

Take Flight San Diego

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Private Pilot Syllabus

For

Required Materials and Supplies Checklist

- Flight Training Apps Video www.flighttrainingapps.com for PC or Mac or App Store for iPad or iPhone
- ASA Attaché Flight Bag
- Headset
- Viban Foggles or ASA overcasters (glasses)
- ASA Airmen Certification Standards
- ASA Private Oral Exam Guide
- ASA Standard Logbook
- ASA E6B
- ASA Rotating wheel plotter
- ASA FAR/AIM
- FAA Pilots Handbook of Aeronautical Knowledge
- FAA Airplane Flying Handbook
- LA Terminal, SD Terminal, LA Sectional
- Flashlight with Red and white lens
- POH for your airplane
- Chart Supplement

NB Be sure to ask for on-line pricing to get the above prices at Marv Golden Pilot Supplies www.marvgolden.com

Stage 1 Pre-Solo

LESSON 1 – Climbs, Descents, Turns, Straight & Level

Pre Flight

- 1) Pre-flight procedure
- 2) Cockpit familiarization/instruments
- 3) AROW
- 4) Positive exchange of controls
- 5) Review today's lesson

Flight

- 1) Normal takeoff and climb
- 2) Level off procedure trim, power, re-trim (sight picture)
- 3) Cruise checklist + clearing turns
- 4) Turns (use of rudder)
- 5) Power is altitude pitch is airspeed principle
- 6) Climbs (sight picture) full power, trim for A/S
- 7) Descent (Power Setting) A/S
- 8) Common reporting points airborne orientation
- 9) Normal landing & landing checklist
- 10) Post landing checklist
- 11) Shut down procedure

Post Flight

- 1) Post Flight Brief
- 2) IMSAFE ADM
- 3) Pilot responsibility for airworthiness
- 4) Review Pilot Supplies Checklist
- 5) Citizenship verification (copy of documents)
- 6) Logbook citizenship endorsement (student & instructor)
- 7) Register for IACRA

LESSON 1 – Continued

Homework for Next Flight

Read AFH chapters on basic 4

Begin reading POH especially takeoff, stall, and landing speeds

Handouts

San Diego com frequencies

Class D communications cheat sheet

Flight Training Magazine subscription card

Recommended Websites

www.aopa.org

www.faasafety.gov

www.aopa.org/asf/online_courses 28 free courses

www.airnav.com

http://www.takeflightsandiego.com (downloads)

Next Lesson

Review AFH for basic 4 + climbing turns/descending turns

LESSON 2 – Climbing Turns & Descending Turns

Pre Flight

- 1) Student does pre-flight/instructor watches
- 2) Antennas and parts of the airplane
- 3) Review of cockpit instruments
- 4) Assignment questions and knowledge gained
- 5) Questions about last lesson
- 6) Review today's lesson

<u>Flight</u>

- 1) Demo turn coordinator operation on taxi
- 2) Proper aileron control on taxi
- 3) Brief engine failure before V_R , & <1,000' & >1,000'
- 4) Full expected RPM on takeoff
- 5) Review Basic 4
- 6) Collision-avoidance procedures
- 7) Constant airspeed climbs/descents (rudder use)
- 8) Climbing and descending turns
- 9) Normal landing (student to low approach)

Post Flight

- 1) Post Flight Brief
- 2) Antennas Handout

Next Lesson Slow flight and steep turns

Homework for Next Flight

- a) Review AFH and FTA Video for Slow Flight & Steep Turns.
- b) Research the relationship between angle of bank and stall speed

Handouts

Antenna types

LESSON 3 – Slow Flight and Steep Turns

ACS Steep Turns ALT +/- 100' A/S +/- 10 kts
Bank +/- 5° HDG +/- 10°
ACS Slow Flight ALT +/- 100' A/S +10/-0 kts
Bank +/- 10° HDG +/- 10°

Pre Flight

- 1) Assignment questions and knowledge gained
- 2) Questions about last lesson
- 3) Review today's lesson
- 4) Achieving slow flight target airspeed

Flight

- 1) Review basic 4
- 2) Record power required at 90/80/70/60/50 kts
- 3) Slow flight (Flaps) with turns & recovery
- 4) Slow flight (Clean) with turns & recovery
- 5) Steep turns both directions
- 6) Student gets ATIS and calls tower from now on
- 7) Normal landing (student to low approach)

