UNIVERSITY of DUBUQUE

COMMERCIAL PILOT CERTIFICATION
TRAINING COURSE OUTLINE

UNIVERSITY of DUBUQUE

This is to certify that

_____

is enrolled in the FAA approved

COMMERCIAL PILOT CERTIFICATION COURSE

conducted at the University of Dubuque

School #GV8S178Q

_____

Enrollment Date

_____ _____

Primary Flight Instructor Chief Flight Instructor

COMMERCIAL PILOT CERTIFICATION COURSE

STUDENT FLIGHT RECORD

University of Dubuque / 2000 University Ave / Dubuque, IA 52001

AIR AGENCY CERTIFICATE NO. GV8S178Q

FTN #

Pilot's Legal Name _____ SODA

Pilot's Official Signature _____

SSN _____ Date of Birth _____

Citizenship

I certify that _____ has presented to me a _____ (Certified Birth Certificate or U.S. Passport), establishing that _____(he or she) is a U.S. citizen or national in accordance with 49 CFR 1552.3 (h).

Instructor _____ Date _____

Certificate No. _____ Expires _____

Permanent Address

Street _____

City, State, Zip _____

Phone

Home _____ Cell _____

Date of Enrollment _____ Date Completed _____

Medical Certificate Class _____ Date Issued _____ Expires _____

Private Pilot Certificate No. _____ Date Issued _____

Last Flight Review Date _____ / _____ / _____

Complex Endorsement Date _____ Instructor _____

HP Endorsement Date _____ Instructor _____

Graduation Record

FAA Knowledge Test Date _____ Score _____

End-of-course graduation Date _____ Result _____

End-of-course Examiner _____

Records certified complete and accurate:

Name _____ Date _____

Title _____

PREVIOUS EXPERIENCE

DUAL _ _ _ _ _ _ _ _ _ _ _ _ _ SOLO _ _ _ _ _ _ _ _ _ _ _ _ _ _

X-C SOLO _ _ _ _ _ _ _ _ _ _ _ _ X-C-PIC _ _ _ _ _ _ _ _ _ _ _ _ _

NIGHT DUAL _ _ _ _ _ _ _ _ _ _ _ _ NIGHT SOLO _ _ _ _ _ _ _ _ _ _ _ _

NIGHT LANDINGS _ _ _ _ _ _ _ _ _ _ _ _ HOOD _ _ _ _ _ _ _ _ _ _ _ _ _

FLIGHT TRAINING DEVICE _ _ _ _ _ _ _ _ _ _ _ _ ACTUAL IFR _ _ _ _ _ _ _ _ _ _ _ _ _

EVALUATION

DATE _____

FLIGHT / ORAL BY _____ TITLE _____

CREDIT GIVEN

GROUND HOURS: Part 141 _____ Part 61 _____ HOURS AWARDED _____

FLIGHT HOURS: Part 141 _____ Part 61 _____ HOURS AWARDED _____

TERMINATION OF TRAINING

DATE _____

CERTIFIED BY _____ _____

CHIEF INSTRUCTOR CERTIFICATE NO.

TRANSFERRED

SCHOOL _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

TRANSFER DATE _____

AIR AGENCY NO. _____

COPY ISSUED TO STUDENT: DATE _____ BY _____

List of Effective Pages

This list of effective pages shows the standing of all pages in this syllabus with regard to their revision status. The list shows the page number, the revision number and the date of the revision.

Revised pages in this syllabus will include a change bar (|) on the side of the page where changes have been made.

The Revision Process

1. Revise the pages in question.
2. Make two copies of the revised pages.
3. Correct this "List of Effective Pages" to reflect the revised pages.
4. Make two copies of this corrected "List of Effective Pages".
5. Send all copies to the local Flight Standards District Office for approval.
6. Insert corrected pages in all syllabus copies when approval is granted.

Page	Revision	Revision Date
1	Original	9-1-2002
2	Original	9-1-2002
3	Revision 18	9-15-2019
4	Revision 2	1-9-2012
5	Revision 19	5-13-2021
6	Revision 17	6-1-2019
7	Revision 18	9-15-2019
7a	Revision 19	5-13-2021
8	Revision 17	6-1-2019
9	Revision 18	9-15-2019
10	Revision 1	11-17-2005
11	Revision 14	6-1-2017
12	Revision 18	9-15-2019
13	Revision 18	9-15-2019
14	Revision 2	1-9-2014
15	Revision 18	9-15-2019
16	Revision 4	1-9-2014
17	Revision 18	9-15-2019
18	Revision 3	1-9-2014
19	Revision 18	9-15-2019
20	Revision 3	6-6-2012
21	Revision 18	9-15-2019
22	Revision 2	1-9-2014
23	Revision 18	9-15-2019
24	Revision 16	6-1-2018
25	Revision 18	9-15-2019
26	Revision 3	6-6-2012
27	Revision 18	9-15-2019
28	Revision 2	1-9-2014
29	Revision 18	9-15-2019
30	Revision 2	1-9-2014
31	Revision 18	9-15-2019
32	Revision 18	9-15-2019
33	Revision 18	9-15-2019
34	Revision 18	9-15-2019
35	Revision 2	8-10-2009
36	Revision 18	9-15-2019
37	Revision 18	9-15-2019
38	Revision 18	9-15-2019
39	Revision 18	9-15-2019
40	Revision 1	11-17-2005
41	Revision 16	6-1-2018
42	Revision 2	1-9-2012
43	Revision 1	11-17-2005
44	Revision 18	9-15-2019
45	Revision 18	9-15-2019
46	Revision 18	9-15-2019
47	Revision 18	9-15-2019
48	Revision 13	7-20-2015
49	Revision 18	9-15-2019
50	Revision 1	11-17-2005
51	Revision 17	6-1-2019
52	Revision 16	6-1-2018
53	Revision 18	9-15-2019
54	Revision 16	6-1-2018
55	Revision 16	6-1-2018
56	Revision 18	9-15-2019
57	Revision 16	6-1-2018
58	Revision 18	9-15-2019
59	Revision 16	6-1-2018
60	Revision 18	9-15-2019
61	Revision 16	6-1-2018
62	Revision 18	9-15-2019
63	Revision 16	6-1-2018
64	Revision 18	9-15-2019
64a	Revision 14	6-1-2017
64b	Revision 14	6-1-2017
64c	Revision 14	6-1-2017
65	Revision 14	6-1-2017
66	Revision 14	6-1-2017
67	Revision 14	6-1-2017
68	Revision 1	11-17-2005
69	Revision 2	6-6-2012
70	Original	9-1-2002
71	Original	9-1-2002
72	Revision 1	6-6-2012
73	Original	9-1-2002
74	Revision 1	6-6-2012
75	Original	9-1-2002
76	Original	9-1-2002
77	Revision 1	6-6-2012
78	Original	9-1-2002
79	Original	9-1-2002
80	Revision 1	6-6-2012
81	Revision 1	6-6-2012

TRAINING COURSE OUTLINE

LOCATION

The University of Dubuque, located at 2000 University Avenue, Dubuque, Iowa, 52001, holds Air Agency Certificate No. GV8S178Q. The University of Dubuque operates its pilot training school at the Dubuque Regional Airport, Dubuque, Iowa.

COURSE TITLE

Commercial Pilot Certification Course—Airplane Single-Engine Land

This Training Course Outline meets all the curriculum requirements for the Commercial Pilot Certification Course contained in Appendix D of Title 14 Code of Federal Regulation part 141 (14 CFR part 141). This syllabus contains separate flight training and ground training sections, which can be taught concurrently or separately.

COURSE OBJECTIVE

Students will gain the knowledge, skill and aeronautical experience necessary to meet the requirements for a Commercial Pilot Certificate; Airplane Single-Engine Land.

COURSE COMPLETION STANDARDS

To meet the course completion standards, students must demonstrate through knowledge, oral, flight tests, and appropriate records, that they meet the knowledge, skill and experience requirements necessary to acquire a Commercial Pilot Certificate, airplane category, single-engine land class rating. Students must complete the Instrument Rating prior to completing the Commercial Pilot Certification course.

MAIN OPERATIONS BASE

The Dubuque Regional Airport is the main operations base for training in this course. The airport has hard-surface runways and meets the requirements of 14 CFR 141.38 for day and night operations. Fuel services and maintenance services are available weekdays during normal working hours. Weekend and after hours fuel and maintenance are available on request.

MAIN OPERATIONS FACILITY

The school's primary flight facility is the Babka Flight Center, 10656 Airport Road, located at the Dubuque Regional Airport, Dubuque, Iowa 52003. This building conforms to the requirements of 14 CFR 141.43 for briefing areas and 14 CFR 141.45 for ground training facilities. This permanent structure has 10 briefing areas of at least 6' by 7' and 14 additional office/training rooms with a maximum number of two students per area. Each briefing/training room will have communications capabilities for contacting a Flight Service Station. The building has Wi Fi capabilities for students and instructors to access weather and flight planning applications online.

GROUND INSTRUCTIONAL FACILITIES

The primary ground instructional facilities are in the Babka Flight Center, located at the Dubuque Regional Airport, Dubuque, Iowa 52003. This facility has three classrooms with a capacity of 24 students in each. The building and rooms are heated, lighted, and ventilated to conform to local building, sanitation, and health codes.

Based on enrollment and class formats, ground schools may also be conducted on the main campus of the University of Dubuque located at 2000 University Avenue, Dubuque, Iowa 52001. The University of Dubuque is accredited by the North Central Association of the Council for Higher Education. The University's classrooms meet the requirements of the Association and conform to local building, sanitation and health codes. Campus classrooms and computer labs are available in the Myers Library, Blades Hall, Alumni Hall, Dunlap Technology Center, MTAC, Mercer-Birmingham, and the University Science Center. Classrooms range in size from 142 seats in the Dunlap Technology Center to 6 seats in the Myers library.

GROUND INSTRUCTIONAL EQUIPMENT / TRAINING AIDS

Training aids and equipment used may include the following: Whiteboards, televisions, podium, LCD/Overhead projector with screen, laptop and/or desktop and/or tablet computers, computer/video interface units for TV/LCD projector. Other aids may include airplane models, airplane parts, instrument panel posters, aviation software, multiple aviation websites, E6B flight computer, plotter, navigation charts, Instrument Terminal Procedures, and EFB's. These aids and equipment will be kept accurate and current for the relevant course of training.

An Advanced Aviation Training device (AATD) may be used in this course as outlined in 14 CFR 141 and AC 61-136. An aircraft may be used to fulfill the instrument training requirement of those lessons if the training devices are not available or desired.

TRAINING DEVICES

The FRASCA Mentor, FRASCA RTD, Redbird SD, and an ALSIM AL250 are approved Advanced Aviation Training Devices that are available for training in accordance with their respective FAA Letter of Authorization.

AIRCRAFT

Cessna 172, Piper PA-28R and PA-44 aircraft are available for flight training.

For day, VFR, local area flights within 25 nautical miles of Dubuque regional Airport, or an approved satellite base, an airplane can be dispatched when it meets the requirements of 14 CFR 91.205 (a) (b) and has a serviceable communications radio.

For night, VFR, local area flight within 25 nautical miles of Dubuque Regional Airport or an approved satellite base, an airplane can be dispatched when it meets the requirements of 14 CFR 91.205 (a) (c), and has a serviceable communications radio, and a serviceable landing light.

For flights outside the local area, the airplane must meet the above requirements and also be equipped with at least one serviceable VOR navigational receiver or one panel mounted GPS receiver.

For IFR flights, the airplane must meet the above requirements for night VFR and the requirements of 14 CFR 91.205 (a) (d).

CHIEF AND ASSISTANT CHIEF INSTRUCTORS

The Chief Flight Instructor for the Commercial Pilot Airplane Certification Course is Ms. Suzanne Peterson certificate #2801778.

The Chief Ground Instructor for the Commercial Pilot Airplane Certification Course is Ms. Polly Kadolph certificate #3689827.

The following persons have been authorized as Assistant Chief Flight Instructors for the Commercial Pilot Course: Mr. Michael J. Glynn certificate #2883378, Mr. Robert Anthony (Tony) Foster certificate #3213651, Mr. Kyle F. Jones certificate #3755779, Mr. Jack D. Erickson certificate #3891398, and Mr. Ching-Kuan Su certificate #3540078.

PERSONNEL

The Chief Instructor for the Commercial Pilot Certification Course meets the requirements for Chief Instructor as listed in the 14 CFR 141.35 and has been approved by the local FAA Flight Standards District Office.

Flight Instructors will have a current Certified Flight Instructor, Airplane Single Engine Land—Instrument. All Flight Instructors will receive standardization training prior to teaching in this course. Additionally, Flight Instructors will receive annual flight standardization training. If a flight is conducted in the PA-44, the Flight Instructor conducting the dual flight will hold a current Multi-engine Flight Instructor rating and be standardized in the aircraft.

When course enrollments and individual availabilities warrant such appointments, the University of Dubuque will request the appointment of other key personnel such as; Assistant Chief Instructors, Check Instructors and Chief Ground Instructors. All requested appointees will meet the requirements of the appropriate sections of 14 CFR 141.35, Subpart B.

ENROLLMENT PREREQUISITES

Students must be able to write, read, speak, and understand the English language and possess a Private Pilot Certificate and at least a 3rd class medical certificate prior to enrolling in the flight portion of the Commercial Pilot Certification Course. The student must hold an instrument rating or be concurrently enrolled in an instrument rating airplane course and pass the required instrument rating practical test prior to completing the commercial pilot certification course.

ENROLLMENT PROCEDURE

Students will be required to show a certified birth certificate or a US passport establishing U.S. citizenship or nationality in accordance with 49 CFR 1552.3 (h). A copy of the proof of citizenship or nationality will be kept on file in the student's TCO. Alien flight students must apply online and be granted approval from TSA to begin flight training.

Upon enrollment in the flight portion of the training syllabus students will be issued a Certificate of Enrollment showing the date of enrollment and the course entered. Students will also receive a copy of the approved training syllabus. Students may enter the ground portion of the syllabus prior to or during the flight portion. Enrollment certificates and syllabi will be retained at UD Flight Operations at all times unless otherwise directed by the Chief Instructor. Students will have access to a copy of the University of Dubuque Student Flight Operations Manual which outlines the school's operational and safety procedures.

CREDIT FOR PREVIOUS 14 CFR 141 PILOT TRAINING

Flight credit may be transferred from other certificated schools to the University of Dubuque's flight program based on an oral test, flight check, written test, or any combination thereof. Students must arrange for the transmittal of flight records from the previous school to the University of Dubuque. The University will determine the amount of credit to be transferred. Credit will be entered in the student's training record along with the documents and tests on which the acceptance is based. The maximum credit given may be up to 50% of the University's approved curriculum requirements.

