

Below is a sample of some of the various syllabi in no particular order and some of the flight maneuver lessons.

SAMPLE

Private Pilot Training Plan & Checkride Preparation

DATE _____

1. SFAR Briefing/Awareness Training	_____	1 hour
2. Components, Controls & Systems	_____	1 hour
3. Basic Aerodynamics	_____	1 hour
4. Principles of flight	_____	1 hour
5. Advanced Principles of flight	_____	1.5 hours
6. Flight Manual	_____	1 hour
7. Weight & Balance	_____	1 hour
8. Airspace & Radio Communication	_____	1 hour
9. Airport & Heliport Ops (AIM)	_____	1 hour
10. Review & Stage 1 Prep	_____	1.5 hours

Stage 1

11. Understanding Weather Part 1	_____	1 hour
12. Understanding Weather Part 2	_____	1 hour
13. Aviation Weather	_____	1 hour
14. VFR Charts & Navigation	_____	1 hour
15. E-6B flight computer	_____	1 hour
16. Cross Country planning	_____	1 hour
17. AIM	_____	1 hour
18. Radio Navigation	_____	1 hour
19. Review & Stage 2 Prep	_____	2 hours

Stage 2

20. Regulations	_____	1 hour
21. ADM & CRM	_____	1 hour
22. Night Flying	_____	1 hour
23. Aero medical Factors	_____	1 hour
24. PST Review	_____	1 hour
25. Review & Stage 3 Prep	_____	2 hours

Stage 3

26. Checkride Prep & Final Review	_____	1.5 hours
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Private Pilot Flight Training Syllabus

Ground Lesson 1-1

1.5 Hours Ground Instruction

Objectives: This lesson shall be a familiarization with the helicopters operating characteristics, cabin control, instruments and systems, preflight preparation. The instructor shall signify the importance of using an appropriate approved check list. This lesson will also include an integral preflight passenger briefing and the awareness training of SFAR 73 to part 61 will be covered. Upon completion the instructor will properly endorse the student's logbook.

CONTENT

I. PREFLIGHT BREIFING

II. INTRODUCTION

1. Energy Management
2. Mast Bumping
3. Low Rotor RPM (Blade Stall)
4. Low G hazards
5. Rotor RPM Decay
6. Function of flight controls
7. Importance of using a checklist
8. Preflight of training aircraft with approved checklist
9. Proper use of tie down
10. Safety issues on the airport and around other aircraft

III. POST CRITIQUE AND PREVIEW OF NEXT LESSON

COMPLETION STANDARDS: The student shall, with assistance, be able to conduct a preflight, using checklists, and understand the importance of the safety factors involved in proper structure of preflight.

Private Pilot Flight Training Syllabus

Flight Lesson 1-1

1.0 Hours Dual

.5 Pre/Post Flight

Objectives: This lesson shall be a review of ground lesson 1-1 and an introduction into basic functions of the controls in flight.

CONTENT

I. PREFLIGHT BRIEFING

II. INTRODUCTION

1. Engine Start
2. Basic radio procedure
3. Use of controls at a hover
4. Pre-takeoff and pre-landing checks
5. Takeoff demonstration
6. Straight and level
7. Local flight and area familiarization
8. Collision avoidance and clearing turns
9. Traffic pattern entry
10. Shallow bank turns

III. STUDENT PRACTICE

1. Straight and level flight
2. Shallow bank turns

IV. POST FLIGHT CRITIQUE AND PREVIEW OF NEXT LESSON

COMPLETION STANDARDS: The student shall, with assistance, conduct a preflight inspection, use checklists, maintain altitude within 300 feet in straight and level flight and during turns, control heading within 20 degrees, and display an understanding for the importance of ground safety.

