1 year from the date that the student either graduates from the course to which the record pertains, terminates enrollment in the course to which the record pertains, or transfers to another school. These records will be kept in accordance with 14 CFR 141.101. The school will make a copy of these records available to the student upon request.

1.2 - Commercial Pilot Course
Minimum Time Summary

<u>TRAINING STAGE</u>	<u>DUAL</u>	<u>SOLO</u>	<u>X/C</u>	<u>NIGHT</u>	<u>ORAL</u>	<u>GROUND</u>
Flight Stage One	42.2		21.5	5.7	33.3	
SUB-TOTAL	42.2		21.5	5.7	33.3	

TOTAL GROUND TIME FOR COMMERCIAL PILOT COURSE: 62.0 HOURS

TOTAL FLIGHT TIME FOR COMMERCIAL PILOT COURSE: 85.0 HOURS

TOTAL SIMULATOR TIME FOR COMMERCIAL PILOT COURSE: 20.0 HOURS

1.3 - Grading Rubric

After each lesson, the instructor will assign grades for each ground or flight activity using the following scale:

GRADE	STUDENT PERFORMANCE	DESCRIPTION
A	Exceeds Standards	The student meets the FAA Airman Certification Standards and usually (50% of the time or more) exceeds those standards.
B	Meets Standards	The student meets the FAA Airman Certification Standards.
C	Below Standards	The student does not meet the FAA Airman Certification Standards.
F	Failure	The safety of the flight is in question and/or the instructor was required to take control of the aircraft.
I	Incomplete	The allotted time was not sufficient for the student to perform the activity.
NG	Not Graded	The activity was not assigned to the student and will <u>not</u> be required to be completed in a separate training session.

NOTES

- With a grade of C, or F, the instructor must include amplifying comments on the grade form
- With a grade of C, F, or I, the student will be required to complete the activity to the FAA Airman Certification Standards in a separate training session.

SECTION 2 - STAGE ONE FLIGHT TRAINING

OBJECTIVES:

The primary objective during Stage One is to refresh, reinforce, and build upon helicopter maneuvers learned as a Private and Instrument Pilot in order to develop a professional level of proficiency. The student will receive advanced instruction on ground operations, basic flight maneuvers, slow flight, in-flight emergencies, flight using ground references, takeoffs, traffic patterns, landings, instrument flying, and cross-country operations. The student must develop the proficiency for their check ride using the Airman Certification Standards (ACS).

Each student must review the assignment for the scheduled flight lesson prior to arriving for training.

REFERENCES:

1. The Semper Fly Helicopters Training Course Outline for the Commercial Pilot Rotorcraft / Helicopter Certification Course
2. The Semper Fly Helicopters Standard Operating Procedures and Safety Policies Manual
3. The Semper Fly Helicopters Private / Commercial Study Guide
4. Guimbal Cabri G2 Flight Manual
5. Guimbal Cabri G2 Flight Instructor Guide
6. Helicopter Pilot Textbook. Jeppesen Sanderson, Inc
7. Aeronautical Decision Making for Commercial Pilots
8. The FAR/AIM Manual
9. Commercial Pilot for Rotorcraft Category Helicopter Rating Airman Certification Standards, FAA-S-ACS-16
10. Risk Management Handbook, FAA-H-8083-2

COMPLETION STANDARDS:

This stage will be completed when the student has demonstrated through dual flights and a stage check that he/she meets/exceeds Airman Certification Standards (ACS).

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2.28 - Lesson 28: Review of Maneuvers	1.2			0.8	2-30
2.29 - Lesson 29: Stage One Check	1.5			1.5	2-31
FLIGHT STAGE ONE - TOTAL HOURS	42.2	21.5	5.7	33.3	

TOTAL FLIGHT HOURS - STAGE ONE: 42.2

**** SIMULATOR HOURS - STAGE ONE: 10.0**

2.1 - LESSON 1: FLIGHT OPERATIONS ORIENTATION

(Oral: 1.9 Hours)

OBJECTIVES:

This is an orientation of the flight school and flight line operations. This lesson provides an opportunity for the instructor and student to become acquainted. The instructor should resolve questions on the flight-training program.