CREDIT FOR PREVIOUS 14 CFR 61 PILOT TRAINING

Flight credit may be transferred from 14 CFR 61 schools to the University of Dubuque's flight program based on an oral test, flight check, written test or any combination thereof. Students should submit a record of previous training from the school where it was received. The University will determine the amount of credit to be transferred. Credit will be entered in the student's training record along with the documents and tests on which the acceptance is based. The maximum credit given may be up to 25% of the University's approved curriculum requirements.

GRADING SYSTEM FOR FLIGHT TRAINING

GRADE STANDARD

3……..…...Meets Commercial Airman Certification Standards

2……..…...Meets Lesson Standards

1……..…...Needs Additional Training

D……..…...Demonstration

S……..…...Solo Flight

The above grading standard will be used to evaluate student performance. Grades will be entered on each lesson page. At the completion of each stage of training the students will be examined orally and by flight evaluation. Upon successful completion of the evaluation the student will proceed to the next stage of flight training.

AIRPORTS USED

Airports selected for cross-country use by a commercial student must be approved by a University flight instructor, considering the following:

1. 3000 ' recommended minimum runway length
2. Availability of 100LL aviation gasoline

Instructors must ensure that all airports used meet the requirements of Title 14 CFR Part 141.38 (b) (c) (d) (e) and (f).

MINIMUM COMMERCIAL PILOT FLIGHT TRAINING

	Dual	Solo/PIC	Night	Instrument or AATD*
STAGE 1 Cross-country	31	50	7	24
STAGE 2 Complex	11	0	0	1
STAGE 3 Maneuvers	13	15	0	0
TOTALS	**55**	**65**	**7**	**25**
TOTAL TCO	Dual Day + Dual Night + Dual AATD = 55 hours Solo Day + Solo Night + Solo/PIC X-C = 65 hours **Dual + Solo/PIC = 120 HOURS**			

*** A maximum of 24 hours of AATD may be credited towards the 120 hour total time.**

HOW TO USE THIS SYLLABUS

1. This syllabus was designed to be a reasonably complete list of the tasks required for the completion of each lesson. The list of tasks relieves the instructor of having to remember all the things that should be covered and rated in each lesson. At first, the number of tasks may seem daunting; however, they flow in a natural progression from start to finish and should cause little additional load on the instructor. Some tasks may be accompanied by italicized notes. These notes are additional memory aids for the instructor and student and check pilot.
2. At the top left of each lesson page is a block labeled "HOURS". There are three white blocks inside the black "HOURS" block. Each lesson allows for three flights or briefings. You should put the time for each flight or briefing in one of the white boxes. When a lesson is completed, that is, when every task in the lesson has a grade of "2" or better, the instructor should total up the time for the lesson and enter it at the bottom of the page in the cumulative times area.
3. Each task in a lesson has three blank lines to the left. These lines are for recording the rating of each task. Every task in a lesson must receive a rating of "2" or better before the lesson can be considered complete. If a lesson requires more than three flights or briefings to complete the lesson, the instructor will insert and use blank copies of the original lesson to record further flights or briefings, until the lesson is satisfactorily completed.
4. Lessons may require the instructor's and the student's signature, along with the date, airplane type, and airplane "N" number at the completion of each flight or briefing.
5. The cumulative times area at the bottom of each lesson is self-explanatory. It is the instructor's and the student's combined responsibility to make sure this area is accurately filled out, NOT at the conclusion of each flight or briefing, but at the conclusion of each lesson. Be sure to carry the "TOTAL" time for a finished lesson to the "PREVIOUS" time on the next lesson.
6. The "TIME" requirement at the top of each lesson is the time required for the student to stay "on track", time wise, throughout the syllabus. A lesson may be completed with somewhat less than the approximate time noted, but this time must then be made up in later lessons if the student is to finish the syllabus with the required amount of time, that is, 120 flight/FTD hours. Stage Checks have hours noted at the bottom of the cumulative time area. These hours are listed so instructors will know the approximate hours each student should have when they reach that lesson. Having more hours than required is not a problem. Having fewer hours than suggested is cause for the instructor to be aware of the situation and work to ensure that the student finishes the syllabus with the required number of hours. On reaching the last lesson, the required minimum hours are listed. If a student DOES NOT have these hours, or more, then they cannot be sent for a Rating Check. The instructor will have to continue with "review lessons" until the minimum time is met.
7. We will use the "read and do" system when doing checklists. All checklists denoted by a √, are to be read aloud by the student; and the checklist item being read, must be touched, as it is read, to confirm the item's correctness of position. This procedure instills consciousness of task and thoroughness in the student. If students do not "read and do" and touch the checklist items, they should be instructed to repeat the checklist.
8. All hold short lines are to be "called aloud" and "noted aloud" as to whether or not the airplane has permission to cross.

REVIEW LESSON PROCEDURE

During training, students may need to do additional work on lessons, or review past lessons. If an instructor needs additional lesson pages the instructor will:

- Copy a blank lesson page for the lesson concerned.
- Use the copied page to record the review or additional work.
- Write the word "Review" in a prominent place on the copied lesson page.
- Place the added lesson page(s) sequentially behind the original lesson page.

ABBREVIATIONS

acft	aircraft
ADM	Aeronautical Decision Making
ACS	Airman Certification Standards
airspd	airspeed
alt	altitude
approx	approximately
ARROW	Airworthiness, Registration, Radio license (international), Operator's manual, Weight and balance
ATC	Air Traffic Control
CG	Center of gravity
CFIT	Controlled Flight Into Terrain
Comm	communication
config	configuration
Cs	Constant speed
cx	correction
DA	Decision Altitude
DH	Decision Height
dist	distance
DME	Distance Measuring Equipment
EFC	Expect Further Clearance
equip	equipment
ETA	Estimated Time of Arrival
FAA	Federal Aviation Administration
FAF	Final Approach Fix
freq / freqs	frequency / frequencies
FSS	Flight Service Station
FTD	Flight Training Device
GPS	Global Positioning System
hdg	heading
hr	hour
IAF	Initial Approach Fix
IDs	Identifications
inop	inoperative
inst	flight solely by reference to instruments while in "Actual" or using a view limiting device
KOEL	Kinds of Operation Equipment List
LAHSO	Land and hold short operations
LR	Lead Radial
MAP	Missed Approach Point
MDA	Minimum Descent Altitude
MEL	Minimum Equipment Lis
MLC	Modified Landing Checklist
MRA	Manufacturer's Recommended Airspeed
Nav	navigation
NTSB	National Transportation Safety Board
obs	omni bearing selector
ops	operations
PMC	Pre-Maneuver checklist
pre	before
prep	preparation
PT	Procedure Turn
pwr	power
req	required
SAIB	Special Airworthiness Information Bulletins
t/ls	take-offs and landings
TACs	Terminal Area Charts
TC	True Course
VHF	Very High Frequency
VR-IR	integrated flight training using visual and instrument reference
vol	volume
VOR	Very high frequency, Omni-directional, Radio range
Vx	best angle of climb
Vy	best rate of climb
WACs	World Aeronautical Charts
xctry	cross country
xmitter	transmitter
xwind	cross wind
✔	the aircraft checklist will be used

COMMERCIAL PILOT CERTIFICATION
Training Course Outline

STAGE ONE

Cross-Country Flight Training

Lessons 1—14

31 hours (approx) of Dual flight training

which includes:

24 hours (approx) of AATD training/Instrument training

10 hours minimum of instrument flight training as per Part 141 Appendix D, 4. (b) (1) (i)

At least 5 must be in an airplane

2 hours minimum of ***day cross-country*** flight as per Part 141 Appendix D, 4. (b) (1) (iii)

2 hours minimum of ***night cross country*** flight as per Part 141 Appendix D, 4. (b) (1) (iv)

50 hours minimum of Solo* and PIC* flight training

which includes:

One solo cross-country flight (3 legs (1 leg 250 nm)) as per Part 141 Appendix D, 5. (a) (2)

5 hours of solo night VFR (10 t/ls to a full stop at an operating control tower) as per Part 141 Appendix D, 5. (a) (3)

Stage One Objectives

Students will plan and fly multiple dual, solo, and PIC cross-country flights to improve their aviation, navigation, and communication skills. Cross-country flights will be conducted VFR or IFR as regulations and conditions permit.

Stage One Completion Standards

This stage will be complete when the student meets all

lesson standards and satisfactorily performs the Stage One Check.

**Note: A student must conduct one long solo cross-country flight which is necessary to fulfill the requirements of Part 141 Appendix D, 5. (a) (2) for, "One cross-country flight, with landings at a minimum of three points, and one segment of the flight consisting of a straight line distance of at least 250 nm…". Solo means the student must be the solo occupant of the aircraft. On all other cross-country flights, students may carry other aviation students enrolled at the University of Dubuque.*

Hours		

STAGE ONE—Lesson 1 *Briefing*

CROSS-COUNTRY FLYING AND NAVIGATION

OBJECTIVE: A review of all aspects of VFR and IFR cross-country flying and navigation.

TIME: As required.

PILOT ASSESSMENT

____ ____ ____ Hypoxia, hyperventilation
____ ____ ____ Dehydration, fatigue
____ ____ ____ Alcohol, drugs, carbon monoxide
____ ____ ____ Ear/sinus, vertigo, motion sickness
____ ____ ____ Emotional, immature behavior
____ ____ ____ High altitude operations
____ ____ ____ Oxygen requirements
____ ____ ____ Flight plan requirements

WEATHER INFORMATION

____ ____ ____ Current weather charts
____ ____ ____ Forecast weather charts
____ ____ ____ Winds aloft reports
____ ____ ____ METARs, TAFs
____ ____ ____ PIREPs, SIGMETs, AIRMETs
____ ____ ____ TWEBs, HIWAS

PUBLICATIONS

____ ____ ____ Sectionals, TACs, IFR Enroute charts
____ ____ ____ FAR/AIM
____ ____ ____ Chart Supplement
____ ____ ____ NOTAMs

PART 61 AND 91

____ ____ ____ Review Part 61—currency, Commercial Pilot
____ ____ ____ Pilot in command 91.3
____ ____ ____ Operating limitations 91.9
____ ____ ____ Reckless ops 91.13
____ ____ ____ Dropping objects 91.15
____ ____ ____ Alcohol/Drugs 91.17
____ ____ ____ Preflight actions 91.103
____ ____ ____ Seatbelts & harnesses 91.107
____ ____ ____ Near other acft 91.111
____ ____ ____ Right-of-way rules 91.113
____ ____ ____ Aircraft Speeds 91.117
____ ____ ____ Minimum altitudes 91.119
____ ____ ____ Altimeter setting 91.121
____ ____ ____ Light gun signals 91.125
____ ____ ____ Fuel req 91.151
____ ____ ____ Airspace 91.126-91.135
____ ____ ____ VFR minimums 91.155

PART 91 AND 61 (*continued)*

____ ____ ____ Special VFR 91.157
____ ____ ____ VFR cruise altitudes 91.159
____ ____ ____ VFR/IFR flight plans 91.169
____ ____ ____ Operation of nav lights 91.209
____ ____ ____ Instr/Equip Req 91.205
____ ____ ____ ELTs 91.207
____ ____ ____ Inop equipment 91.213

AIRSPACE

____ ____ ____ Traffic patterns—entry, exit, altitudes
____ ____ ____ Class A, B, C, D, E, G airspace
____ ____ ____ TFRs, Special Use Areas (SUAs)
____ ____ ____ VFR/IFR cruising altitudes
____ ____ ____ Land and Hold Short Operations

THE AIRPLANE

____ ____ ____ ARROW
____ ____ ____ POH Section 1—General
____ ____ ____ POH Section 2—Limitations
____ ____ ____ POH Section 3—Emergency Procedures
____ ____ ____ POH Section 4—Normal Procedure
____ ____ ____ POH Section 5—Performance
____ ____ ____ POH Section 6—Weight & Balance/Equip List
____ ____ ____ POH Section 7—Systems (review all systems)
____ ____ ____ POH Section 8—Service
____ ____ ____ POH Section 9—Supplements
____ ____ ____ Airworthiness Directives, SAIBs
____ ____ ____ Inspections—Annuals/100 hrs-50 hrs/ Progressives

FLIGHT PLANNING

____ ____ ____ Finding runway lengths
____ ____ ____ Drawing the True Course
____ ____ ____ Marking obstructions to flight
____ ____ ____ Measuring TC and mileage
____ ____ ____ Flight log preparation
____ ____ ____ VOR navigation
____ ____ ____ RNAV/GPS navigation

Hours		

STAGE ONE—Lesson 1 *Briefing*

CROSS-COUNTRY FLYING AND NAVIGATION

FLIGHT PLANNING (*continued)*

____ ____ ____ Dead reckoning

____ ____ ____ Pilotage

____ ____ ____ Performance charts

____ ____ ____ Fuel planning

____ ____ ____ Weight and balance

____ ____ ____ Go/No-go decisions

____ ____ ____ Alternate planning

____ ____ ____ Filing flight plans—VFR & IFR

COMMUNICATIONS

____ ____ ____ Flight Service Stations

____ ____ ____ Center—frequencies

____ ____ ____ Unicom, Multi-com

____ ____ ____ Emergency—121.5

____ ____ ____ Position reporting

SPECIAL EMPHASIS

____ ____ ____ Aeronautical Decision Making (ADM)

____ ____ ____ Land and Hold Short Operations

____ ____ ____ Controlled Flight Into Terrain

____ ____ ____ RUNWAY INCURSION avoidance

____ ____ ____ Wake turbulence/Wind shear

____ ____ ____ Positive transfer of controls

____ ____ ____ Collision avoidance

____ ____ ____ Stall/Spin awareness

____ ____ ____ SRM

COMPLETION STANDARDS

This lesson will be complete when the student's knowledge of all items listed rates a grade of 2 or better.

Instructor	Student	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____

Hours		

STAGE ONE—Lesson 2 *Dual AATD or Aircraft*

NAVIGATION REVIEW

OBJECTIVE: To review the student ' s ability to navigate using VOR and RNAV/GPS.

TIME: 10 hours approximately; **Instrument.**

PREFLIGHT BRIEFING

___ ___ ___ Flight Deck Management

___ ___ ___ VOR position finding

___ ___ ___ VOR radial intercepting

___ ___ ___ VOR radial tracking

___ ___ ___ RNAV/GPS navigation

STARTUP

___ ___ ___ ✔ Engine start

___ ___ ___ Comm radio setup—freq, vol, xmitter

___ ___ ___ VOR setup—freq, ID, set course

___ ___ ___ RNAV/GPS setup

TAKEOFF/CLIMB

___ ___ ___ ✔ Takeoff

___ ___ ___ Takeoff clearance—copy, confirm, comply

___ ___ ___ Takeoff—normal, xwind, short, soft, abort

___ ___ ___ Traffic pattern departure

BASIC MANEUVERS *(IR)*

___ ___ ___ ✔ Climbs— turns, Cs (Vx, Vy, cruise),

___ ___ ___ Level-off from climb

___ ___ ___ ✔ Cruise

___ ___ ___ Straight & level, level turns

___ ___ ___ Unusual attitude recovery

___ ___ ___ Engine checks

RADIO NAVIGATION *(IR)*

___ ___ ___ VOR position finding, tracking, intercepting

___ ___ ___ GPS position finding, tracking, intercepting

___ ___ ___ Station passage identification

___ ___ ___ Partial panel, all maneuvers above

BASIC MANEUVERS *(IR)*

___ ___ ___ ✔ Descents— turns, Cs, Cr

___ ___ ___ Level-off from descent

___ ___ ___ Instrument approach—full panel

___ ___ ___ Instrument approach—partial panel

___ ___ ___ SID's, ODP's

___ ___ ___ STARS

POSTFLIGHT

___ ___ ___ Debrief

___ ___ ___ Update syllabus and logbook

COMPLETION STANDARDS

The student will be able to perform all maneuvers to at least Private Pilot or Instrument ACS and achieve a grade of 2 or better on each task.