PRIVATE PILOT STAGE 2

Student: _____ Stage Check Instructor: _____

Instructor: _____ Date: _____

Ground:

Student:

- _____ SFAR Endorsement
- _____ Solo Endorsements
- _____ Written Exam
- _____ Medical (Currency / Duration)
- _____ Meet hour requirements
- _____ Approved solo maneuvers / documents required for solo

Preflight:

- _____ Documents required in aircraft
- _____ Weight and balance
- _____ PIC responsibilities
- _____ Inspections
- _____ Policies and procedures (weather, taxi, hobbs, etc)
- _____ Airport / Practice area procedures
- _____ Cross Country Planning

Aerodynamics Review:

- _____ Rotor Systems
- _____ LTE
- _____ Settling with Power
- _____ Dynamic Rollover
- _____ Retreating Blade Stall
- _____ Low G (recognition and recovery)
- _____ Low RPM (recognition and recovery)

Aircraft Performance Review:

- _____ Density Altitude
- _____ OGE/IGE hover ceiling charts
- _____ Height Velocity Diagram
- _____ Calculate MCP & limit manifold
- _____ Vne calculation
- _____ Airspeed calibration curve
- _____ Fuel Requirements for cross country

Helicopter Specific Review:

- _____ Mandatory operating components

Ground cont.

- _____ Engine / Rotor Limitations
- _____ Cylinder temps
- _____ Oil (pressure and temp)
- _____ Magneto
- _____ Harmonic resonance

Emergency Procedures Review:

- _____ Warning / Caution light
- _____ Mechanical fire (start up and flight)
- _____ Electrical fire
- _____ Tach Failure
- _____ Engine Failure (hover and flight)
- _____ Tail Rotor Failure (hover and flight)
- _____ Loss of communication

Regulations Review:

- _____ Right of way
- _____ Weather minimums
- _____ Safe Altitudes
- _____ Careless and reckless operation
- _____ Alcohol

Flight Evaluation:

Preflight:

- _____ Aircraft documents and required certificates
- _____ Inspection
- _____ Cockpit management
- _____ Starting and rotor system engagement
- _____ Pre-takeoff checks
- _____ Flight planner and charts

Airport Ops:

- _____ Communication
- _____ Letter of Agreement
- _____ Traffic patterns
- _____ Airport markings
- _____ Unfamiliar airport ops

Hover / Hover maneuvers:

- _____ Vertical takeoff and landings
- _____ Rearward, sideward and forward
- _____ Turns

Flight Evaluation cont:

- _____ Hover Taxi
- _____ Air Taxi

Pilot Skills:

- _____ Clearing turns
- _____ Normal and crosswind takeoff
- _____ Normal and crosswind approach
- _____ Climbs and descents
- _____ Maximum performance takeoff
- _____ Steep approaches
- _____ Running landing / takeoff
- _____ Turns
- _____ Straight and level
- _____ Airspeed transitions
- _____ Rapid deceleration (quick stop)
- _____ Go Around
- _____ Collision avoidance, wind shear avoidance
- _____ Cockpit management
- _____ Safe Handling Aircraft

Emergency Procedures:

- _____ Autorotation (straight in with power recovery)
- _____ Simulated Engine Failure
- _____ Power failure at hover
- _____ Low rotor recognition and recovery
- _____ Settling with power (recognition and recovery from the immanent onset)
- _____ System Failures

Post flight

- _____ Shut down
- _____ Inspection

Overall Comments

Ground:

Flight:

SAMPLE

Instrument Pilot Flight Training Syllabus

Flight Lesson 3-1

1.0 Hours Dual

.5 Pre/Post Flight

Objectives: This lesson is the student's introduction to IFR cross-country procedures with the major emphasis on planning and departure procedures. Emergency procedures are introduced to familiarize the student with the appropriate operating procedures.

CONTENT

I. PREFLIGHT

II. REVIEW

1. VOR, NDB, and ILS approaches as necessary

III. INTRODUCTION

1. IFR cross-country flight planning
2. Obtaining weather information
3. Aircraft performance, limitations, & systems related to IFR operations.
4. Filing an IFR flight plan.
5. Air traffic control clearance
6. Clearance copying
7. Clearance read-back
8. IFR departure
9. Use of SIDs
10. Use of radar
11. Voice communications
12. Canceling an IFR flight plan
13. Simulated emergency procedures
14. Loss of communications
15. Radio failure
16. Instrument failure
17. Systems failure
18. Equipment failure
19. Icing
20. Turbulence
21. Low fuel supply
22. Engine failure

IV: POST FLIGHT CRITIQUE AND PREVIEW OF NEXT LESSON

COMPLETION STANDARDS: The student should display an understanding of the procedures involved in cross-country planning, filing IFR flight plans, and obtaining IFR clearances. The student will demonstrate a sound understanding of the procedures used in the various emergency situations.