CONTENTS:

1. Orientation of the aviation program and flight operations including aircraft and dispatch procedure.
2. Create student records
3. Procedures Training
 - A. Radio Communications
 - B. Pattern Operations
 - C. Ramp Operations
 - D. Practice Checklist Usage (“chair-fly”) for normal and emergency operations using aircraft ramp
 - E. Fueling Operations
4. Airworthiness
 - A. Airworthiness, Registration, Type Certificate, and Operational Limitations
 - B. Maintenance inspections
 - i. 100 hour inspections
 - ii. Annual inspections
 - iii. Airworthiness Directives
 - C. Equipment inspections
 - i. Emergency Locator Transmitter
 - ii. Transponder
 - iii. Pitot-static inspection
 - D. Weight and balance: Equipment List
5. Emergency Equipment (ELT, Fire Extinguisher)

COMPLETION STANDARDS:

The student should be familiar with flight operations policies and procedures, have a flight record created, and be familiar with course completion requirements.

2.2 - LESSON 2: COMMERCIAL PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

This is the initial orientation flight. Familiarization with the helicopter, preflight procedures, use of checklists, and safety of flight will be conducted. The student will conduct starting and run-up operations and shutdown under guidance of the instructor. The student will be introduced to include: flight planning, preflight, taxiing, normal takeoffs, en-route, descent, and normal approaches.

CONTENTS:

1. Weight and balance
2. Use of checklist
3. Thorough preflight inspection
4. Use of restraint system
5. Engine starting
6. Engine and systems checks
7. Normal takeoff and climb
8. Straight and level flight
9. Attitude flying
10. Climbs, Turns, Descents
11. Acceleration and deceleration
12. Introduction to hovering
13. Orientation to the local area
14. Positive exchange of flight controls
15. Collision avoidance
16. Shutdown, servicing, and securing the aircraft

COMPLETION STANDARDS:

The student will be able to perform a preflight inspection, engine start, engine and systems runup checks, and engine shutdown. The student will display mastery in all tasks and maneuvers.

2.3 - LESSON 3: COMMERCIAL PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

This lesson will review previous flight maneuvers. The student will be introduced to the helicopter flight maneuvers. The student will participate in a review and discussion of the training scenarios and situational awareness lessons.

CONTENTS:

1. Takeoff to a Hover
2. Landing From a Hover
3. Hovering Flight, Hover Taxi, and Air Taxi
4. Traffic Pattern Operations
5. Normal and Crosswind Takeoff from a Hover
6. Normal and Crosswind Approach to a Hover

COMPLETION STANDARDS:

This lesson will be completed when the student, under the direction of his/her instructor, is able to demonstrate mastery of the maneuvers.

2.4 - LESSON 4: COMMERCIAL PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

This lesson is on Commercial Pilot maneuvers.

CONTENTS:

1. Maximum Performance Takeoff and Climb
2. Steep Approach to a Hover
3. Instructor Directed Practice

COMPLETION STANDARDS:

This lesson will be completed when the student displays a mastery of the maneuvers covered in the training.

2.5 - LESSON 5: COMMERCIAL PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

This is a review to the autorotation and Go-arounds maneuvers.

CONTENTS:

1. Straight-In Autorotation with Power Recovery
2. Go-arounds
3. Instructor Directed Practice

COMPLETION STANDARDS:

This lesson will be complete when the student can demonstrate mastery of the maneuvers controlling the helicopter during autorotation and Go-arounds.

2.6 - LESSON 6: COMMERCIAL PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will review the procedures for autorotation with turn. The student will become familiar with autorotation flight procedures.

CONTENTS:

1. 180° autorotation with Power Recovery
2. Enhanced training in autorotation procedures
3. Instructor Directed Practice

COMPLETION STANDARDS:

This lesson will be completed when the student has demonstrated a mastery of the procedures for emergency operations. The student will also have an advanced understanding of the aerodynamics related to auto-rotations.

2.7 - LESSON 7: EMERGENCY PROCEDURES

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will review the procedures for hovering autorotation and system malfunctions. The student will become familiar with RPM control during flight procedures.