Instructor	Student	Date	Acft Type	N #

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	Dual AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

Hours		

STAGE ONE—Lesson 3 *Dual Aircraft*

CROSS-COUNTRY FLIGHT TRAINING (100 nm day X-Ctry) FAR 141 Appendix D, 4b (iii)

OBJECTIVE: The student will plan and fly a day cross-country flight at least 2 hours in duration and have one leg of at least 100 nm between take off and landing.

TIME: 2 hours minimum.

PREFLIGHT BRIEFING

____	____	____	Discussion of this lesson
____	____	____	Aeronautical Decision Making (ADM)
____	____	____	LAHSO
____	____	____	CFIT
____	____	____	RUNWAY INCURSION avoidance
____	____	____	Wake turbulence/wind shear
____	____	____	Positive transfer of controls
____	____	____	Collision avoidance
____	____	____	Stall/spin awareness
____	____	____	✔ Emergency Procedures (Briefing)
____	____	____	Fire—startup, engine or electrical in-flight, cabin, wing
____	____	____	Icing—structural in-flight, static port blockage, carb ice
____	____	____	Flap failure/landing—with flat tire
____	____	____	Electrical—over-voltage light, ammeter discharge

PREFLIGHT

____	____	____	✔ Cockpit
____	____	____	Certificates & Documents—ARROW
____	____	____	✔ Preflight inspection
____	____	____	Airplane servicing

STARTUP

____	____	____	✔ Engine start
____	____	____	Comm radio setup—freq, vol, xmitter
____	____	____	VOR setup—freq, ID, set course
____	____	____	RNAV/GPS setup

TAXI

____	____	____	✔ Taxi
____	____	____	Taxi clearance—copy, confirm, comply
____	____	____	Begin taxi—hazards, brake & steering check
____	____	____	Taxi—wind, speed, braking, hazards
____	____	____	Call all HOLD SHORT lines
____	____	____	✔ Runup

TAKEOFF

____	____	____	✔ Takeoff
____	____	____	Takeoff clearance—copy, confirm, comply

TAKEOFF *(continued)*

____	____	____	Takeoff—normal, xwind, short, soft
____	____	____	Traffic pattern departure

BASIC MANEUVERS

____	____	____	✔ Climbs— turns, Cs (Vx, Vy, cruise)
____	____	____	Level-off from climb procedure
____	____	____	✔ Cruise
____	____	____	Straight & level
____	____	____	Turns to headings
____	____	____	Engine checks/traffic checks

NAVIGATION

____	____	____	Open flight plan
____	____	____	Course intercepting, tracking—VOR/GPS
____	____	____	Pilotage, dead reckoning
____	____	____	Ground speed calculation
____	____	____	Navigation log completion
____	____	____	Diversion and lost procedures

✔ **EMERGENCY PROCEDURES** (Practical Review)

____	____	____	Engine failure—takeoff run, after takeoff, in-flight
____	____	____	Forced landings—power, no power, ditching

BASIC MANEUVERS

____	____	____	✔ Descent
____	____	____	Descents— turns, Cs
____	____	____	Level-off from descent—inst

LANDING

____	____	____	Approach—location, communication
____	____	____	Approach—tower, no tower
____	____	____	Pattern entry
____	____	____	✔ Landing
____	____	____	Traffic pattern
____	____	____	Landing clearance—copy, confirm, comply
____	____	____	Stabilized approach
____	____	____	Flaps—all settings
____	____	____	Slips to landing
____	____	____	✔ Go arounds

Hours		

STAGE ONE—Lesson 3 *Dual Aircraft*

CROSS-COUNTRY FLIGHT TRAINING (100 nm day X-Ctry) FAR 141 Appendix D, 4b (iii)

LANDING *(continued)*

____ ____ ____ Landings—normal, crosswind, short, soft
____ ____ ____ Roundout—height, crosswind correction
____ ____ ____ Touchdown—full stall, drift, centerline
____ ____ ____ Rollout—wind, speed, braking, hazards
____ ____ ____ Taxi clearance—copy, confirm, comply
____ ____ ____ ✔ Taxi
____ ____ ____ ✔ Shutdown

POSTFLIGHT

____ ____ ____ Postflight inspection of aircraft
____ ____ ____ Close flight plan
____ ____ ____ Debrief/Update syllabus and logbook

Cross-Country Route	Distance

COMPLETION STANDARDS

This lesson will be complete when the student can perform all maneuvers to Private Pilot ACS and achieve a grade of 2 or better on all tasks.

Instructor	Student	Date	Acft Type	N #

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	Dual AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

Hours		

STAGE ONE—Lesson 4 *Dual AATD or Aircraft*

EMERGENCY AND INSTRUMENT REVIEW

OBJECTIVE: Emergency procedures and instrument procedures will be reviewed.

TIME: 3 hours approximately. Instrument

PREFLIGHT BRIEFING

Discussion of this lesson
LAHSO
CFIT
RUNWAY INCURSION avoidance
Wake turbulence/wind shear
Positive transfer of controls
Collision avoidance
Stall/spin awareness

EMERGENCY PROCEDURES (ORAL REVIEW)

Fire—startup, engine or electrical in-flight, cabin, wing
Icing—structural in-flight, static port blockage, carb ice
Flap failure/landing—with flat tire
Electrical—over-voltage light, ammeter discharge

PREFLIGHT

✔ Cockpit
Certificates & Documents—ARROW

STARTUP

✔ Engine start
Comm radio setup—freq, vol, xmitter
VOR setup—freq, ID, set course
RNAV/GPS setup

TAKEOFF

✔ Takeoff
Takeoff clearance—copy, confirm, comply
Takeoffs—normal, crosswind, short, soft
Pattern departure

BASIC MANEUVERS

✔ Climbs— turns, cruise climb
Level-off from climb procedure
✔ Cruise
Straight & level
Turns to headings
Engine checks/traffic checks

NAVIGATION

Open flight plan
Radio comm procedures
Course intercepting, tracking—VOR/GPS
Pilotage, Dead Reckoning
Ground speed calculation
Navigation log completion
Diversion and lost procedures

✔ **EMERGENCY PROCEDURES** *(Practical Review)*

Engine failure—takeoff run, after takeoff, inflight
Fire—startup, engine or electrical inflight, cabin, wing
Icing—structural inflight, static port blockage, carb ice
Electrical—over-voltage light, ammeter discharge

INSTRUMENT PRACTICE

Radar services—flight following
Intercepting and tracking VOR radials
VOR approach
LOC approach
RNAV/GPS approach
ILS approach
VOR holds—DME, intersection
RNAV/GPS holds
Loss of navigation systems

Hours		

STAGE ONE—Lesson 4 *Dual AATD or Aircraft*

EMERGENCY AND INSTRUMENT REVIEW

BASIC MANEUVERS

___ ___ ___ ✔ Descents

___ ___ ___ Descents—turn, Cs, best glide, emerg

___ ___ ___ Level-off from descent

LANDING

___ ___ ___ Approach—location, communication

___ ___ ___ Approach—tower, no tower

___ ___ ___ ✔ Landing

___ ___ ___ Landing clearance—copy, confirm, comply

___ ___ ___ Stabilized approach

___ ___ ___ Taxi

___ ___ ___ ✔ Shutdown

POSTFLIGHT

___ ___ ___ Postflight inspection of aircraft

Debrief

___ ___ ___ Update syllabus and logbook

COMPLETION STANDARDS

This lesson will be complete when the student can perform all maneuvers to Private Pilot ACS and achieve a grade of 2 or better on all tasks.

Instructor	Student	Date	Acft Type	N #

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	Dual AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

Hours		

STAGE ONE—Lesson 5 *Dual Aircraft*

EMERGENCY AND INSTRUMENT PROCEDURES REVIEW

OBJECTIVE: Emergency procedures and instrument procedures will be reviewed in the airplane.

TIME: 2 hours Instrument aircraft.

PREFLIGHT BRIEFING

___	___	___	Discussion of this lesson
___	___	___	ADM and risk management
___	___	___	LAHSO
___	___	___	CFIT/Wire strike avoidance
___	___	___	RUNWAY INCURSION avoidance
___	___	___	Wake turbulence/wind shear avoidance
___	___	___	Checklist usage
___	___	___	Positive transfer of controls
___	___	___	TFRs and SUA
___	___	___	Collision avoidance
___	___	___	Aviation security
___	___	___	Stall/spin awareness
___	___	___	SRM

EMERGENCY PROCEDURES (ORAL REVIEW)

___	___	___	Fire—startup, engine or electrical in-flight, cabin, wing
___	___	___	Icing—structural in-flight, static port blockage, carb ice
___	___	___	Flap failure/landing—with flat tire
___	___	___	Electrical malfunctions
___	___	___	Emergency descent

PREFLIGHT

___	___	___	✔ Cockpit
___	___	___	Certificates & Documents—ARROW
___	___	___	✔ Preflight inspection
___	___	___	Airplane servicing

STARTUP

___	___	___	✔ Engine start
___	___	___	Comm radio setup—freq, vol, xmitter
___	___	___	VOR setup—freq, ID, set course
___	___	___	RNAV/GPS setup

TAXI

___	___	___	✔ Taxi
___	___	___	Taxi clearance—copy, confirm, comply
___	___	___	Begin taxi—hazards, brake & steering check
___	___	___	Taxi—wind, speed, braking, hazards
___	___	___	Call all HOLD SHORT lines
___	___	___	✔ Runup

TAKEOFF

___	___	___	✔ Takeoff
___	___	___	Takeoff clearance—copy, confirm, comply
___	___	___	Takeoffs—normal, crosswind, short, soft
___	___	___	Pattern departure

BASIC MANEUVERS *(IR)*

___	___	___	✔ Climbs— turns, cruise climb
___	___	___	Level-off from climb procedure
___	___	___	✔ Cruise
___	___	___	Straight & level, turns to headings
___	___	___	Unusual attitude recoveries
___	___	___	Engine checks/traffic checks

EMERGENCY PROCEDURES *(Practical Review)*

___	___	___	Engine failure—takeoff run, after takeoff, inflight
___	___	___	Emergency descent
___	___	___	Forced landings—power, no power

INSTRUMENT PRACTICE

___	___	___	Radar services—flight following
___	___	___	Intercepting and tracking VOR radials
___	___	___	VOR approach
___	___	___	LOC approach
___	___	___	RNAV/GPS approach
___	___	___	ILS approach
___	___	___	VOR holds—DME, intersection
___	___	___	RNAV/GPS holds
___	___	___	Loss of navigation systems
___	___	___	Partial panel approach

Hours		

STAGE ONE—Lesson 5 *Dual Aircraft*

EMERGENCY AND INSTRUMENT PROCEDURES REVIEW

BASIC MANEUVERS

___ ___ ___ ✔ Descents

___ ___ ___ Descents—turn, Cs

___ ___ ___ Level-off from descent

LANDING

___ ___ ___ Approach—location, communication

___ ___ ___ Approach—tower, no tower

___ ___ ___ ✔ Landing

___ ___ ___ Landing clearance—copy, confirm, comply

___ ___ ___ Stabilized approach

___ ___ ___ ✔ Shutdown

POSTFLIGHT

___ ___ ___ Postflight inspection of aircraft

___ ___ ___ Debrief

___ ___ ___ Update syllabus and logbook

COMPLETION STANDARDS

This lesson will be complete when the student can perform all maneuvers to Private Pilot ACS and achieve a grade of 2 or better on all tasks.

Instructor	Student	Date	Acft Type	N #
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	Dual AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

Hours		

STAGE ONE—Lesson 6 *Solo Aircraft*

IFR OR VFR CROSS-COUNTRY FLIGHT TRAINING

OBJECTIVE: The student will plan and fly cross-country flights; one shall include landings at 3 different points and have a ***straight-line distance of 250+ nm between two points***.

TIME: 15 hours approximately.

PREFLIGHT BRIEFING *(student briefs instructor)*

- ____ ____ ____ Discussion of this lesson
- ____ ____ ____ Aeronautical Decision Making (ADM)
- ____ ____ ____ LAHSO
- ____ ____ ____ CFIT
- ____ ____ ____ RUNWAY INCURSION avoidance
- ____ ____ ____ Wake turbulence/wind shear
- ____ ____ ____ Collision avoidance
- ____ ____ ____ Stall/spin awareness

EMERGENCY PROCEDURES (ORAL REVIEW)

- ____ ____ ____ Engine failure—takeoff run, after takeoff, in-flight
- ____ ____ ____ Forced landing—power, no power, ditching
- ____ ____ ____ Fire—startup, engine or electrical in-flight, cabin, wing
- ____ ____ ____ Icing—structural in-flight, static port blockage, carb ice
- ____ ____ ____ Landing with flat tire
- ____ ____ ____ Electrical—over-voltage light, ammeter discharge
- ____ ____ ____ Flap failure

PREFLIGHT

- ____ ____ ____ ✔ Cockpit
- ____ ____ ____ Certificates & Documents—ARROW
- ____ ____ ____ ✔ Preflight inspection
- ____ ____ ____ Airplane servicing

STARTUP

- ____ ____ ____ ✔ Engine start
- ____ ____ ____ Comm radio setup—freq, vol, xmitter
- ____ ____ ____ VOR, RNAV/GPS setup—freq, ID, set course

TAXI

- ____ ____ ____ ✔ Taxi
- ____ ____ ____ Taxi clearance—copy, confirm, comply
- ____ ____ ____ Begin taxi—hazards, brake & steering check
- ____ ____ ____ Taxi—wind, speed, braking, hazards
- ____ ____ ____ Call all HOLD SHORT lines
- ____ ____ ____ Runup

TAKEOFF

- ____ ____ ____ ✔ Takeoff
- ____ ____ ____ Takeoff clearance—copy, confirm, comply
- ____ ____ ____ Takeoffs—normal, crosswind, short, soft
- ____ ____ ____ ✔ Climbs—with turns, Cs (Vx, Vy, cruise)
- ____ ____ ____ Pattern departure

BASIC MANEUVERS

- ____ ____ ____ Level-off from climb procedure
- ____ ____ ____ ✔ Cruise
- ____ ____ ____ Straight & level
- ____ ____ ____ Turns to headings
- ____ ____ ____ Engine checks/traffic checks

NAVIGATION

- ____ ____ ____ Open flight plan
- ____ ____ ____ Course intercepting, tracking—VOR/GPS
- ____ ____ ____ Pilotage, Dead Reckoning
- ____ ____ ____ Ground speed calculation
- ____ ____ ____ Navigation log completion
- ____ ____ ____ Diversion and lost procedures

BASIC MANEUVERS

- ____ ____ ____ ✔ Descents
- ____ ____ ____ Descents—turn, Cs, best glide, emerg
- ____ ____ ____ Level-off from descent

LANDING

- ____ ____ ____ Approach—location, communication
- ____ ____ ____ Approach—tower, no tower
- ____ ____ ____ Pattern entry
- ____ ____ ____ ✔ Landing
- ____ ____ ____ Traffic pattern
- ____ ____ ____ Landing clearance—copy, confirm, comply
- ____ ____ ____ Stabilized approach
- ____ ____ ____ Flaps—all settings
- ____ ____ ____ Slips to landing
- ____ ____ ____ ✔ Go arounds
- ____ ____ ____ Landings—normal, crosswind, short, soft
- ____ ____ ____ Roundout—height, crosswind correction

Hours		

STAGE ONE—Lesson 6 *Solo Aircraft*

IFR OR VFR CROSS-COUNTRY FLIGHT TRAINING

LANDING *(continued)*

____ ____ ____ Touchdown—full stall, drift, centerline

____ ____ ____ Rollout—wind, speed, braking, hazards

____ ____ ____ Taxi clearance—copy, confirm, comply

____ ____ ____ ✔ Taxi

____ ____ ____ ✔ Shutdown

POSTFLIGHT

____ ____ ____ Postflight inspection of aircraft

____ ____ ____ Close flight plan

____ ____ ____ Dual debrief

____ ____ ____ Update syllabus and logbook

____ ____ ____ Cross-country Summary Sheet completed

COMPLETION STANDARDS

This lesson will be complete when the student can perform all maneuvers to Private Pilot ACS and achieve a grade of 2 or better on all tasks.