Instrument Pilot Flight Training Syllabus

Flight Lesson 3-2

1.5 Hours Dual

.5 Pre/Post Flight

Objectives: During this lesson the student will plan and conduct a short IFR cross-country flight. During the flight, the student will become familiar with IFR departure and arrival procedures.

CONTENT

I. PREFLIGHT

II. REVIEW

1. IFR cross-country flight planning
2. Obtaining weather information
3. Aircraft performance, limitation, and systems related to IFR operation.
4. Filing an IFR flight plan
5. Air traffic control clearances
6. IFR departure procedures & clearances
7. Use of SIDs
8. Use of radar
9. VOR navigation
10. Holding
11. Simulated emergency procedures
12. VOR, NDB, and ILS approaches

III. INTRODUCTION

1. Calculating ETEs & ETAs
2. Enroute course changes
3. Simulated emergency procedures
4. Use of STARs

IV: POST FLIGHT CRITIQUE AND PREVIEW OF NEXT LESSON

COMPLETION STANDARDS: At the completion of this flight, the student will be able to explain the departure and arrival procedures that may be encountered on an IFR flight. Additionally, the student will know the methods used to calculate ETAs and comply with course changes that may be issued by ATC or necessitated by enroute weather.

CFI Applicant Flight Training Syllabus

Flight Lesson 1-1

1.0 Hours Dual

.5 Pre/Post Flight

Objectives: During this lesson the student will be introduced to manipulating the aircraft from the instructor's seat. The instructor will discuss the differences of flying from the instructor's seat, CRM, and positive exchange of controls.

CONTENT

I. PREFLIGHT BRIEFING

II. INTRODUCTION

1. Preflight Inspection
2. Engine start & system check
3. Hovering
 - a. Ground reference maneuvers
 - b. Crosswind and downwind
 - c. Vertical takeoff to a hover
 - d. Landing from a hover
4. Traffic pattern departure
5. Straight and level
6. Clearing Turns
7. Shallow bank turns
8. Traffic pattern entry
9. Basic radio communications
10. Hovering
11. Collision avoidance procedures and clearing turns
12. Wake turbulence and wind shear avoidance
13. Positive exchange of controls
14. Parallax from instructor's seat
15. Engine shutdown

III. POST FLIGHT CRITIQUE AND PREVIEW OF NEXT LESSON

COMPLETION STANDARDS: The applicant should have an understanding of flying from the instructor's seat. All maneuvers must be completed to Commercial Pilot Standards.

CFI Applicant Flight Training Syllabus

Flight Lesson 1-2

1.0 Hours Dual

.5 Pre/Post Flight

Objectives: During this lesson the student will be introduced to manipulating the aircraft from the instructor's seat. The instructor will discuss the differences of flying from the instructor's seat, CRM, and positive exchange of controls.

CONTENT

I. PREFLIGHT BRIEFING

II. REVIEW

1. Preflight Inspection
2. Engine start & system check
3. Hovering
 - a. Ground reference maneuvers
 - b. Crosswind and downwind
 - c. Vertical takeoff to a hover
 - d. Landing from a hover
4. Traffic pattern departure
5. Straight and level
6. Clearing Turns
7. Shallow bank turns
8. Traffic pattern entry
9. Basic radio communications
10. Hovering
11. Collision avoidance procedures and clearing turns
12. Wake turbulence and wind shear avoidance
13. Positive exchange of controls
14. Parallax from instructor's seat
15. Engine shutdown

III. INTRODUCTION

1. Running landings / takeoff
2. Go around
3. Maximum performance takeoff
4. Steep approaches
5. Hover autorotation

IV. POST FLIGHT CRITIQUE AND PREVIEW OF NEXT LESSON

COMPLETION STANDARDS: The applicant should have an understanding of flying from the instructor's seat. All maneuvers must be completed to Commercial Pilot Standards.