CONTENTS:

1. Hovering Autorotation
2. Engine Rotor RPM Control without the use of a Governor
3. Systems Malfunction and Equipment Malfunction
4. Instructor Directed Practice

COMPLETION STANDARDS:

This lesson will be completed when the student has demonstrated a mastery of the procedures for emergency operations. The student will also have an advanced understanding of the aerodynamics related to autorotations.

2.8 - LESSON 8: EMERGENCY PROCEDURES

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will review the procedures for forced landings. The student will become familiar with landing area selection.

CONTENTS:

1. Practiced Forced Landings
2. Effects of Low G Maneuvers and proper Recovery Procedures
3. Instructor Directed Practice

COMPLETION STANDARDS:

This lesson will be completed when the student has demonstrated a mastery of the procedures for forced landing operations.

2.9 - LESSON 9: COMMERCIAL PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will review the procedures for rapid decelerations, running take-offs, and shallow approaches to running landings. The student will become familiar with reasons and procedures for these maneuvers.

CONTENTS:

1. Rapid Decelerations (Quick Stops)
2. High Altitude (Running) Take-off
3. Shallow Approach and Running Landing
4. Instructor Directed Practice

COMPLETION STANDARDS:

This lesson will be completed when the student has an advanced understanding of the reasons and procedures for rapid decelerations, high altitude take-offs, and running landings and demonstrates mastery of the maneuvers.

2.10 - LESSON 10: COMMERCIAL PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will review the procedures for slope operations and anti-torque failures. The student will become familiar with reasons and procedures for these maneuvers.

CONTENTS:

1. Slope operations
2. Anti-torque systems failures
3. Instructor Directed Practice

COMPLETION STANDARDS:

This lesson will be completed when the student has demonstrated a mastery of the reasons and procedures for slope operations and anti-torque failures.

2.11 - LESSON 11: EMERGENCY PROCEDURES

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will review the procedures for recognition and recovery from low RPM conditions and settling with power. The student will become familiar with reasons and procedures for these maneuvers.

CONTENTS:

1. Recognition and recovery from low RPM
2. Settling with power
3. Instructor Directed Practice

COMPLETION STANDARDS:

This lesson will be completed when the student has demonstrated a mastery of the reasons and procedures for Recognition and recovery from low RPM and Settling with power.

2.12 - LESSON 12: REVIEW OF MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will review all maneuvers taught in Stage One to this point.

CONTENTS:

Review all maneuvers in Stage One to this point in order to identify and practice weak maneuvers.

COMPLETION STANDARDS:

This lesson will be completed when the student can demonstrate a mastery of all maneuvers taught up to this point.

2.13 - LESSON 13: NIGHT AIRPORT OPERATIONS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will review normal and advanced night maneuvers. This will help them understand the differences between night and day flying.

CONTENTS:

1. Traffic patterns and airport operations
2. Hovering flight, hover taxi, and air taxi
3. Normal approach
4. Steep approach
5. Maximum power take-off

COMPLETION STANDARDS:

This lesson will be completed when the student can demonstrate knowledge of traffic pattern operations and the applicable regulations. He/she should be able to solve the routine problems normally encountered in the traffic pattern.

2.14 - LESSON 14: NAVIGATION - NIGHT CROSS-COUNTRY

(Dual: 2.0 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

During this lesson, the student will be introduced to night cross-country operations in a helicopter.

The student is expected to complete a flight plan, weight and balance, and briefing.

CONTENTS:

1. Night Cockpit light management
2. Pilotage and dead reckoning
3. Determine distance, winds, time, fuel, and ETA
4. Navigation systems, radar services and requesting assistance
5. Diversion and alternate airport selection
6. Lost procedures
7. Select appropriate frequencies from the AFD
8. Radio aids navigation
9. Use of sectional map

COMPLETION STANDARDS:

This lesson will be completed when the student is able to demonstrate proper night cross-country flight planning, diversion procedures, lost procedures, and navigation usage for his/her flight

2.15 - LESSON 15: NAVIGATION - NIGHT CROSS-COUNTRY

(Dual: 2.5 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

During this lesson, the student will conduct a night cross-country flight operation.

The student is expected to complete a flight plan, weight and balance, and briefing.

The flight must be a minimum time of two hours and a total straight-line distance of 50 NM in order to meet the minimum times and distance per 14 CFR Appendix D to Part 141 4(b)(3)(iii).