Instructor	Student	Date	Acft Type	N #
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	Dual AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

Hours		

STAGE ONE—Lesson 7 *Dual Aircraft*

DAY/NIGHT CROSS-COUNTRY FLIGHT TRAINING

OBJECTIVE: The student will plan and fly day or night cross-country flights with an emphasis on instrument flight and approaches.

TIME: 5 hours approximately, **including a minimum of 3 hours instrument**.

PREFLIGHT BRIEFING

___ ___ ___ Discussion of this lesson
___ ___ ___ Review POH emergency procedures
___ ___ ___ ADM and risk management
___ ___ ___ LAHSO
___ ___ ___ CFIT/Wire strike avoidance
___ ___ ___ TFRs and SUA
___ ___ ___ RUNWAY INCURSION avoidance
___ ___ ___ Wake turbulence/wind shear avoidance
___ ___ ___ Checklist usage
___ ___ ___ Collision avoidance
___ ___ ___ Aviation security
___ ___ ___ Stall/spin awareness
___ ___ ___ SRM

EMERGENCY PROCEDURES *(oral review)*

___ ___ ___ Forced landing—power, no power, ditching
___ ___ ___ Fire—startup, engine or electrical inflight, cabin, wing
___ ___ ___ Icing—structural inflight, static port blockage, carb ice
___ ___ ___ Electrical malfunctions
___ ___ ___ Emergency descent

PREFLIGHT

___ ___ ___ ✔ Cockpit
___ ___ ___ Certificates & Documents—ARROW
___ ___ ___ ✔ Preflight inspection
___ ___ ___ Airplane servicing

STARTUP

___ ___ ___ ✔ Engine start
___ ___ ___ Comm radio setup—freq, vol, xmitter
___ ___ ___ VOR, RNAV/GPS setup—freq, ID, set course

TAXI

___ ___ ___ ✔ Taxi
___ ___ ___ Taxi clearance—copy, confirm, comply
___ ___ ___ Call all HOLD SHORT lines
___ ___ ___ ✔ Runup

TAKEOFF

___ ___ ___ ✔ Takeoff
___ ___ ___ Takeoff clearance—copy, confirm, comply
___ ___ ___ Takeoffs—normal, crosswind, short, soft
___ ___ ___ Pattern departure

BASIC MANEUVERS *(VR and IR)*

___ ___ ___ ✔ Climbs—with turns, cruise climb
___ ___ ___ Level-off from climb procedure
___ ___ ___ ✔ Cruise
___ ___ ___ Straight & level
___ ___ ___ Turns to headings

NAVIGATION *(VR and IR)*

___ ___ ___ Open flight plan
___ ___ ___ VOR Course intercepting, tracking
___ ___ ___ GPS Course intercepting, tracking
___ ___ ___ Pilotage, Dead Reckoning
___ ___ ___ Diversion and lost procedures

APPROACHES *(IR)*

___ ___ ___ ILS
___ ___ ___ LOC
___ ___ ___ BC (optional)
___ ___ ___ VOR
___ ___ ___ GPS
___ ___ ___ Partial panel

Hours		

STAGE ONE—Lesson 7 *Dual Aircraft*

DAY OR NIGHT CROSS-COUNTRY FLIGHT TRAINING

LANDING

____	____	____	Approach—location, communication
____	____	____	Approach—tower, no tower
____	____	____	Pattern entry
____	____	____	✔ Landing
____	____	____	Traffic pattern
____	____	____	Landing clearance—copy, confirm, comply
____	____	____	Stabilized approach
____	____	____	✔ Go arounds
____	____	____	Landings—normal, crosswind, short, soft
____	____	____	Roundout—height, crosswind correction
____	____	____	Touchdown—full stall, drift, centerline
____	____	____	Rollout—wind, speed, braking, hazards
____	____	____	Taxi clearance—copy, confirm, comply
____	____	____	✔ Taxi
____	____	____	Taxi—wind, speed, braking, hazards
____	____	____	✔ Shutdown

POSTFLIGHT

____	____	____	Postflight inspection of aircraft
____	____	____	Close flight plan
____	____	____	Debrief
____	____	____	Update syllabus and logbook

COMPLETION STANDARDS

This lesson will be complete when the student can perform all maneuvers to Private Pilot ACS and achieve a grade of 2 or better on all tasks.

Instructor	Student	Date	Acft Type	N #
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	Dual AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

Hours		

STAGE ONE—Lesson 8 *Dual Aircraft*

NIGHT CROSS-COUNTRY FLIGHT TRAINING (100 nm night X-Ctry) FAR 141 App D, 4b (iv))

OBJECTIVE: The student will plan and fly night cross-country flights; one of which will be at least 2 hours in duration and have one leg of at least 100 nm between points on the flight.

TIME: 2 hours minimum.

PREFLIGHT BRIEFING

___	___	___	Discussion of this lesson
___	___	___	ADM and risk management
___	___	___	LAHSO
___	___	___	CFIT/Wire strike avoidance
___	___	___	RUNWAY INCURSION avoidance
___	___	___	Wake turbulence/wind shear avoidance
___	___	___	Checklist usage
___	___	___	Positive transfer of controls
___	___	___	TFRs and SUA
___	___	___	Collision avoidance
___	___	___	Aviation security
___	___	___	Stall/spin awareness
___	___	___	SRM

EMERGENCY PROCEDURES (ORAL REVIEW)

___	___	___	Engine failure—takeoff run, after takeoff, inflight
___	___	___	Forced landing—power, no power, ditching
___	___	___	Fire—startup, engine or electrical in-flight, cabin, wing
___	___	___	Icing—structural in-flight, static port blockage, carb ice
___	___	___	Landing with flat tire
___	___	___	Electrical malfunctions
___	___	___	Emergency descent
___	___	___	Flap failure

PREFLIGHT

___	___	___	✔ Cockpit
___	___	___	Certificates & Documents—ARROW
___	___	___	✔ Preflight inspection
___	___	___	Airplane servicing

STARTUP

___	___	___	✔ Engine start
___	___	___	Comm radio setup—freq, vol, xmitter
___	___	___	VOR, RNAV/GPS setup—freq, ID, set course

TAXI

___	___	___	✔ Taxi
___	___	___	Taxi clearance—copy, confirm, comply
___	___	___	Begin taxi—hazards, brake & steering check
___	___	___	Taxi—wind, speed, braking, hazards
___	___	___	Call all HOLD SHORT lines
___	___	___	✔ Runup

TAKEOFF

___	___	___	✔ Takeoff
___	___	___	Takeoff clearance—copy, confirm, comply
___	___	___	Takeoffs—normal, crosswind, short, soft
___	___	___	Pattern departure

BASIC MANEUVERS

___	___	___	✔ Climbs—with turns, cruise climb
___	___	___	Level-off from climb procedure
___	___	___	✔ Cruise
___	___	___	Straight & level
___	___	___	Turns to headings
___	___	___	Engine checks/traffic checks

NAVIGATION

___	___	___	Open flight plan
___	___	___	Course intercepting, tracking—VOR/GPS
___	___	___	Pilotage, Dead Reckoning
___	___	___	Ground speed calculation
___	___	___	Navigation log completion
___	___	___	Diversion and lost procedures

BASIC MANEUVERS

___	___	___	✔ Descent
___	___	___	Descents—turn, Cs
___	___	___	Level-offs from descents

Hours		

STAGE ONE—Lesson 8 *Dual Aircraft*

NIGHT CROSS-COUNTRY FLIGHT TRAINING (100 nm night X-Ctry) FAR 141 App D, 4b (iv))

LANDING

____	____	____	Approach—location, communication
____	____	____	Approach—tower, no tower
____	____	____	Pattern entry
____	____	____	✔ Landing
____	____	____	Traffic pattern
____	____	____	Landing clearance—copy, confirm, comply
____	____	____	Stabilized approach
____	____	____	Flaps—all settings
____	____	____	✔ Go arounds
____	____	____	Landings—normal, crosswind, short, soft
____	____	____	Roundout—height, crosswind correction
____	____	____	Touchdown—full stall, drift, centerline
____	____	____	Rollout—wind, speed, braking, hazards
____	____	____	Taxi clearance—copy, confirm, comply
____	____	____	✔ Taxi
____	____	____	Taxi—wind, speed, braking, hazards
____	____	____	✔ Shutdown

POSTFLIGHT

____	____	____	Postflight inspection of aircraft
____	____	____	Close flight plan
____	____	____	Debrief
____	____	____	Update syllabus and logbook

Cross-Country Route	Distance

COMPLETION STANDARDS

This lesson will be complete when the student can perform all maneuvers to Private Pilot ACS and achieve a grade of 2 or better on all tasks.

Instructor	Student	Date	Acft Type	N #

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	Dual AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

Hours		

STAGE ONE—Lesson 9 *Solo Aircraft*

VFR LOCAL NIGHT FLIGHTS WITH TAKEOFFS AND LANDINGS

OBJECTIVE: The student will perform a minimum of 10 takeoffs and landings in the traffic pattern at an airport with an **operating control tower**.

TIME: 5 hours.

PREFLIGHT BRIEFING *(student briefs instructor)*

- ____ ____ ____ Discussion of this lesson
- ____ ____ ____ Wake turbulence/wind shear
- ____ ____ ____ Collision avoidance
- ____ ____ ____ Night vision and illusions
- ____ ____ ____ Pilot equipment
- ____ ____ ____ Aircraft and airport lighting systems
- ____ ____ ____ Weather planning
- ____ ____ ____ Review of emergency procedures
- ____ ____ ____ ADM, LAHSO, CFIT

PREFLIGHT

- ____ ____ ____ ✔ Cockpit
- ____ ____ ____ Certificates & Documents—ARROW
- ____ ____ ____ ✔ Preflight inspection
- ____ ____ ____ Airplane servicing

STARTUP

- ____ ____ ____ ✔ Engine start
- ____ ____ ____ Comm radio setup—freq, vol, xmitter
- ____ ____ ____ VOR, RNAV/GPS setup—freq, ID, set course

TAXI

- ____ ____ ____ ✔ Taxi
- ____ ____ ____ Taxi clearance—copy, confirm, comply
- ____ ____ ____ Begin taxi—hazards, brake & steering check
- ____ ____ ____ Taxi—wind, speed, braking, hazards
- ____ ____ ____ Call all HOLD SHORT lines
- ____ ____ ____ ✔ Runup

TAKEOFF

- ____ ____ ____ ✔ Takeoff
- ____ ____ ____ Takeoff clearance—copy, confirm, comply
- ____ ____ ____ Takeoffs—normal, crosswind, short, soft
- ____ ____ ____ Pattern departure

BASIC MANEUVERS

- ____ ____ ____ ✔ Descent
- ____ ____ ____ Descents—turn, Cs
- ____ ____ ____ Level-offs from descents

LANDING

- ____ ____ ____ Approach—location, communication
- ____ ____ ____ Approach—tower, no tower
- ____ ____ ____ Pattern entry
- ____ ____ ____ ✔ Landing
- ____ ____ ____ Traffic pattern
- ____ ____ ____ Landing clearance—copy, confirm, comply
- ____ ____ ____ Stabilized approach
- ____ ____ ____ Flaps—all settings
- ____ ____ ____ Slips to landing
- ____ ____ ____ ✔ Go arounds
- ____ ____ ____ Landings—normal, crosswind, short, soft
- ____ ____ ____ Roundout—height, crosswind correction
- ____ ____ ____ Touchdown—full stall, drift, centerline
- ____ ____ ____ Rollout—wind, speed, braking, hazards
- ____ ____ ____ Taxi clearance—copy, confirm, comply
- ____ ____ ____ ✔ Taxi
- ____ ____ ____ Taxi—wind, speed, braking, hazards
- ____ ____ ____ ✔ Shutdown

POSTFLIGHT

- ____ ____ ____ Postflight inspection of aircraft
- ____ ____ ____ Dual debrief
- ____ ____ ____ Update syllabus and logbook
- ☐ ☐ ☐ Number of takeoffs and landings at a tower controlled field

Hours		

STAGE ONE—Lesson 9 *Solo Aircraft*

VFR LOCAL NIGHT WITH TAKEOFFS AND LANDINGS

Airports Used		

COMPLETION STANDARDS

This lesson will be complete when the student can perform all maneuvers to Private Pilot ACS and achieve a grade of 2 or better on all tasks.

Instructor	Student	Date	Acft Type	N #

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	Dual AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

Hours		

STAGE ONE—Lesson 10 *Solo or PIC Aircraft*

IFR OR VFR CROSS-COUNTRY FLIGHT TRAINING

OBJECTIVE: The student will refine cross-country piloting skills.

TIME: 20 hours approximately.