Post Flight

Post Flight Brief

Next Lesson Departure and approach stalls

- a) Student creates power required curve
- b) Review AFH and FTA Video for Approach & Departure Stalls
- c) Read and memorize V speeds: $V_r V_x V_y V_{fe} V_{no} V_{so} V_{s1} V_a$
- d) Research the potential danger of stalls and steep turns and how stall/spin accidents can occur

LESSON 4 – Departure and Approach Stalls

ACS Power On Stalls ALT Minimum loss Recovery A/S

V_X then V_Y Bank Max 20°+/- 10° HDG +/- 10°

ACS Power Off Stalls ALT Minimum loss Recovery A/S

V_X then V_Y Bank Max 20°+/- 10° HDG +/- 10°

Pre Flight

- 1) Assignment questions and knowledge gained
- 2) Questions about last lesson
- 3) Review terminal chart to gain awareness of airspace
- 4) Review today's lesson

Flight

- 1) Review slow flight and steep turns
- 2) Departure Stalls (various configurations)
- 3) Approach Stall (various configurations)
- 4) Turning stalls (various configurations)
- 5) Normal landing (student lands)

Post Flight

- 1) Post Flight Brief
- 2) Discuss ACS standards, endorsements, and aeronautical experience charts
- 3) What is the stall speed at a 60° angle of bank?

Next Lesson

Ground Reference Maneuvers

Homework for Next Flight

- a) Review AFH and FTA Video for Rectangular Course, S-Turns, and Turns Around a Point
- b) Prepare a flight plan to Dirt Strip (5 miles north of RNM) as well as altitude, and entry procedure) for all ground reference maneuvers

Handouts

- 1) Endorsements and aeronautical experience charts
- 2) Airplane configuration chart
- 3) ACS Quick Reference Guide

LESSON 5 - Ground Reference Maneuvers

ACS Ground Reference Maneuvers

ALT +/- 100' between 600-1,000' AGL

A/S + 10/-10 kts

45° entry required for rectangular course, &

recommended for the other two

Apply wind drift correction to maintain constant

ground track or radius as appropriate

Division of attention inside and outside

Pre Flight

- 1) Assignment questions and knowledge gained
- 2) Questions about last lesson
- 3) Review student plan for ground reference maneuvers

Flight

- 1) Review slow flight, stalls, steep turns
- 2) Turns around a point, rectangular course, s-turns
- 3) Normal landing

Post Flight

Post Flight Brief

Next Lesson Emergency Procedures

- a) Review AFH and FTA Video for Emergency Approach & Landing and plan flight to the Dirt Strip
- b) What scenarios can you imagine that would require the use of emergency procedures?

LESSON 6 – Emergency Procedures

Pre Flight

- 1) Assignment questions and knowledge gained
- 2) Questions about last lesson
- 3) Review lesson including high key and low key positions

Flight

Practice the ABC emergency procedure

Airspeed Best Glide

Best Place Best Landing Area

Cockpit Checks Restart Checklist & Communicate

Flow then Checklist Mixture

Fuel source Carb Heat Fuel pump Magnetos Primer locked

Communicate Transponder (7700) Radio (tower/approach/121.5)

Flow then Checklist **Emergency Landing Checklist**

Fly to high/low key position (wind)

Doors open

Mixture Cutoff/ Fuel off

Magnetos off

Master switch off (After Flaps)

Post Flight

- 1) Post Flight Brief
- 2) How far at best glide can the airplane glide?

Next Lesson Emergency Descent

- a) Review AFH and FTA Video for Emergency Descent
- b) Situations requiring an emergency descent

LESSON 7 – Emergency Descent

ACS Establish appropriate airspeed & configuration Maintain positive load factor during descent Completes maneuver when stabilized

Pre Flight

- 1) Assignment questions and knowledge gained
- 2) Questions about last lesson
- 3) Review lesson including high key and low key positions

Flight

- 1) Recognize simulated situation requiring emergency descent
- 2) Complete appropriate checklist
- 3) Power to idle
- 4) Establish 30°- 45° angle of bank
- 5) Maintain appropriate airspeed
- 6) Clear traffic during descent
- 7) Terminate maneuver when stabilized

Post Flight

- 1) Post Flight Brief
- 2) Situations requiring an emergency descent

Next Lesson Traffic Pattern

- a) Read chapters on traffic pattern, pattern altitude, and pattern entry
- b) Plan flight to Ramona (RNM) including flight plan, com frequencies, pattern altitude, and Chart Supplement information.