CONTENTS:

1. Must consist of landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 50 NM from the original point of departure
2. Night Cockpit light management
3. Determine distance, winds, time fuel, and ETA
4. Pilotage and dead reckoning
5. Navigation systems, radar services and requesting assistance
6. Diversion and alternate airport selection
7. Lost procedures
8. Select appropriate frequencies from the AFD
9. Radio aids navigation
10. Use of sectional map

COMPLETION STANDARDS:

This lesson will be complete when the student completes the maneuvers designated by their Instructor Pilot in a satisfactory manner in the allotted time.

2.16 - LESSON 16: NAVIGATION - DAY CROSS-COUNTRY

(Dual: 2.5 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

This will reintroduce the student to proper pilot techniques and skill required to safely control the aircraft solely to instruments via a cross-country flight.

The student is expected to complete a flight plan, weight and balance, and briefing.

This flight must meet the requirements per 14 CFR Appendix D to Part 141 4(b)(3)(i).

CONTENTS:

1. Control and maneuvering solely by reference to instruments, including using a view limiting device for attitude instrument flying
2. Partial panel skills
3. Recovery from unusual attitudes
4. Intercepting and tracking navigational systems
5. Determine distance, winds, time, fuel, and ETA
6. Pilotage and dead reckoning
7. Navigation systems, radar services and requesting assistance
8. Diversion and alternate airport selection
9. Lost procedures
10. Select appropriate frequencies from the AFD
11. Radio aids navigation

COMPLETION STANDARDS:

This lesson will be completed when the student is able to demonstrate a mastery of instrument cross-country operations.

2.17 - LESSON 17: NAVIGATION - DAY CROSS-COUNTRY

(Dual: 2.5 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

This will reintroduce the student to proper pilot techniques and skill required to safely control the aircraft solely to instruments via a cross-country flight.

The student is expected to complete a flight plan, weight and balance, and briefing.

This flight must meet the requirements per 14 CFR Appendix D to Part 141 4(b)(3)(i).

CONTENTS:

1. Control and maneuvering solely by reference to instruments, including using a view limiting device for attitude instrument flying
2. Partial panel skills
3. Recovery from unusual attitudes
4. Intercepting and tracking navigational systems
5. Determine distance, winds, time, fuel, and ETA
6. Pilotage and dead reckoning
7. Navigation systems, radar services and requesting assistance
8. Diversion and alternate airport selection
9. Lost procedures
10. Select appropriate frequencies from the AFD
11. Radio aids navigation

COMPLETION STANDARDS:

This lesson will be completed when the student is able to demonstrate a mastery of instrument cross-country operations.

2.18 - LESSON 18: NAVIGATION - DAY CROSS-COUNTRY

(Dual: 2.0 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

During this lesson, the student will conduct cross-country operations in a helicopter.

The student is expected to complete a flight plan, weight and balance, and briefing.

CONTENTS:

1. Determine distance, winds, time, fuel, and ETA
2. Pilotage and dead reckoning
3. Navigation systems, radar services and requesting assistance
4. Diversion and alternate airport selection
5. Lost procedures
6. Select appropriate frequencies from the AFD
7. Radio aids navigation
8. Use of sectional map

COMPLETION STANDARDS:

This lesson will be completed when the student is able to demonstrate a mastery of cross-country operations.

2.19 - LESSON 19: NAVIGATION - DAY CROSS-COUNTRY

(Dual: 2.0 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

During this lesson, the student will conduct cross-country operations in a helicopter.

The student is expected to complete a flight plan, weight and balance, and briefing.

CONTENTS:

1. Determine distance, winds, time fuel, and ETA
2. Pilotage and dead reckoning
3. Navigation systems, radar services and requesting assistance
4. Diversion and alternate airport selection
5. Lost procedures
6. Select appropriate frequencies from the AFD
7. Radio aids navigation
8. Use of sectional map

COMPLETION STANDARDS:

This lesson will be completed when the student is able to demonstrate a mastery of cross-country operations.

2.20 - LESSON 20: NAVIGATION - DAY CROSS-COUNTRY

(Dual: 2.0 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

During this lesson, the student will conduct cross-country operations in a helicopter.