PREFLIGHT BRIEFING *(student briefs instructor)*

Discussion of this lesson
ADM
LAHSO
CFIT
RUNWAY INCURSION avoidance
Wake turbulence/wind shear
Collision avoidance
Stall/spin awareness

EMERGENCY PROCEDURES (ORAL REVIEW)

Engine failure—takeoff run, after takeoff, inflight
Forced landing—power, no power, ditching
Fire—startup, engine or electrical in-flight, cabin, wing
Icing—structural in-flight, static port blockage, carb ice
Landing with flat tire
Electrical—over-voltage light, ammeter discharge
Flap failure

PREFLIGHT

✔ Cockpit
Certificates & Documents—ARROW
✔ Preflight inspection
Airplane servicing

STARTUP

✔ Engine start
Comm radio setup—freq, vol, xmitter
VOR, RNAV/GPS setup—freq, ID, course

TAXI

✔ Taxi
Taxi clearance—copy, confirm, comply
Begin taxi—hazards, brake & steering check
Taxi—wind, speed, braking, hazards
Call all HOLD SHORT lines
✔ Runup

TAKEOFF

✔ Takeoff
Takeoff clearance—copy, confirm, comply
Takeoffs—normal, crosswind, short, soft
Pattern departure

BASIC MANEUVERS

Level-off from climb procedure
✔ Cruise
Straight & level
Turns to headings
Engine checks/traffic checks

NAVIGATION

Open flight plan
Course intercepting, tracking—VOR/GPS
Radar services
Pilotage, Dead Reckoning
Navigation log completion
Diversion and lost procedures

BASIC MANEUVERS

✔ Descent
Descents—turn, Cs
Level-offs from descents

LANDING

Approach—location, communication
Approach—tower, no tower
Pattern entry
✔ Landing
Traffic pattern
Landing clearance—copy, confirm, comply
Stabilized approach
Flaps—all settings
Slips to landing
✔ Go arounds
Landings—normal, crosswind, short, soft
Roundout—height, crosswind correction

Hours		

STAGE ONE—Lesson 10 *Solo or PIC Aircraft*

IFR OR VFR CROSS-COUNTRY FLIGHT TRAINING

LANDING *(continued)*

___ ___ ___ Touchdown—full stall, drift, centerline

___ ___ ___ Rollout—wind, speed, braking, hazards

___ ___ ___ Taxi clearance—copy, confirm, comply

___ ___ ___ ✔ Taxi

___ ___ ___ Taxi—wind, speed, braking, hazards

___ ___ ___ ✔ Shutdown

POSTFLIGHT

___ ___ ___ Postflight inspection of aircraft

___ ___ ___ Close flight plan

___ ___ ___ Debrief

___ ___ ___ Update syllabus and logbook

___ ___ ___ Cross-country Summary Sheet completed

COMPLETION STANDARDS

This lesson will be complete when the student can perform all maneuvers to Private Pilot ACS and achieve a grade of 2 or better on all tasks.

Instructor	Student	Date	Acft Type	N #

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	Dual AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

Hours		

STAGE ONE—Lesson 11 *Dual AATD or Aircraft*

INSTRUMENT AND NAVIGATION REVIEW

OBJECTIVE: The student will refine navigation skills under the instructor's supervision.

TIME: 6 hours approximately. **Instrument**

PREFLIGHT BRIEFING

___ ___ ___ Crew Resource Management

___ ___ ___ VOR/GPS navigation

STARTUP

___ ___ ___ ✔ Engine start

___ ___ ___ Comm radio setup—freq, vol, xmitter

___ ___ ___ VOR setup—freq, ID, set course

___ ___ ___ RNAV/GPS setup

TAKEOFF

___ ___ ___ SID's, ODP's

___ ___ ___ ✔ Takeoff

___ ___ ___ Takeoff clearance—copy, confirm, comply

___ ___ ___ Takeoffs—normal, crosswind, short, soft

___ ___ ___ Pattern departure

BASIC MANEUVERS

___ ___ ___ ✔ Climbs—turns, Cs (Vx, Vy, cruise), inst

___ ___ ___ Level-off from climb—inst

BASIC MANEUVERS *(continued)*

___ ___ ___ ✔ Cruise

___ ___ ___ Straight & level—inst

___ ___ ___ Level turns—standard rate, inst

___ ___ ___ Unusual attitude recovery—inst

HOLDING PROCEDURE

___ ___ ___ LOC

___ ___ ___ VOR, DME, GPS

INSTRUMENT APPROACHES

___ ___ ___ STARS

___ ___ ___ VOR

___ ___ ___ RNAV/GPS

___ ___ ___ LOC

___ ___ ___ LOC/BC (optional)

___ ___ ___ ILS

___ ___ ___ Loss of navigation systems

___ ___ ___ Partial panel approach

POSTFLIGHT

___ ___ ___ Debrief

___ ___ ___ Update syllabus and logbook

COMPLETION STANDARDS

This lesson will be complete when the student can perform all maneuvers to Private Pilot ACS and achieve a grade of 2 or better on all tasks.

Instructor	Student	Date	Acft Type	N #

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	Dual AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

Hours		

STAGE ONE—Lesson 12 *Solo or PIC Aircraft*

IFR OR VFR CROSS-COUNTRY FLIGHT TRAINING

OBJECTIVE: The student will plan and fly cross-country flights to gain flight experience.

TIME: 10 hours approximately.

PREFLIGHT BRIEFING (student briefs instructor)

- Discussion of this lesson
- Review POH emergency procedures
- ADM and risk management
- LAHSO
- CFIT/Wire strike avoidance
- RUNWAY INCURSION avoidance
- Wake turbulence/wind shear avoidance
- Checklist usage
- Positive transfer of controls
- TFRs and SUA
- Collision avoidance
- Aviation security
- Stall/spin awareness
- SRM
- ✔ Emergency Procedures (Oral review)
- Engine failure—takeoff run, after takeoff, in-flight
- Emergency descent
- Forced landing—power/no power, ditching
- Icing—structural in-flight, static port blockage, carb ice
- Flap failure/landing with flat tire
- Electrical—over-voltage light, ammeter discharge

PREFLIGHT

- ✔ Cockpit
- Certificates & Documents—ARROW
- ✔ Preflight inspection
- Airplane servicing

STARTUP

- ✔ Engine start
- Comm radio setup—freq, vol, xmitter
- VOR setup—freq, ID, set course
- RNAV/GPS setup

TAXI

- ✔ Taxi
- Taxi clearance—copy, confirm, comply
- Begin taxi—hazards, brake & steering check
- Taxi—wind, speed, braking, hazards
- Call all HOLD SHORT lines
- ✔ Runup

TAKEOFF

- ✔ Takeoff
- Takeoff clearance—copy, confirm, comply
- Takeoffs—normal, crosswind, short, soft
- Pattern departure

BASIC MANEUVERS

- ✔ Climbs—turns, Cs (Vx, Vy, cruise), inst
- Level-off from climb procedure
- ✔ Cruise
- Straight & level
- Turns to headings
- Engine checks/traffic checks

NAVIGATION

- Open flight plan
- Course intercepting, tracking—VOR/GPS
- Pilotage, Dead Reckoning
- Ground speed calculation
- Navigation log completion
- Diversion and lost procedures

BASIC MANEUVERS

- ✔ Descents
- Descents—turns, Cs
- Level-off from descent—inst

Hours		

STAGE ONE—Lesson 12 *Solo or PIC Aircraft*

IFR OR VFR CROSS-COUNTRY FLIGHT TRAINING

LANDING

____	____	____	Approach—location, communication
____	____	____	Approach—tower, no tower
____	____	____	Pattern entry
____	____	____	✔ Landing
____	____	____	Traffic pattern
____	____	____	Landing clearance—copy, confirm, comply
____	____	____	Stabilized approach
____	____	____	Flaps—all settings
____	____	____	Slips to landing
____	____	____	✔ Go arounds
____	____	____	Landings—normal, crosswind, short, soft
____	____	____	Roundout—height, crosswind correction
____	____	____	Touchdown—full stall, drift, centerline
____	____	____	Rollout—wind, speed, braking, hazards
____	____	____	Taxi clearance—copy, confirm, comply
____	____	____	✔ Taxi
____	____	____	Taxi—wind, speed, braking, hazards
____	____	____	✔ Shutdown

POSTFLIGHT

____	____	____	Postflight inspection of aircraft
____	____	____	Close flight plan
____	____	____	Dual debrief
____	____	____	Update syllabus and logbook
____	____	____	Cross-country Summary Sheet completed

COMPLETION STANDARDS

This lesson will be complete when the student can perform all maneuvers to Private Pilot ACS and achieve a grade of 2 or better on all tasks.

Instructor	Student	Date	Acft Type	N #
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	Dual AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

STAGE ONE—Cross-Country Summary Sheet

LESSON 6—SOLO CROSS COUNTRY FLIGHTS (15 Hrs. Approximately)

Route _____ Distance _____ Time _____ VFR ____ IFR ____ Solo ____ PIC ____

Date _____ Pilot Signature _____

Route _____ Distance _____ Time _____ VFR ____ IFR ____ Solo ____ PIC ____

Date _____ Pilot Signature _____

Route _____ Distance _____ Time _____ VFR ____ IFR ____ Solo ____ PIC ____

Date _____ Pilot Signature _____

Route _____ Distance _____ Time _____ VFR ____ IFR ____ Solo ____ PIC ____

Date _____ Pilot Signature _____

Route _____ Distance _____ Time _____ VFR ____ IFR ____ Solo ____ PIC ____

Date _____ Pilot Signature _____

Route _____ Distance _____ Time _____ VFR ____ IFR ____ Solo ____ PIC ____

Date _____ Pilot Signature _____

LESSON 10—SOLO/PIC CROSS COUNTRY FLIGHTS (20 Hrs. Approximately)

Route _____ Distance _____ Time _____ VFR ____ IFR ____ Solo ____ PIC ____

Date _____ Pilot Signature _____

Route _____ Distance _____ Time _____ VFR ____ IFR ____ Solo ____ PIC ____

Date _____ Pilot Signature _____

Route _____ Distance _____ Time _____ VFR ____ IFR ____ Solo ____ PIC ____

Date _____ Pilot Signature _____

Route _____ Distance _____ Time _____ VFR ____ IFR ____ Solo ____ PIC ____

Date _____ Pilot Signature _____

Route _____ Distance _____ Time _____ VFR ____ IFR ____ Solo ____ PIC ____

Date _____ Pilot Signature _____

Route _____ Distance _____ Time _____ VFR ____ IFR ____ Solo ____ PIC ____

Date _____ Pilot Signature _____

LESSON 12—SOLO/PIC CROSS COUNTRY FLIGHTS (10 Hrs. Approximately)

Route _____ Distance _____ Time _____ VFR ____ IFR ____ Solo ____ PIC ____

Date _____ Pilot Signature _____

Route _____ Distance _____ Time _____ VFR ____ IFR ____ Solo ____ PIC ____

Date _____ Pilot Signature _____

Route _____ Distance _____ Time _____ VFR ____ IFR ____ Solo ____ PIC ____

Date _____ Pilot Signature _____

Hours		

STAGE ONE—Lesson 13

CROSS-COUNTRY ORAL REVIEW

OBJECTIVE: The student will demonstrate practical knowledge of areas of cross-country flight at the commercial pilot level.

TIME: As required.

PILOT ASSESSMENT

___ ___ ___ Hypoxia, hyperventilation
___ ___ ___ Dehydration, fatigue
___ ___ ___ Alcohol, drugs, carbon monoxide
___ ___ ___ Ear/sinus, vertigo, motion sickness
___ ___ ___ Emotional immature behavior
___ ___ ___ High altitude operations
___ ___ ___ Oxygen requirements
___ ___ ___ Flight plan requirements

WEATHER INFORMATION

___ ___ ___ Current weather charts
___ ___ ___ Forecast weather charts
___ ___ ___ Winds aloft reports
___ ___ ___ METARs, TAFs
___ ___ ___ PIREPs, SIGMETs, AIRMETs
___ ___ ___ TWEBs, HIWAS

PUBLICATIONS

___ ___ ___ Sectionals, WACs, TACs, IFR enroute charts
___ ___ ___ FAR/AIM
___ ___ ___ Chart Supplement
___ ___ ___ NOTAMs

PART 61 AND 91

___ ___ ___ Review part 61—currency, Commercial Pilot
___ ___ ___ Pilot in command 91.3
___ ___ ___ Operating limitations 91.9
___ ___ ___ Reckless ops 91.13
___ ___ ___ Dropping objects 91.15
___ ___ ___ Alcohol/Drugs 91.17
___ ___ ___ Preflight actions 91.103
___ ___ ___ Seatbelts & harnesses 91.107
___ ___ ___ Near other aircraft 91.111
___ ___ ___ Right-of-way rules 91.113
___ ___ ___ Aircraft speeds 91.117
___ ___ ___ Minimum altitudes 91.119
___ ___ ___ Altimeter setting 91.121
___ ___ ___ Light gun signals 91.125
___ ___ ___ Fuel requirements 91.151

PART 61 AND 91 *(continued)*

___ ___ ___ Airspace 91.126—91.135
___ ___ ___ VFR minimums 91.155
___ ___ ___ Special VFR 91.157
___ ___ ___ VFR cruise altitudes 91.159
___ ___ ___ VFR flight plans 91.153
___ ___ ___ Operation of nav lights 91.209
___ ___ ___ Instr/equipment requirements 91.205
___ ___ ___ ELTs 91.207
___ ___ ___ Inop equipment 91.213
___ ___ ___ Review Part 91 IFR regulations

AIRSPACE

___ ___ ___ Traffic patterns—entry, exit, altitudes
___ ___ ___ Class A, B, C, D, E, G airspace
___ ___ ___ TFRs, Special Use Areas (SUAs)
___ ___ ___ VFR/IFR cruising altitudes
___ ___ ___ LAHSO

THE AIRPLANE

___ ___ ___ ARROW
___ ___ ___ General
___ ___ ___ Limitations
___ ___ ___ Emergency procedures
___ ___ ___ Normal procedures
___ ___ ___ Performance
___ ___ ___ Weight and balance/equip list
___ ___ ___ Airworthiness Directives, SAIBs
___ ___ ___ Inspections—Annuals/100s/50s/Progressives

SYSTEMS

___ ___ ___ Ignition system
___ ___ ___ Electrical system
___ ___ ___ Cabin and carb heat systems
___ ___ ___ Fuel system
___ ___ ___ Oil system

Hours		

STAGE ONE—Lesson 13

CROSS-COUNTRY ORAL REVIEW

FLIGHT PLANNING

____	____	____	Finding runway lengths
____	____	____	Drawing the TC
____	____	____	Marking obstructions to flight
____	____	____	Measuring TC and mileage
____	____	____	Flight log preparation
____	____	____	VOR navigation
____	____	____	RNAV/GPS navigation
____	____	____	Dead reckoning
____	____	____	Pilotage
____	____	____	Performance charts
____	____	____	Fuel planning
____	____	____	Weight and balance
____	____	____	Go/no-go decisions
____	____	____	Alternate planning
____	____	____	Filing flight plans—VFR

COMMUNICATIONS

____	____	____	Flight service stations
____	____	____	Center—frequencies
____	____	____	Unicom, Multicom
____	____	____	Emergency—121.5
____	____	____	Position reporting

SPECIAL EMPHASIS

____	____	____	ADM
____	____	____	LAHSO
____	____	____	CFIT
____	____	____	Runway incursion avoidance
____	____	____	Wake turbulence/wind shear
____	____	____	Positive transfer of controls
____	____	____	Collision avoidance
____	____	____	Stall/spin awareness

COMPLETION STANDARDS

This lesson will be complete when the student's knowledge of all items listed rates a grade of 2 or better.