LESSON 8 - Traffic Pattern, Normal Landing & Go-Around

ACS Normal Landing A/S +10/-5 kts Lands within 400' of specified point

ACS Go-Arounds A/S V_Y+10/-5 kts in climb Timely decision to go-around Retracts flaps as appropriate Maintains wind drift correction in climb

Pre Flight

- 1) Assignment questions and knowledge gained
- 2) Review pattern elements (downwind, base, final)
- 3) Review student flight plan and pattern entry
- 4) Review need for ATIS, radio calls, traffic avoidance

Flight

- 1) Fly pattern several times with landings
- 2) Go-around at RNM (1/3 runway rule)

Post Flight

Post Flight Brief

Next Lesson

Short Field T.O./Landing

Homework for Next Flight

- a) Plan flight to Brown Field (SDM) for short field T.O./Landing
- b) Review procedures for return flight through VFR corridor
- c) Review AFH and FTA Video for Short Field T.O./Landing, Side and Forward Slips, X-Wind Landings

Handouts

- 1) Traffic pattern (Noise Abatement)
- 2) Operations at Towered & Non-Towered Airports

LESSON 9 – Short Field Takeoffs & Landings, Slips, X-Wind T.O./Landings

ACS Short Field T.O. A/S V_X+10/-5 kts then V_Y +10/-5 kts
Short Field Landing A/S +10/-5 kts **Distance** 200'
Forward Slip Begin slip at a point from which a landing can be made within 400' of specified point

Pre Flight

- 1) Assignment questions and knowledge gained
- 2) Short field T.O./Landings when to use short field technique
- 3) Short field landing (aiming point/touch down point)
- 4) Forward slips (add 10 kts during slip)
- 5) Tail wind effect (add 50%/10 knots, 100% 20 knots)
- 6) X-Wind T.O./Landings if wind permits

Flight

- 1) Flight to SDM for short field T.O./Landings
- 2) Return flight through VFR corridor

Post Flight

Post Flight Brief

Next Lesson

Soft field take offs and landings

Homework for Next Flight

- a) Review AFH and FTA Video for Soft Field Landings, Wake Turbulence Avoidance, and Wind Shear Techniques.
- b) Read about stall/spin accidents
- c) Plan flight to practice soft field takeoffs and landings at RNM

Handouts

Pre-solo questionnaire

LESSON 10 – Soft Field Takeoffs & Landings

ACS **Takeoff A/S** +10/-5 kts with Vx or Vy as appropriate **Landing A/S** +10/-5 kts touching down softly on mains first **Distance** No landing distance on soft field

Pre Flight

- 1) Assignment questions and knowledge gained
- 2) When to use soft field T.O./landing technique
- 3) Soft field landing
- 4) Wind shear management & wake turbulence avoidance
- 5) Stall spin accidents

Flight

Flight to RNM for soft field T.O/Landings

Post Flight

Post Flight Brief

Next Lesson

Night T.O./Landings at home field

Homework for Next Flight

- a) Read night vision in PHAK
- b) Read Chapter 10 in AFH
- c) Read night flying article at AOPA

https://www.aopa.org/training-and-

safety/students/crosscountry/skills/night-flying

LESSON 11 – Night Takeoffs & Landings

Pre Flight

- 1) Meet 1 hour before flight to review pre-solo questionnaire
- 2) Endorse logbook for pre-solo questionnaire
- 3) Assignment questions and knowledge gained
- 4) Equipment required for night flight
- 5) Pilot currency required for night flight

Flight

- 1) Minimum 8 T.O./Landings to full stop at home field
- 2) Try one landing with no landing light

Post Flight

- 1) Post Flight Brief
- 2) Review requirement to look up runway light frequency in Chart Supplement

Next Lesson

T.O./Landing practice in preparation for solo

Homework for Next Flight

Plan flight to RNM for takeoff and landing practice

LESSON 12 - T.O./Landing Practice Before Solo

Pre Flight

Questions on takeoffs and landings

Flight

- 1) Practice T.O./landings until ready to solo student
- 2) Endorse certificate for solo flight
- 3) Endorse logbook for solo flight (initial solo endorsement)
- 4) Three T.O./Landings to full stop with taxi back

Post Flight

- 1) Post Flight Brief
- 2) Photo of student after solo
- 3) Write solo limitations in logbook

Next Lesson

2nd supervised solo (next day if possible)