The student is expected to complete a flight plan, weight and balance, and briefing.

CONTENTS:

1. Determine distance, winds, time, fuel, and ETA
2. Pilotage and dead reckoning
3. Navigation systems, radar services and requesting assistance
4. Diversion and alternate airport selection
5. Lost procedures
6. Select appropriate frequencies from the AFD
7. Radio aids navigation
8. Use of sectional map

COMPLETION STANDARDS:

This lesson will be completed when the student is able to demonstrate a mastery of cross-country operations.

2.21 - LESSON 21: NAVIGATION - DAY CROSS-COUNTRY

(Dual: 2.0 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

During this lesson, the student will conduct cross-country operations in a helicopter.

The student is expected to complete a flight plan, weight and balance, and briefing.

CONTENTS:

1. Determine distance, winds, time fuel, and ETA
2. Pilotage and dead reckoning
3. Navigation systems, radar services and requesting assistance
4. Diversion and alternate airport selection
5. Lost procedures
6. Select appropriate frequencies from the AFD
7. Radio aids navigation
8. Use of sectional map

COMPLETION STANDARDS:

This lesson will be completed when the student is able to demonstrate a mastery of cross-country operations.

2.22 - LESSON 22: NAVIGATION - DAY CROSS-COUNTRY

(Dual: 2.0 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

During this lesson, the student will conduct cross-country operations in a helicopter.

The student is expected to complete a flight plan, weight and balance, and briefing.

CONTENTS:

1. Determine distance, winds, time fuel, and ETA
2. Pilotage and dead reckoning
3. Navigation systems, radar services and requesting assistance
4. Diversion and alternate airport selection
5. Lost procedures
6. Select appropriate frequencies from the AFD
7. Radio aids navigation
8. Use of sectional map

COMPLETION STANDARDS:

This lesson will be completed when the student is able to demonstrate a mastery of cross-country operations.

2.23 - LESSON 23: NAVIGATION - DAY CROSS-COUNTRY

(Dual: 2.0 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

During this lesson, the student will conduct cross-country operations in a helicopter.

The student is expected to complete a flight plan, weight and balance, and briefing.

The flight must be a minimum time of two hours and a total straight-line distance of 50 NM in order to meet the minimum times and distance per 14 CFR Appendix D to Part 141 4(b)(3)(ii).

CONTENTS:

1. Determine distance, winds, time, fuel, and ETA
2. Pilotage and dead reckoning
3. Navigation systems, radar services and requesting assistance
4. Diversion and alternate airport selection
5. Lost procedures
6. Select appropriate frequencies from the AFD
7. Radio aids navigation
8. Use of sectional map

COMPLETION STANDARDS:

This lesson will be completed when the student is able to demonstrate a mastery of cross-country operations.

2.24 - LESSON 24: REVIEW OF MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will review all maneuvers taught in Stage One to this point.

CONTENTS:

Review all maneuvers in Stage One to this point in order to identify and practice weak maneuvers in preparation for the Stage Check.

COMPLETION STANDARDS:

This lesson will be completed when the student can demonstrate a mastery of all maneuvers taught up to this point.

2.25 - LESSON 25: REVIEW OF MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will review all maneuvers taught in Stage One to this point.

CONTENTS:

Review all maneuvers in Stage One to this point in order to identify and practice weak maneuvers in preparation for the Stage Check.

COMPLETION STANDARDS:

This lesson will be completed when the student can demonstrate a mastery of all maneuvers taught up to this point.

2.26 - LESSON 26: SIMULATOR AUGMENTATION

(Simulator: 10.0 Hours, Pre/Post Flight Briefings: 9.1 Hours)

OBJECTIVES:

This lesson gives the student an opportunity to utilize the simulator to improve any Stage One maneuver or procedures which may require additional practice in preparation for the Stage Check, as determined by the instructor.