Instructor	Student	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____

Hours		

STAGE ONE—Lesson 14 *Dual Aircraftt*

CROSS-COUNTRY STAGE CHECK

OBJECTIVE: The student will demonstrate the ability to plan and fly cross-country at flights at the commercial pilot level.

TIME: 1 hour approximately.

CROSS COUNTRY ORAL BRIEFING

____	____	____	Discussion of this lesson
____	____	____	Weather/flight planning and filing
____	____	____	Notams/Chart Supplement
____	____	____	ADM and risk management
____	____	____	Performance
____	____	____	Weight and balance
____	____	____	Flight log
____	____	____	Chart interpretation
____	____	____	Airspace/TFRs and SUA
____	____	____	FARs
____	____	____	Emergency procedures

PREFLIGHT

____	____	____	✔ Cockpit—ARROW
____	____	____	✔ Preflight inspection
____	____	____	Airplane servicing

STARTUP

____	____	____	✔ Engine start
____	____	____	Comm radio setup—freq, vol, xmitter
____	____	____	VOR setup—freq, ID, set course
____	____	____	RNAV/GPS setup

TAXI

____	____	____	✔ Taxi
____	____	____	Taxi clearance—copy, confirm, comply
____	____	____	Runway incursion avoidance
____	____	____	Begin taxi—hazards, brake & steering check
____	____	____	Taxi—wind, speed, braking, hazards
____	____	____	Call all HOLD SHORT lines
____	____	____	✔ Runup

TAKEOFF

____	____	____	✔ Takeoff
____	____	____	Takeoff clearance—copy, confirm, comply
____	____	____	Takeoffs—normal, crosswind, short, soft
____	____	____	Pattern departure

BASIC MANEUVERS

____	____	____	✔ Climbs—with turn, Cs (Vx, Vy, cruise)
____	____	____	Level-off from climb
____	____	____	✔ Cruise
____	____	____	Engine check/traffic check

NAVIGATION

____	____	____	Open flight plan
____	____	____	Communication procedures
____	____	____	VOR Course intercepting, tracking
____	____	____	GPS Course intercepting, tracking
____	____	____	Station passage recognition
____	____	____	Lost procedures
____	____	____	Loss of navigation systems
____	____	____	Pilotage/dead reckoning
____	____	____	Groundspeed calculation
____	____	____	Navigation log completion
____	____	____	In-flight radio resources
____	____	____	Diversion

EMERGENCY PROCEDURES

____	____	____	Engine failure—takeoff run, after takeoff, in-flight
____	____	____	Forced landings—power, no power
____	____	____	Emergency descent

BASIC MANEUVERS

____	____	____	✔ Descents
____	____	____	Descents—turns, Cs
____	____	____	Level-offs from descents

LANDING

____	____	____	Approach—location, communications
____	____	____	Approach to airport—tower, no tower
____	____	____	Pattern entry
____	____	____	Traffic pattern
____	____	____	✔ Landing
____	____	____	Landing clearance—copy, confirm, comply
____	____	____	Flaps—all settings
____	____	____	Slips to landing
____	____	____	Stabilized approach

Hours		

STAGE ONE—Lesson 14 *Dual Aircraft*

CROSS-COUNTRY STAGE CHECK

LANDING *(continued)*

____	____	____	✔ Go around
____	____	____	Landings—normal, crosswind, short, soft
____	____	____	Roundout—height, crosswind cx
____	____	____	Touchdown—full stall, drift, centerline
____	____	____	Taxi clearance—copy, confirm, comply
____	____	____	✔ Taxi
____	____	____	Taxi—wind, speed, braking, hazards
____	____	____	✔ Shutdown

POSTFLIGHT

____	____	____	Postflight inspection of aircraft
____	____	____	Close flight plan
____	____	____	Debrief
____	____	____	Update syllabus and logbook

FLIGHT PLAN ROUTE:

_____

_____

_____

_____

COMPLETION STANDARDS

This lesson will be complete when the student can perform all maneuvers to Private Pilot ACS and achieve a grade of 2 or better on all tasks.

Instructor	Student	Date	Acft Type	N #
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	Dual AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/AATD
Previous											
This Lesson											
Total											
				(5min)			(5min)	(45)	(±50)		(±24)

Dual Day + Dual Night + Dual AATD = 31

Solo Day + Solo Night + Solo/PIC X-C = 50

Dual Inst + Dual AATD = Total Inst/AATD

Hours		

STAGE ONE—Lesson 14

CROSS-COUNTRY STAGE CHECK CRITIQUE

Comments:

Recommendations:

1 ____ **This Stage Check performance indicates that additional review is necessary.**

- Do review lessons on all items marked “1” until your instructor indicates a satisfactory “2”.
- Insert the review lesson sheets following this page.
- Return to a check instructor for recheck.

Check Instructor	Student	Date
_____	_____	_____

2 ____ **This Stage Check was performed in a satisfactory manner.** Move on to the next stage.

Check Instructor	Student	Date
_____	_____	_____

COMMERCIAL PILOT CERTIFICATION

Training Course Outline

STAGE TWO

Complex Flight Training

Lessons 15—18

11.0 hours (approx) of Dual complex flight training

which includes:

1.0 hours (approximately) of Instrument Training

Stage Two Objectives

The stage two objective is to teach the student how to operate complex airplanes. The student will be trained to a proficiency level which will allow them to obtain a complex and/or high-performance sign-off as appropriate.

Stage Two Completion Standards

This stage will be complete when the student meets all lesson standards and satisfactorily performs the Stage Two Check, and receives complex and/or high-performance endorsement as appropriate.

Pilot Requirements for flying a Complex and/or High-Performance Airplane

See 14 CFR Part 61.31 (e)(f)

Requirements for PIC in a Complex and High-Performance Airplane

To fly solo in complex and/or high-performance airplanes owned by the University of Dubuque, you must meet the requirements of 14 CFR Part 61.31 (e)(f). You must have:

1. 10 hours of training in a complex and/or high-performance airplane
2. Complex and/or high-performance endorsement as appropriate, and
3. A flight check by an instructor employed by the University of Dubuque.

Hours		

STAGE TWO—Lesson 15 *Briefing*

COMPLEX AIRCRAFT OPERATIONS

OBJECTIVE: Review of the complex, high-performance aircraft Pilot' s Operating handbook.

TIME: As required.

SECTION 1—GENERAL

___ ___ ___ Elec/Mech Flap Ops
___ ___ ___ Constant Speed Props Ops
___ ___ ___ Retractable Gear Ops
___ ___ ___ High Performance Engine Ops
___ ___ ___ High Altitude Operations
___ ___ ___ Oxygen Requirements

Aircraft Specific

___ ___ ___ Three View
___ ___ ___ Engine
___ ___ ___ Propeller
___ ___ ___ Fuel
___ ___ ___ Oil
___ ___ ___ Weights
___ ___ ___ Loadings
___ ___ ___ Abbreviations
___ ___ ___ Terminology

SECTION 2—LIMITATIONS

___ ___ ___ Airspeed Limits, Markings
___ ___ ___ Powerplant Limits, Markings
___ ___ ___ Weight Limits
___ ___ ___ CG Limits
___ ___ ___ Manuver Limits
___ ___ ___ Load Factor Limits
___ ___ ___ Kinds of Operations Limits
___ ___ ___ Fuel Limitations
___ ___ ___ Placards

SECTION 3—EMERGENCY PROCEDURES

___ ___ ___ Airspeeds
___ ___ ___ Engine Failures
___ ___ ___ Forced Landings
___ ___ ___ Fires
___ ___ ___ Icing
___ ___ ___ Landing with a Flat Tire
___ ___ ___ Electrical
___ ___ ___ Landing without elevator control
___ ___ ___ Emergency ops in clouds
___ ___ ___ Spins
___ ___ ___ Rough engine, Loss of Power

SECTION 4—NORMAL PROCEDURES

___ ___ ___ Airspeeds
___ ___ ___ Constant Speed Props Ops

Checklists Procedures

___ ___ ___ Preflight
___ ___ ___ Before Start
___ ___ ___ Starting Engine
___ ___ ___ Before Takeoff
___ ___ ___ Takeoff
___ ___ ___ Enroute climb
___ ___ ___ Cruise
___ ___ ___ Descent
___ ___ ___ Before Landing
___ ___ ___ Landing
___ ___ ___ After Landing
___ ___ ___ Cold Weather Ops
___ ___ ___ Hot Weather Ops
___ ___ ___ Noise Abatement

SECTION 5—PERFORMANCE

___ ___ ___ Use of Charts
___ ___ ___ Airspeed Calibrations
___ ___ ___ Temperature Conversion
___ ___ ___ Stall Speeds
___ ___ ___ Rate of Climb
___ ___ ___ Time, Fuel, Distance
___ ___ ___ Cruise Performance
___ ___ ___ Range Profile
___ ___ ___ Endurance Profile
___ ___ ___ Landing Distance

SECTION 6— WEIGHT AND BALANCE

___ ___ ___ Aircraft Weighing
___ ___ ___ Weight and Balance
___ ___ ___ Equipment List

SECTION 7—SYSTEMS

___ ___ ___ Airframe
___ ___ ___ Flight Controls
___ ___ ___ Instrument Panel
___ ___ ___ Ground Control
___ ___ ___ Wing Flap System
___ ___ ___ Landing Gear System
___ ___ ___ Baggage Compartment
___ ___ ___ Seats
___ ___ ___ Doors & Windows
___ ___ ___ Control Locks
___ ___ ___ Engine
___ ___ ___ Propeller
___ ___ ___ Fuel System
___ ___ ___ Brake System
___ ___ ___ Electrical System
___ ___ ___ Lighting System
___ ___ ___ Cabin Heating
___ ___ ___ Pitot-Static System
___ ___ ___ Vacuum System
___ ___ ___ Stall Warning System
___ ___ ___ Audio Control Panel
___ ___ ___ Microphone / Headset
___ ___ ___ Static Discharges

SECTION 8—SERVICE

___ ___ ___ ID Plate
___ ___ ___ Owner Follow up
___ ___ ___ Airplane File
___ ___ ___ Airplane Inspections
___ ___ ___ Pilot Maintenance
___ ___ ___ Alterations / Repairs
___ ___ ___ Ground Handling
___ ___ ___ Servicing
___ ___ ___ Cleaning and Care

SECTION 9—SUPPLEMENTS

___ ___ ___ Supplemental Equipment

Hours		

STAGE TWO—Lesson 15 *Briefing*

COMPLEX AIRCRAFT OPERATIONS

COMPLETION STANDARDS

The student will be able to find information promptly in the POH and other aircraft documents; and use weight and balance and performance charts accurately for flight planning purposes. The student will achieve a grade of 2 or better on each task.

Instructor	Student	Date	Acft Type	N #

Hours		

STAGE TWO—Lesson 16 *Dual*

COMPLEX AIRCRAFT OPERATIONS

OBJECTIVE: Practice of piloting skills required for complex aircraft.

TIME: 9.0 hours approximately

PREFLIGHT BRIEFLING

- Discussion of the lesson
- Review of POH emergency procedures
- Aeronautical Decision Making (ADM)
- Land and Hold Short Lines (LAHSO)
- Controlled Flight Into Terrain (CFIT)
- RUNWAY INCURSION avoidance
- Wake turbulence/ wind shear
- Positive transfer of controls
- Collision avoidance
- Stall / spin Awareness

PREFLIGHT

- ✔ Cockpit
- Certificates & Documents—ARROW
- ✔ Preflight inspection
- Airplane servicing

STARTUP

- Engine start
- Comm radio setup-freq, vol, xmitter
- Nav radio setup– freq, ID, set course

TAXI

- ✔ Taxi
- Taxi clearance– copy, confirm, comply
- Taxiing– wind, speed, tracking, hazards
- Traffic watch / Call HOLD SHORT lines
- ✔ Runup

TAKEOFF

- ✔ Takeoff
- Takeoff clearance-copy, confirm, comply
- Takeoff-normal, crosswind, short, soft
- Gear retraction
- Power reduction– throttle, propeller

BASIC MANEUVERS

- ✔ Climb
- Climbs with turns–Cs (Vx, Vy, cruise), IR
- Traffic pattern departure
- Level-off from climb– IR
- ✔ Cruise
- Straight & level– IR
- Level turns– shallow , medium, steep— IR
- Engine checks, traffic checks

EMERGENCY OPERATIONS

- Emergency approach and landing
- Emergency descent

SYSTEMS AND EQUIPMENT MALFUNCTIONS

- Partial or complete power loss
- Engine roughness or overheat
- Carburetor or induction icing
- Loss of oil pressure
- Fuel starvation
- Electrical malfunction
- Vacuum/pressure, & associated flight instrument malfunction
- Pitot/static
- Landing gear or flap malfunction
- Inoperative or runaway trim
- Inadvertent door or window opening
- Structural icing
- Smoke/fire/engine compartment fire
- Any other emergency appropriate to the airplane
- Emergency equipment and survival gear

ADVANCED MANUEVERS

- Emerg field, PMC, collision avoidance
- Slow flight
- Spin awareness
- Power-off stalls
- Power-on stalls
- Accelerated stalls

BASIC MANUEVERS

- ✔ Descents
- Descents with turns– Cs, IR
- Level-off from descent– IR

Hours		

STAGE TWO—Lesson 16 *Dual*

COMPLEX AIRCRAFT OPERATIONS

LANDING

____ ____ ____ Approach– location, communication

____ ____ ____ Pattern entry / traffic pattern

____ ____ ____ ✔ Landing

____ ____ ____ Landing clearance—copy, confirm, comply

____ ____ ____ Stabilized approach

____ ____ ____ Flaps– all Settings

____ ____ ____ Landings– normal, crosswind

____ ____ ____ Roundout– crosswind cx, height

____ ____ ____ Touchdown-- drift, centerline, full stall

____ ____ ____ ✔ Go around

____ ____ ____ Taxi clearance-copy, confirm, comply

____ ____ ____ ✔ Taxi– wind, speed, braking, hazards

____ ____ ____ ✔ Shutdown

POSTFLIGHT

____ ____ ____ Posflight inspection of aircraft

____ ____ ____ Debrief / Update syllabus and logbook

COMPLETION STANDARDS

The Student will perform all maneuvers to Private Pilot ACS and achieve a grade of 2 or better on each task.