LESSON 13 - 2nd Supervised Solo

Pre Flight

Questions on takeoffs and landings

Flight

- 1) Practice T.O./Landings with student
- 2) Student again does 3 T.O./Landings

Post Flight

- 1) Post Flight Brief
- 2) Present student with framed certificate
- 3) Review following practice & restrictions during 4 hour solo time
 - Should take 4 flights.
 - Format of ½ hr landings, ½ hr maneuvers
 - Permitted maneuvers: Steep turns, ground reference maneuvers, visit all private airports
 - Normal, short, soft takeoffs
 - Normal, short, soft landings
 - Go-Arounds
 - Full stop landings only
 - Announce on 122.75
 - Go-around if unable to land on 1st 1/3 of runway
 - Must call instructor before and after solo
 - 4) Do <25 mile logbook endorsement
 - 5) Student schedules Lesson #13 after Completion of Solo Time

Stage 2 Cross Country

LESSON 14 – SIM Session: BAI Flying, VOR Orientation, X-C Planning to HMT

ACS Climbs, Descents, Straight & Level ALT +/- 200'

A/S +/- 10 kts HDG +/- 20°

ACS Turns to Headings ALT +/- 200'A/S +/- 10 kts HDG +/- 10°

on rollout

ACS Navigation Locates position, intercept radial or course

ALT +/- 200' HDG +/-15° Recognizes station passage

BAI Instrument Flying Using Simulator

- 1) Climb (power setting, pitch approx. 5°)
- 2) Descent (power setting, pitch approx. 4°)
- 3) Turns (set on AI, continue on turn co-ord)
- 4) Straight & Level (DG for bank, altimeter for altitude)
- 5) Level off procedure from climb and descent
- 6) Practice climbs, descents, turns to a heading, climbing turns, descending turns. Vertical S's
- 7) Unusual attitude recovery (fast and slow)

VOR Orientation

- 1) Find position using FROM & Intercepting radials
- 2) Practice on www.fergworld.com/training

X-C Planning for HMT

Standard briefing call

Complete nav log

Use of Chart Supplement, navigation charts, performance charts Completion of VFR Flight Plan

How to conduct a divert

Handouts

- 1) Nav Log
- 2) Determining Pressure/Density Altitude

LESSON 15 – Dual X-C Flight #1 Hemet (HMT)

Pre Flight

- 1) Assignment questions and knowledge gained
- 2) Discussion of lost strategies (radio & VOR)
- 3) Review need for AWOS, radio calls, traffic avoidance
- 4) Standard briefing and file flight plan

Flight

- 1) Dead reckoning to HMT and SEE
- 2) Mixture control procedures
- 3) Simulated engine failure enroute
- 4) Divert enroute
- 5) Hood time .5 hrs

Post Flight

- 1) Post Flight Brief
- 2) Endorse certificate for solo X-C privileges
- 3) Endorse logbook (with limitations) for solo X-C privileges

Next Lesson

Solo X-C Flight to Hemet (HMT)

Homework for Next Flight

Get standard briefing, complete nav log for HMT and return to SEE, flight plan, weight and balance calculations, takeoff distances required, pattern altitude entry options depending on active runways, runway lengths, com and nav frequencies, other Chart Supplement information necessary for flight safety. Perform the above for both legs.

LESSON 16 - Solo X-C #1 (HMT)

Pre Flight

Check student preparation on the following:

- 1) Weather briefing
- 2) Nav logs both ways
- 3) Weight & balance
- 4) Flight plans both ways
- 5) Nav, com frequencies and pattern entry and altitude
- 6) Runway lengths and takeoff distances
- 7) Chart Supplement information
- 8) Endorse logbook for this specific flight
- 9) Discuss lost strategies

Flight

Dead reckoning to HMT and back to SEE

Post Flight

Phone me after with report on flight

Next Lesson

Dual X-C to Imperial (RIV)

Homework for Next Flight

Get standard briefing, complete dead reckoning nav log to RIV and return, flight plan, weight and balance calculations, takeoff distances required, pattern altitude entry options depending on active runways, runway lengths, com and nav frequencies, other Chart Supplement information necessary for flight safety. Perform the above for both legs.