Lesson: Straight & Level

Objective: To maintain the aircraft at a constant altitude, heading & airspeed

Content: Attitude and pitch are controlled with the cyclic which is the main control for this maneuver. The pilot should use a fixed point in the cockpit such as the compass and reference it with the horizon to maintain level attitude. Air speed is determined by the aircraft attitude and controlled by the cyclic. Normal cruise speed for training is 75 kias. Altitude is controlled primarily by the collective. As the collective is raised more left pedal will be required to maintain the aircraft in trim. As the collective is lowered more right pedal will be required to maintain the aircraft in trim. As the collective is raised the nose of the aircraft will tend to rise therefore more forward cyclic will be required & opposite when lowering the collective.

Schedule: Preflight Discussion – 10 minutes

Instructor Demonstration – 10 minutes

Student Practice – 50 minutes

Post flight Critique – 10 minutes

Equipment: Writing board or notebook for preflight discussion

Instructors Actions: Preflight – discuss lesson objective

In-flight – Demonstrate straight & level flight by using compass on the horizon to maintain aircraft attitude, airspeed & altitude.

Post flight – Critique student performance and discuss maneuver for next flight

Student Actions: Preflight – Discuss lesson objective and resolve questions

In-flight – Practice straight & level flight as demonstrated by instructor

Post flight – Ask pertinent questions

Performance Standards:

	<u>Private Pilot</u>	<u>Commercial Pilot</u>
Airspeed	+/- 10 kias	+/- 5 kias
Altitude	+/- 100 feet	+/- 50 feet
Heading	+/- 10 degrees	+/- 5 degrees
RPM	+/- 2%	+/- 2%

Common Errors: Failure to properly trim the helicopter

Incorrect control inputs (cyclic, collective, pedals)

Failure to maintain desired airspeed

Failure to hold proper control position to maintain desired ground track

Safety Considerations: Positive exchange of controls

Guard controls for improper student input

Maintain awareness of surrounding environment

Lesson: Low Rotor RPM (recognition & Recovery)

Objective: To become thoroughly familiar with the recognition of low rotor RPM and the proper technique of recovery.

Content: During cruise flight the instructor will announce the maneuver. The student will turn off the governor. The instructor will slowly begin to decrease the throttle simultaneously increasing a small amount of collective to keep the aircraft from descending. The instructor will decrease the throttle to no more than 95%. Low rotor RPM will be recognized by a noticeable decrease in engine noise, a slight vibration and cyclic stick shake at higher airspeeds and the activation of the low rotor RPM warning horn and light. Once a low RPM situation has been established, simultaneously roll on throttle, reduce collective and apply gentle aft cyclic. Once RPM has been re-established in the green, increase collective, apply forward cyclic and resume normal cruise flight. This maneuver is practiced the same way in a hover except that no aft cyclic is applied.

Schedule: Preflight Discussion – 10 minutes
Instructor Demonstration – 10 minutes
Student Practice – 50 minutes
Post flight Critique – 10 minutes

Equipment: Writing board or notebook for preflight discussion

Instructors Actions: Preflight – discuss lesson objective
In-flight – Demonstrate Low Rotor RPM by using compass on the horizon to maintain aircraft heading & attitude
Post flight – Critique student performance and discuss maneuver for next flight

Student Actions: Preflight – Discuss lesson objective and resolve questions
In-flight – Practice Low Rotor RPM as demonstrated by instructor
Post flight – Ask pertinent questions

Performance Standards: The pilot should be able to recognize and recover prior to reaching 95%

	<u>Private Pilot</u>	<u>Commercial Pilot</u>
Heading	+/- 10 degrees	+/- 5 degrees
Altitude	+/- 100 feet	+/- 50 feet

Common Errors: Failure to recognize conditions that are conducive to the development of low RPM
Failure to detect the development of low RPM and to initiate prompt corrective action
Improper use of controls during recovery

Safety Considerations: Positive exchange of controls
Guard controls for improper student input
Be aware of the direction of throttle movement