Instructor	Student	Date	Acft Type	N #
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	Dual AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

Hours		

STAGE TWO—Lesson 17 *Dual Aircraft or AATD*

COMPLEX AIRCRAFT OPERATIONS

OBJECTIVE: Review instrument flight operations in the complex aircraft.

TIME: 1.0 hours approximately. **Instrument**

PREFLIGHT BREIFING

____	____	____	Discussion of this lesson
____	____	____	Review POH normal procedures
____	____	____	ADM and risk management
____	____	____	RUNWAY INCURSION avoidance
____	____	____	Checklist usage
____	____	____	Positive transition of controls
____	____	____	Collision avoidance/Visual scanning
____	____	____	Stall / spin awareness

PREFLIGHT

____	____	____	✔ Cockpit
____	____	____	Certificates & Documents– ARROW
____	____	____	✔ Preflight inspection
____	____	____	Airplane servicing

STARTUP

____	____	____	✔ Engine start
____	____	____	Comm radio setup– freq, vol, xmitter
____	____	____	Nav radio setup– freq, ID, Set Course

TAXI

____	____	____	✔ Taxi
____	____	____	Taxi clearance– copy, confirm, comply
____	____	____	Begin taxi– brake check, steering check
____	____	____	Taxiing

TAKEOFF

____	____	____	✔ Takeoff
____	____	____	Takeoff clearance—copy, confirm, comply
____	____	____	Takeoff—normal, crosswind
____	____	____	Takeoff—short, soft
____	____	____	Gear retraction
____	____	____	Power reduction—throttle, propeller

BASIC MANUEUVERS

____	____	____	✔ Climbs
____	____	____	Climbs with turns (Vx, Vy, Cruise) IR
____	____	____	Traffic pattern departure
____	____	____	Level off from climb—IR
____	____	____	✔ Cruise
____	____	____	Straight and level—IR
____	____	____	Level turns– shallow, medium, IR
____	____	____	Engine checks, traffic checks

INSTRUMENT PRACTICE

____	____	____	Intercepting and tracking VOR radial
____	____	____	VOR approach
____	____	____	RNAV/GPS approach
____	____	____	RNAV/GPS hold
____	____	____	ILS approach
____	____	____	Partial panel approach

Hours		

STAGE TWO—Lesson 17 *Dual*

COMPLEX AIRCRAFT OPERATIONS

LANDING

___ ___ ___ Approach-location, communication

___ ___ ___ Pattern entry / traffic pattern

___ ___ ___ ✔ Landing

___ ___ ___ Landing clearance– copy, confirm, comply

___ ___ ___ Stabilized approach

___ ___ ___ Landings– normal, crosswind

___ ___ ___ Landings—accuracy

___ ___ ___ Roundout--crosswind cx, height

___ ___ ___ Touchdown– drift, centerline, full stall

___ ___ ___ ✔ Go around

___ ___ ___ Taxi clearance– copy, confirm, comply

___ ___ ___ ✔ Taxi– wind, speed, braking, hazards

___ ___ ___ ✔ Shutdown

POSTFLIGHT

___ ___ ___ Postflight inspection of aircraft

___ ___ ___ Debrief / Update syllabus and logbook

COMPLETION STANDARDS

The student will perform all maneuvers to Private Pilot ACS and achieve a grade of 2 or better on each task.

Instructor	Student	Date	Acft Type	N #

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/ AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

Hours		

STAGE TWO—Lesson 18

COMPLEX AIRCRAFT CHECK

OBJECTIVE: The student will demonstrate proficiency in the maneuvers listed below.

TIME: 1.0 hours approximately.

PREFLIGHT BRIEFING

____	____	____	Discussion of this lesson
____	____	____	AIC systems and endorsement
____	____	____	Review of POH emergency procedures
____	____	____	ADM and risk management
____	____	____	CFIT/Wire strike avoidance
____	____	____	RUNWAY INCURSION avoidance
____	____	____	Wake turbulence / wind shear
____	____	____	Checklist usage
____	____	____	Positive transfer of controls
____	____	____	TFRs and SUA
____	____	____	Collision avoidance
____	____	____	Aviation security
____	____	____	Stall / spin awareness
____	____	____	SRM

✔ **EMERGENCY PROCEDURES (ORAL REVIEW)**

____	____	____	Electrical fire, engine fire-on ground, inflight
____	____	____	Emergency descent
____	____	____	Alternator failure, Flap failure, gear failure
____	____	____	Icing
____	____	____	Ditching

PREFLIGHT

____	____	____	✔ Cockpit
____	____	____	Certificates & Documents– ARROW
____	____	____	✔ Preflight inspection
____	____	____	Airplane servicing

STARTUP

____	____	____	✔ Engine start
____	____	____	Comm radio setup-freq, vol, xmitter
____	____	____	Nav radio setup, freq, vol, xmitter

TAXI

____	____	____	✔ Taxi
____	____	____	Taxi clearance– copy, confirm, comply
____	____	____	Begin taxi– brake check, steering check
____	____	____	Taxiing– wind, speed, braking, hazards
____	____	____	Traffic watch / Call HOLD SHORT lines
____	____	____	✔ Runup

TAKEOFF

____	____	____	✔ Takeoff
____	____	____	Takeoff clearance-copy, confirm, comply
____	____	____	Takeoff– normal, crosswind, short, soft
____	____	____	Gear retraction
____	____	____	Power reduction– throttle, propeller

BASIC MANEUEVERS

____	____	____	✔ Climb
____	____	____	Climbs with turns– Cs (vx, Vy, cruise), VR-IR
____	____	____	Traffic pattern departure
____	____	____	Level-off from climb– VR-IR
____	____	____	✔ Cruise
____	____	____	Straight & level-Vr-IR
____	____	____	Level turns-shallow, medium, steep, VR-IR
____	____	____	Engine checks, traffic checks

✔ **EMERGENCY PROCEDURES (PRACTICAL REVIEW)**

____	____	____	Engine failure– takeoff run, after takeoff, in-flight
____	____	____	Forced landings– power, no power
____	____	____	Landing gear failure
____	____	____	Emergency descent

ADVANCED MANEUVERS

____	____	____	Emerg Field, PMC, collision avoidance
____	____	____	Slow flight
____	____	____	Power-off stalls
____	____	____	Power-on stalls
____	____	____	Accelerated stalls
____	____	____	Spin awareness

BASIC MANEUEVERS

____	____	____	✔ Descents
____	____	____	Descents with turns-Cs, VR-IR
____	____	____	Level-off from descent– VR-IR

Hours		

STAGE TWO—Lesson 18

COMPLEX AIRCRAFT CHECK

LANDING

___ ___ ___ Approach– location, communication

___ ___ ___ Pattern entry / traffic pattern

___ ___ ___ ✔ Landing

___ ___ ___ Landing clearance– copy, confirm, comply

___ ___ ___ Stabilized approach

___ ___ ___ Flaps– all settings

___ ___ ___ Landings– normal, crosswind

___ ___ ___ Landings—short, soft

___ ___ ___ Landings—accuracy

___ ___ ___ Roundout– crosswind cx, height

___ ___ ___ Touchdown-drift, centerline, full stall

___ ___ ___ ✔ Go around

___ ___ ___ Taxi clearance– copy, confirm, comply

___ ___ ___ ✔ Taxi– wind, speed, braking, hazards

___ ___ ___ ✔ Shutdown

POSTFLIGHT

___ ___ ___ Postflight inspection of aircraft

___ ___ ___ Debrief / Update syllabus and logbook

COMPLETION STANDARDS

The student will demonstrate proficiency in the operation of a complex aircraft and perform all maneuvers to Private Pilot ACS. On successful completion, with a grade of 2 or better, the primary instructor will issue the appropriate endorsements.

Instructor	Student	Date	Acft Type	N #

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/ AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only		**(±50)**		**(±25)**

Dual Day + Dual Night + Dual AATD = ±42

Dual Inst + Dual AATD = Total Inst/AATD

COMMERCIAL PILOT LESSON 18—Stage Check

Comments:

Recommendations:

1 _____ **This Stage Check performance indicates that additional review is necessary.**

- Do review lessons on all items marked "1" until your instructor indicates a satisfactory "2".
- Insert the review lesson sheets following this page.
- Then return to a check instructor.

Check Instructor	Student	Date
_____	_____	_____

2 _____ **This Stage Check was performed in a satisfactory manner.** Move on to the next stage.

Check Instructor	Student	Date
_____	_____	_____

COMMERCIAL PILOT CERTIFICATION

Training Course Outline

STAGE THREE

COMMERCIAL MANEUVERS FLIGHT TRAINING

Lessons 19—25

13.0 hours (approx) of Dual Flight Training which includes

3 hours of training in preparation for the practical test within 60 days preceding the date of the test.

15.0 hours (approx.) of SOLO* commercial maneuvers flight training

which includes:

5.0 hours complex aircraft min.

Stage Three Objectives

Students will be instructed in flying the maneuvers required of commercial pilot applicants. Students will receive instruction until they meet the requirements of the Commercial Pilot ACS.

Stage Three Completion Standards

This stage will be complete when the student has completed all Stage Three Lessons, and when they have satisfactorily completed the Commercial Pilot Certification Training Course Outline.

Note: The required flight time in this stage can be accomplished in either a non-complex or a complex aircraft

Hours		

STAGE THREE—Lesson 19 *Solo*

COMPLEX AIRCRAFT TRAINING

OBJECTIVE: Practice of piloting skills required for complex aircraft.

TIME: 5.0 hours minimum.

PREFLIGHT BRIEFING *(student briefs instructor)*

____ ____ ____ Discussion of this lesson
____ ____ ____ Review of POH emergency procedures
____ ____ ____ ADM and risk management
____ ____ ____ TFRs and SUA
____ ____ ____ Land and Hold Short Operations (LAHSO)
____ ____ ____ CFIT/Wire strike avoidance
____ ____ ____ Checklist usage
____ ____ ____ RUNWAY INCURSION Avoidance
____ ____ ____ Aviation security
____ ____ ____ Wake turbulence / wind shear avoidance
____ ____ ____ SRM
____ ____ ____ Collision avoidance
____ ____ ____ Stall / spin awareness

VERIFY COMPLEX / HP ENDORSEMENT

____ ____ ____ ✔ Cockpit
____ ____ ____ Certificates & Documents– *ARROW*
____ ____ ____ ✔ Preflight inspection
____ ____ ____ Airplane servicing

STARTUP

____ ____ ____ ✔ Engine start
____ ____ ____ Comm radio setup-freq, vol, xmitter
____ ____ ____ Nav radio setup– freq, ID, set course

TAXI

____ ____ ____ ✔ Taxi
____ ____ ____ Taxi clearance– copy, confirm, comply
____ ____ ____ Begin taxi– hazards, brake& steering check
____ ____ ____ Taxi– wind, speed, braking, hazards
____ ____ ____ Traffic watch / Call HOLD SHORT lines
____ ____ ____ ✔ Runup

TAKEOFF

____ ____ ____ ✔ Takeoff
____ ____ ____ Takeoff clearance-copy, confirm, comply
____ ____ ____ Takeoffs– normal, crosswind, short, soft
____ ____ ____ Gear retraction
____ ____ ____ Power reduction– throttle, propeller

BASIC MANEUVERS

____ ____ ____ ✔ Climb
____ ____ ____ Climbs w/ turns– Cs (vx, Vy, cruise), VR-IR
____ ____ ____ Traffic pattern departure
____ ____ ____ Level-off from climb– VR-IR
____ ____ ____ Cruise

ADVANCED MANEUVERS

____ ____ ____ Emerg ldg field, PMC, collision avoidance
____ ____ ____ Slow flight
____ ____ ____ Power– off stalls
____ ____ ____ Power– on stalls
____ ____ ____ Accelerated stalls
____ ____ ____ Spin awareness

BASIC MANEUVERS

____ ____ ____ ✔ Descents
____ ____ ____ Descents w/ turns– Cs, VR-IR
____ ____ ____ Level-off from descent– VR-IR

Hours		

STAGE THREE—Lesson 19 *Solo*

COMPLEX AIRCRAFT TRAINING

LANDING

____ ____ ____ Approach-location, communication

____ ____ ____ Pattern entry / Traffic Pattern

____ ____ ____ ✔ Landing

____ ____ ____ Landing clearance-copy, confirm, comply

____ ____ ____ Stabilized Approach

____ ____ ____ Flaps– all settings

____ ____ ____ Landings—normal, crosswind

____ ____ ____ Landings—short, soft

____ ____ ____ Roundout– crosswind cx, height

____ ____ ____ Touchdown– drift, centerline, full stall

____ ____ ____ ✔ Go Around

____ ____ ____ Taxi clearance– copy, confirm, comply

____ ____ ____ ✔ Taxi– wind, speed, braking, hazards

____ ____ ____ ✔ Shutdown

POSFLIGHT

____ ____ ____ Postflight inspection of aircraft

____ ____ ____ Dual debriefing with instructor

____ ____ ____ Update syllabus and logbook

COMPLETION STANDARDS

This lesson will be complete when the student has performed a satisfactory briefing, with a grade of 2 or better , and has flown the required hours and has completed all tasks.

Instructor	Student	Date	Acft Type	N #

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	AATD	Solo Day	Solo Night	Solo X-Ctry	Total Solo/PIC	Total Acft	Total Inst/ AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

Hours		

STAGE THREE—Lesson 20 *Briefing*

COMMERCIAL PILOT MANEUVERS

OBJECTIVE: The instructor will review, with the student, the required commercial maneuvers.

TIME: As required.

STEEP TURNS

____ ____ ____

The student will be able to explain the maneuver in accordance with the Airplane Flying Handbook and the Commercial ACS while using a model airplane as a teaching aid.

CHANDELLES

____ ____ ____

The student will be able to explain the maneuver in accordance with the Airplane Flying Handbook and the Commercial ACS while using a model airplane as a teaching aid.

LAZY EIGHTS

____ ____ ____

The student will be able to explain the maneuver in accordance with the Airplane Flying Handbook and the Commercial ACS while using a model airplane as a teaching aid.

STEEP SPIRALS

____ ____ ____

The student will be able to explain the maneuver in accordance with the Airplane Flying Handbook and the Commercial ACS while using a model airplane as a teaching aid.

EIGHTS– ON PYLONS

____ ____ ____

The student will be able to explain the maneuver in accordance with the Airplane Flying Handbook and the Commercial ACS while using a model airplane as a teaching aid.

COMPLETION STANDARDS

This lesson will be complete when the student can explain each maneuver completely thereby achieving a grade of 2 on each task.

Instructor	Student	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____

Hours		

STAGE THREE—Lesson 21

DUAL AIRCRAFT

OBJECTIVE: The student will be instructed in performing the required commercial maneuvers.

TIME: 4.0 hours approximately.