LESSON 17 – Dual X-C Flight #2 RIV

Pre Flight

- 1) Assignment questions and knowledge gained
- 2) All elements of flight planning assignment

Flight

Dead reckoning to RIV and return to SEE Hood time 1 hr Simulated engine failure enroute Divert enroute

Post Flight

Post Flight Brief

Next Lesson

Solo X-C to RIV

Homework for Next Flight

Get standard briefing, complete dead reckoning nav log for RIV and return, flight plan, weight and balance calculations, takeoff distances required, pattern altitude entry options depending on active runways, runway lengths, com and nav frequencies, other Chart Supplement information necessary for flight safety. Perform the above for both legs.

LESSON 18 - Solo X-C #2 (RIV)

Pre Flight

Check student preparation on the following:

- 1) Weather briefing
- 2) Nav logs both ways
- 3) Weight & balance
- 4) Flight plans both ways
- 5) Nav, com frequencies and pattern entry and altitude
- 6) Runway lengths and takeoff distances
- 7) Chart Supplement information
- 8) Endorse logbook for this specific flight

Flight

Dead reckoning to RIV and return to SEE

Post Flight

Phone me after with report on flight

Next Lesson

Dual Long X-C to TRM (Palm Springs) to F70 (French Valley) back to SEE

Homework for Next Flight

Get standard briefing, then complete the following for all three legs: Integrated dead reckoning nav log, flight plan, weight and balance calculations, takeoff distances required, pattern altitude entry options depending on active runways, runway lengths, com and nav frequencies, other Chart Supplement information necessary for flight safety.

LESSON 19 – Dual Long X-C (TRM-F70)

Pre Flight

- 1) Assignment questions and knowledge gained
- 2) All elements of flight planning assignment

Flight

Integrated flight plan (VOR & dead reckoning) for all three legs Emergency procedures scenarios enroute Hood time 1 hr

Post Flight

Post Flight Brief

Next Lesson Solo Long X-C TRM-F70

Homework for Next Flight

Get standard briefing, then complete the following for all three legs: Integrated dead reckoning nav log, flight plan, weight and balance calculations, takeoff distances required, pattern altitude entry options depending on active runways, runway lengths, com and nav frequencies, other Chart Supplement information necessary for flight safety.

LESSON 20 – Long Solo X-C (TRM-F70)

Pre Flight

Check student preparation on the following:

- 1) Weather briefing
- 2) Nav logs both ways
- 3) Weight & balance
- 4) Flight Plans both ways
- 5) Nav, com frequencies and pattern entry and altitude
- 6) Runway lengths and takeoff distances
- 7) Chart Supplement information
- 9) Endorse certificate for solo X-C privileges
- 10) Endorse logbook for this specific flight
- 11) Remember to do full stop landings at all three airports

Flight

Nav Log for all three legs

Post Flight

Phone me after with report on flight

Next Lesson

Night Dual X-C to SNA

Homework for Next Flight

Get standard briefing and plan a flight to RNM then SDM and return considering airspace, pattern altitude entry, runway lengths, com and nav frequencies and other Chart Supplement information necessary for flight safety. Perform the above for both legs.

LESSON 21 – Night Dual X-C SNA

Pre Flight

- 1) Assignment questions and knowledge gained
- 2) All elements of flight planning assignment
- 3) Night required equipment and required night lights
- 4) Night pilot currency requirements

Flight

Flight to SNA using dead reckoning and VOR routing Hood time .5 hr

Post Flight

- 1) Post Flight Brief
- 2) Night illusions target altitudes important for night landing
- 3) Unicom for turning on runway lights

Next Lesson Recommendation Flights

- a) Review slow flight, approach and departure stalls, steep turns
- b) Memorize ACS standards for the above

Stage 3 Recommendation Flights

LESSON 22 – Recommendation Flight #1

Slow Flight, Departure and Approach Stalls, Steep Turns

Pre Flight

Review today's lesson

Flight

- 1) VOR orientation inbound/outbound tracking
- 2) Slow flight (Flaps) with turns & recovery
- 3) Slow flight (Clean) with turns & recovery
- 4) Departure Stalls (also turning) recovery at V_x/V_y
- 5) Approach Stalls (also turning) recovery at V_x/V_y
- 6) Steep turns

Post Flight

Post Flight Brief

Next Lesson

Review ground reference maneuvers, flight by reference to instruments, unusual attitude recovery

- a) Review rectangular course, s-turns, turns around a point
- b) Memorize ACS standards for the above
- c) Prepare a plan (location, altitude, and entry procedure) for ground reference maneuvers
- d) Review flight by reference to instruments
- e) Review unusual attitude recovery