CONTENTS:

1. Hovering Maneuvers
 - A. Vertical Takeoff and Landing
 - B. Slope Operations
 - C. Surface Taxi
 - D. Hover Taxi
 - E. Air Taxi
2. Takeoffs, Landings, and Go-arounds
 - A. Normal and Crosswind Takeoff
 - B. Normal and Crosswind Approach
 - C. Maximum Performance Takeoff and Climb
 - D. Steep Approach
 - E. Rolling Takeoff
 - F. Shallow Approach and Run-on Landing
 - G. Go-arounds
3. Performance Maneuvers
 - A. Rapid Deceleration
 - B. Straight in Autorotation
 - C. 180° Autorotation
4. Emergency Operations
 - A. Power Failure at a Hover
 - B. Power Failure at Altitude
 - C. Systems and Equipment Malfunctions
 - D. Settling-With-Power
 - E. Low Rotor RPM Recovery
5. Special Operations
 - A. Confined Area Operation
 - B. Pinnacle / Platform Operations
 - C. Night Operations
6. Instrument Operations

COMPLETION STANDARDS:

The student should demonstrate continued increased proficiency of aircraft control and a professional level of understanding of all maneuvers introduced during the lesson.

2.27 - LESSON 27: REVIEW OF MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will review all maneuvers taught in Stage One to this point.

CONTENTS:

Review all maneuvers in Stage One to this point in order to identify and practice weak maneuvers in preparation for the Stage Check.

COMPLETION STANDARDS:

This lesson will be completed when the student can demonstrate a mastery of all maneuvers taught up to this point.

2.28 - LESSON 28: REVIEW OF MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will review all maneuvers taught in Stage One to this point.

CONTENTS:

Review all maneuvers in Stage One to this point in order to identify and practice weak maneuvers in preparation for the Stage Check.

COMPLETION STANDARDS:

This lesson will be completed when the student can demonstrate a mastery of all maneuvers taught up to this point.

2.29 - LESSON 29: STAGE ONE CHECK

(Dual: 1.5 Hours, Pre/Post Flight Briefings: 1.5 Hours)

OBJECTIVES:

In this lesson, the student will review all advanced flight maneuvers and review the procedures of solo operations. The Pre/Post Flight Briefing time will be utilized to cover topics found in the Preflight Preparation section below. During the flight portion of the lesson, the student is expected to perform all maneuvers to the standards found within Airmen Certification Standards (ACS) and display a strong use of Aeronautical Decision Making (ADM).

CONTENTS:

1. Preflight Preparation
 - A. Certificates and documents
 - B. Airworthiness requirements
 - C. Weather information
 - D. Cross-country flight planning
 - E. National airspace system
 - F. Performance and limitations
 - G. Operation of systems
2. Preflight Procedures
 - A. Preflight inspection
 - B. Cockpit management
 - C. Engine starting and rotor engagement
 - D. Before takeoff check
3. Airport and Heliport Operations
 - A. Radio communications
 - B. ATC light signals
 - C. Traffic patterns
 - D. Airport/heliport runway, helipad, and taxiway signs, markings, and lighting
4. Hovering Maneuvers
 - A. Vertical takeoff and landing
 - B. Slope operations
 - C. Hover taxi
 - D. Air taxi
5. Takeoffs, Landings, and Go-arounds
 - A. Normal and crosswind takeoff and climb
 - B. Normal and crosswind approach
 - C. Maximum performance takeoff and climb
 - D. Steep approach
 - E. Confined area operations
 - F. Pinnacle/platform operations
 - G. Shallow approach and running landing
 - H. Go-arounds

6. Performance Maneuvers
 - A. Rapid deceleration
 - B. Straight in autorotation
 - C. 180° autorotation
7. Navigation
 - A. Pilotage and dead reckoning
 - B. Radio navigation and radar services
 - C. Diversion
 - D. Lost procedures
8. Emergency Procedures
 - A. Power failure at a hover
 - B. Power failure at altitude
 - C. Systems and equipment malfunction
 - D. Settling-with-power
 - E. Low rotor RPM recovery
 - F. Anti-torque system failure
 - G. Dynamic rollover
 - H. Ground Resonance
 - I. Low G conditions
 - J. Emergency equipment and survival gear
9. Night Operations
 - A. Night Preparations
 - B. Safety Concerns
10. Post-Flight Procedures
 - A. Postflight inspection
 - B. Securing of Aircraft

COMPLETION STANDARDS:

The student should be able to maintain altitude and heading in accordance with the Airman Certification Standards for all maneuvers. The student will also demonstrate a strong use of Aeronautical Decision Making (ADM).