LESSON 23 - Recommendation Flight #2

Ground Reference Maneuvers, Flight by Reference to Instruments, Unusual Attitude Recovery

Pre Flight

Review today's lesson

<u>Flight</u>

- 1) Review weak areas from last flight
- 2) Rectangular course
- 3) S-Turns
- 4) Turns around a point
- 5) Climbs, descents, straight & level, turns to headings
- 6) Unusual attitude recovery

Post Flight

- 1) Post Flight Brief
- 2) Provide map, turn diameter chart, and article "Not so Tight Turn"

Next Lesson

Turn diameter – emergency turn backs Emergency Descents & Emergency Approach & Landing Diverts VOR Tracking

- a) Review emergency procedures
- b) Review divert procedures & location of private airports
- b) Memorize ACS standards for the above

LESSON 24 – Recommendation Flight #3

Emergency Approach & Landing, Emergency Descent, VOR Tracking & Position, Divert to Private Airport

Pre Flight

Review today's lesson

Flight

- 1) Review weak areas from last flight
- 2) Practice emergency turn back at altitude (simulating 1,000')
- 3) VOR position & tracking
- 4) Compass turns to headings
- 5) Divert to private airport
- 6) Emergency Descent
- 7) Emergency Approach & Landing

Post Flight

Post Flight Brief

Next Lesson

- 1) Normal. short & soft field takeoffs and landings
- 2) Slips to a landing, X-Wind landings, go-arounds

Homework for Next Flight

- a) Review POH for normal short field/soft field T.O./landings
- b) Review normal, short, soft takeoffs & landings, slips, go-arounds
- b) Memorize ACS standards for the above

Handouts

Turn diameter table

LESSON 25 - Recommendation Flight #4

Normal, Short, Soft Field T.O./Landings, Slips to a Landing Go-arounds

Pre Flight

Review today's lesson

Flight

- 1) Review weak areas from last flight
- 2) Normal T.O./Landings
- 3) Short field T.O./landings
- 4) Soft field T.O./landings
- 5) X-Wind T.O./Landings
- 6) Slips to a landing
- 7) Go-arounds

Post Flight

Post Flight Brief

Next Lesson

Stage check with 3rd party CFI

LESSON $26 - 3^{rd}$ Party Stage Check

Feedback from 3rd party CFI

LESSON 27 – If Necessary

Flight lesson 28 may be scheduled if necessary after feedback from $3^{\rm rd}$ party stage check.

LESSON 27 – Final Ground Session

Areas to Cover 1) Preparation for the oral 2) Review "Areas of Operation" to be tested from ACS 3) Review maintenance logbooks 4) Discuss what to expect on checkride 5) Complete checklist items below
Endorsements/Requirements Logbook endorsement for citizenship or resident alien Photo taken and submitted to AFSP if applicable Review logbook & certificate endorsements Check student 90 day solo currency
Flight Test Checklist Completed IACRA application Knowledge test results Logbook with required training highlighted and marked Pilot certificate and current medical Photo ID Aircraft logbooks verifying airplane and instrument checks were performed AROW documents Cross-country nav log Flight Plan form Current sectional/terminal charts, Chart Supplement, FAR/AIM E6B (or equivalent) and plotter View Limiting Device Examiner's fee

Hand out Aviation Rules of Thumb and Discuss use of ASRS

Part 61 Requirements

Eligibility Requirements (14 CFR §61.103)
Be at least 17 years of age
Able to read, speak, write, and understand English
Received/logged ground training or home study course
Receive/logged flight training per §61.107
Knowledge test passed within 24 calendar months
Valid Medical (1 st ,2 nd ,3 rd) or Basic Med Documents
Experience Requirements (14 CFR §61.109)
40 hours flight time including at least:
20 hours dual
3 hours X-C dual
3 hours night dual including:
1 X-C flight of over 100 nm total distance
10 night takeoffs and landings to a full stop with each landing
involving a flight in the traffic pattern
3 hours dual instrument flight including straight & level, constant
airspeed climbs and descents, turns to a heading, unusual attitude
recovery, radio communication & navigation systems for
instrument flight
10 hours solo flight time including:
5 hours X-C solo
150 nm solo flight with one segment at least 50 nm with
full stop landings at a minimum of three different airports
Three takeoffs and three full stop landings at an airport
with a control tower with each landing involving a flight
in the traffic pattern
3 hours dual within 2 months of the practical test