PREFLIGHT BRIEFING

- ____ ____ ____ Discussion of this lesson
- ____ ____ ____ ADM and risk management
- ____ ____ ____ LAHSO
- ____ ____ ____ Runway incursion avoidance (Call HOLD SHORT lines)
- ____ ____ ____ Stall & spin awareness
- ____ ____ ____ Checklist usage
- ____ ____ ____ Wake turb / wind Shear / collision avoidance
- ____ ____ ____ TFRs and SUA
- ____ ____ ____ Positive transfer of controls
- ____ ____ ____ CFIT/Wire strike avoidance
- ____ ____ ____ Aviation security
- ____ ____ ____ Land and Hold Short Lines (LAHSO)
- ____ ____ ____ SRM

✔ **EMERGENCY PROCEDURES (ORAL REVIEW)**

- ____ ____ ____ Fire– Startup, engine or electrical inflight, cabin, wing
- ____ ____ ____ Icing-Structural inflight, static port blockage, carb ice
- ____ ____ ____ Flap Failure / landing– with a flat tire
- ____ ____ ____ Electrical malfunctions
- ____ ____ ____ Emergency descent

PREFLIGHT

- ____ ____ ____ Cockpit
- ____ ____ ____ Certificates & Documents– ARROW
- ____ ____ ____ ✔ Preflight inspection
- ____ ____ ____ Airplane servicing

STARTUP

- ____ ____ ____ ✔ Engine start
- ____ ____ ____ Comm radio setup-freq, vol, xmitter
- ____ ____ ____ VOR setup– freq, ID, set course
- ____ ____ ____ RNAV / GPS setup

TAXI

- ____ ____ ____ ✔ Taxi
- ____ ____ ____ Taxi clearance– copy, confirm, comply
- ____ ____ ____ Begin taxi– brake check, steering check
- ____ ____ ____ Taxiing– wind, speed, braking, hazards
- ____ ____ ____ Call HOLD SHORT lines
- ____ ____ ____ ✔ Runup

TAKEOFF

- ____ ____ ____ ✔ Takeoff
- ____ ____ ____ Takeoff clearance-copy, confirm, comply
- ____ ____ ____ Takeoff– normal, crosswind, short, soft
- ____ ____ ____ Pattern departure

BASIC MANEUEVERS

- ____ ____ ____ Climb
- ____ ____ ____ Climbs w/ turns– Cs (vx, Vy, cruise), VR-IR
- ____ ____ ____ Traffic pattern departure
- ____ ____ ____ Level-off from climb– VR-IR
- ____ ____ ____ ✔ Cruise Flight

COMMERCIAL MANEUVERS

- ____ ____ ____ Emerg field, PMC, collision avoidance
- ____ ____ ____ Slow flight– P-factor, torque, heading, altitude
- ____ ____ ____ Spin awareness
- ____ ____ ____ Stalls- power-off
- ____ ____ ____ Stalls– power-on
- ____ ____ ____ Accelerated stalls
- ____ ____ ____ Steep turns
- ____ ____ ____ Lazy eights
- ____ ____ ____ Chandelles
- ____ ____ ____ Steep spirals
- ____ ____ ____ Eights on pylons

BASIC MANEUVERS

- ____ ____ ____ ✔ Descents
- ____ ____ ____ Descents w/ turns– Cs (Vx, Vy, cruise), VR-IR

LANDING

- ____ ____ ____ Approach– location, communication
- ____ ____ ____ Pattern entry
- ____ ____ ____ ✔ Landing
- ____ ____ ____ Traffic pattern– downwind, base, final
- ____ ____ ____ Landing clearance-copy, confirm, comply

Hours		

STAGE THREE—Lesson 21

DUAL AIRCRAFT

LANDING *(continued)*

____	____	____	Stabilized approach
____	____	____	Flaps– all settings
____	____	____	Forward slips to landing
____	____	____	Landings-normal, xwind, short, soft, accuracy
____	____	____	Roundout– height, crosswind cx
____	____	____	Touchdown– full stall, drift, centerline
____	____	____	✔ Go around
____	____	____	Taxi clearance– copy, confirm, comply
____	____	____	✔ Taxi– wind, speed, braking, hazards
____	____	____	✔ Shutdown

POSTFLIGHT

____	____	____	Postflight inspection of aircraft
____	____	____	Debrief / Update syllabus and logbook

COMPLETION STANDARDS

This lesson will be complete when the student can perform the commercial maneuvers to the following standards: Headings ±15 degrees, Altitude ±150', Airspeed ±10 kts, while maintaining coordinated flight.

Instructor	Student	Date	Acft Type	N #
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/ AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

Hours		

STAGE THREE—Lesson 22

SOLO AIRCRAFT

OBJECTIVE: The student will practice the required commercial maneuvers.

TIME: 5.0 hours approximately.

PREFLIGHT BRIEFING

- ____ ____ ____ Discussion of this lesson
- ____ ____ ____ Weather planning
- ____ ____ ____ ADM and risk management
- ____ ____ ____ Runway incursion avoidance (Call HOLD SHORT lines)
- ____ ____ ____ Checklist usage
- ____ ____ ____ Stall & spin awareness
- ____ ____ ____ Aviation security
- ____ ____ ____ Wake turb / Wind shear / Collision avoidance
- ____ ____ ____ CFIT/Wire strike avoidance
- ____ ____ ____ SRM
- ____ ____ ____ Land an Hold Short Lines (LAHSO)

✔ **EMERGENCY PROCEDURES (ORAL REVIEW)**

- ____ ____ ____ Review all procedures

PREFLIGHT

- ____ ____ ____ ✔ Cockpit
- ____ ____ ____ Certificates & Documents– ARROW
- ____ ____ ____ ✔ Preflight inspection
- ____ ____ ____ Airplane servicing

STARTUP

- ____ ____ ____ ✔ Engine start
- ____ ____ ____ Comm radio setup-freq, vol, xmitter
- ____ ____ ____ VOR setup– freq, ID, set course
- ____ ____ ____ RNAV / GPS setup

TAXI

- ____ ____ ____ ✔ Taxi
- ____ ____ ____ Taxi clearance– copy, confirm, comply
- ____ ____ ____ Begin taxi– hazards, brake& steering check
- ____ ____ ____ Taxi– wind, speed, braking, hazards
- ____ ____ ____ Call HOLD SHORT lines
- ____ ____ ____ ✔ Runup

TAKEOFF

- ____ ____ ____ ✔ Takeoff
- ____ ____ ____ Takeoff clearance-copy, confirm, comply
- ____ ____ ____ Takeoff– normal, crosswind, short, soft
- ____ ____ ____ Pattern departure

BASIC MANEUEVERS

- ____ ____ ____ ✔ Climb
- ____ ____ ____ Climbs w/ turns– Cs (vx, Vy, cruise), VR-IR
- ____ ____ ____ Traffic pattern departure
- ____ ____ ____ Level-off from climb– VR-IR
- ____ ____ ____ ✔ Cruise flight

COMMERCIAL MANEUVERS

- ____ ____ ____ Emerg field, PMC, collision avoidance
- ____ ____ ____ Slow flight– P-factor, torque, heading, altitude
- ____ ____ ____ Spin awareness
- ____ ____ ____ Stalls- power-off
- ____ ____ ____ Stalls– power-on
- ____ ____ ____ Accelerated stalls
- ____ ____ ____ Steep turns
- ____ ____ ____ Lazy eights
- ____ ____ ____ Chandelles
- ____ ____ ____ Steep spirals
- ____ ____ ____ Eights on pylons

BASIC MANEUVERS

- ____ ____ ____ ✔ Descents
- ____ ____ ____ Descents w/ turns– Cs (Vx, Vy, cruise), VR-IR

LANDING

- ____ ____ ____ Approach– location, communication
- ____ ____ ____ Pattern entry
- ____ ____ ____ ✔ Landing
- ____ ____ ____ Traffic pattern– downwind, base, final
- ____ ____ ____ Landing clearance-copy, confirm, comply

Hours		

STAGE THREE—Lesson 22

SOLO AIRCRAFT

LANDING *(continued)*

____ ____ ____ Stabilized approach

____ ____ ____ Flaps– all settings

____ ____ ____ Forward slips to landing

____ ____ ____ Landings-normal, xwind, short, soft, accuracy

____ ____ ____ Roundout– height, crosswind cx

____ ____ ____ Touchdown– full stall, drift, centerline

____ ____ ____ ✔ Go around

____ ____ ____ Taxi clearance– copy, confirm, comply

____ ____ ____ ✔ Taxi– wind, speed, braking, hazards

____ ____ ____ ✔ Shutdown

POSTFLIGHT

____ ____ ____ Postflight inspection of aircraft

____ ____ ____ Debrief / Update syllabus and logbook

COMPLETION STANDARDS

This lesson will be complete when the student has performed a satisfactory briefing, with a grade of 2 or better , and has flown the required hours and has completed all tasks.

Instructor	Student	Date	Acft Type	N #

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/ AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

Hours		

STAGE THREE—Lesson 23

DUAL AIRCRAFT

OBJECTIVE: The student will be instructed in performing the required commercial maneuvers.

TIME: 5.0 hours approximately.

PREFLIGHT BRIEFING

- Discussion of this lesson
- Weather planning
- ADM and risk management
- TFRs and SUA
- Runway incursion avoidance (Call HOLD SHORT lines)
- Stall & spin awareness
- Wake turb / wind shear / collision avoidance
- Checklist usage
- Positive transfer of controls
- CFIT/Wire strike avoidance
- Aviation security
- Land an Hold Short Lines (LAHSO)
- SRM

✔ **EMERGENCY PROCEDURES (ORAL REVIEW)**

- Fire-startup, engine or electrical inflight, cabin, wing
- Icing-Structural inflight, static port blockage, carb ice
- Flap Failure/ landing– with a flat tire
- Electrical malfunctions
- Emergency descent

PREFLIGHT

- ✔ Cockpit
- Certificates & Documents– ARROW
- ✔ Preflight inspection
- Airplane servicing

STARTUP

- ✔ Engine start
- Comm radio setup-freq, vol, xmitter
- VOR setup– freq, ID, set course
- RNAV / GPS setup

TAXI

- ✔ Taxi
- Taxi clearance– copy, confirm, comply
- Begin taxi– hazards, brake& steering check
- Taxi– wind, speed, braking, hazards
- Call HOLD SHORT lines
- ✔ Runup

TAKEOFF

- ✔ Takeoff
- Takeoff clearance-copy, confirm, comply
- Takeoff– normal, crosswind, short, soft
- Pattern departure

BASIC MANEUEVERS

- ✔ Climb
- Climbs w/ turns– Cs (vx, Vy, cruise), VR-IR
- Traffic pattern departure
- Level-off from climb– VR-IR
- ✔ Cruise flight

COMMERCIAL MANEUVERS

- Emerg field, PMC, collision avoidance
- Slow flight– P-factor, torque, heading, altitude
- Spin awareness
- Stalls- power-off
- Stalls– power-on
- Accelerated stalls
- Steep turns
- Lazy eights
- Chandelles
- Steep spirals
- Eights on pylons

BASIC MANEUVERS

- ✔ Descents
- Descents w/ turns– Cs (Vx, Vy, cruise), VR-IR

LANDING

- Approach– location, communication
- Pattern entry
- ✔ Landing
- Traffic pattern– downwind, base, final
- Landing clearance-copy, confirm, comply

Hours		

STAGE THREE—Lesson 23

DUAL AIRCRAFT

LANDING *(continued)*

____	____	____	Stabilized approach
____	____	____	Flaps– all settings
____	____	____	Forward slips to landing
____	____	____	Landings-normal, xwind, short, soft, accuracy
____	____	____	Roundout– height, crosswind cx
____	____	____	Touchdown– full stall, drift, centerline
____	____	____	✔ Go around
____	____	____	Taxi clearance– copy, confirm, comply
____	____	____	✔ Taxi– wind, speed, braking, hazards
____	____	____	✔ Shutdown

POSTFLIGHT

____	____	____	Postflight inspection of aircraft
____	____	____	Debrief / Update syllabus and logbook

COMPLETION STANDARDS

This lesson will be complete when the student can perform the commercial maneuvers to the following standards: Headings ±15 degrees, Altitude ±150', Airspeed ±10 kts, while maintaining coordinated flight.

Instructor	Student	Date	Acft Type	N #

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/ AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

Hours		

STAGE THREE—Lesson 24

SOLO AIRCRAFT

OBJECTIVE: The student will practice the required commercial maneuvers.

TIME: 5.0 hours approximately.

PREFLIGHT BRIEFING

___ ___ ___ Discussion of this lesson
___ ___ ___ Weather planning
___ ___ ___ ADM and risk management
___ ___ ___ TFRs and SUA
___ ___ ___ Runway incursion avoidance (Call HOLD SHORT lines)
___ ___ ___ Stall & spin awareness
___ ___ ___ Checklist usage
___ ___ ___ Wake turb / wind shear / collision avoidance
___ ___ ___ CFIT/Wire strike avoidance
___ ___ ___ Aviation security
___ ___ ___ Land an Hold Short Lines (LAHSO)
___ ___ ___ SRM

✔ **EMERGENCY PROCEDURES (ORAL REVIEW)**

___ ___ ___ Review all of procedures

PREFLIGHT

___ ___ ___ ✔ Cockpit
___ ___ ___ Certificates & Documents– ARROW
___ ___ ___ ✔ Preflight inspection
___ ___ ___ Airplane servicing

STARTUP

___ ___ ___ ✔ Engine Start
___ ___ ___ Comm radio setup-freq, vol, xmitter
___ ___ ___ VOR setup– freq, ID, set course
___ ___ ___ RNAV / GPS setup

TAXI

___ ___ ___ ✔ Taxi
___ ___ ___ Taxi clearance– copy, confirm, comply
___ ___ ___ Begin taxi– hazards, brake& steering check
___ ___ ___ Taxi– wind, speed, braking, hazards
___ ___ ___ Call HOLD SHORT lines
___ ___ ___ ✔ Runup

TAKEOFF

___ ___ ___ ✔ Takeoff
___ ___ ___ Takeoff clearance-copy, confirm, comply
___ ___ ___ Takeoff– normal, crosswind, short, soft
___ ___ ___ Pattern Departure

BASIC MANEUEVERS

___ ___ ___ ✔ Climb
___ ___ ___ Climbs w/ turns– Cs (vx, Vy, cruise), VR-IR
___ ___ ___ Traffic pattern departure
___ ___ ___ Level-off from climb– VR-IR
___ ___ ___ ✔ Cruise flight

COMMERCIAL MANEUVERS

___ ___ ___ Emerg field, PMC, Collision Avoidance
___ ___ ___ Slow flight– P-factor, torque, heading, altitude
___ ___ ___ Spin awareness
___ ___ ___ Stalls- power-off
___ ___ ___ Stalls– power-on
___ ___ ___ Accelerated stalls
___ ___ ___ Steep turns
___ ___ ___ Lazy eights
___ ___ ___ Chandelles
___ ___ ___ Steep spirals
___ ___ ___ Eights on pylons

BASIC MANEUVERS

___ ___ ___ ✔ Descents
___ ___ ___ Descents w/ turns– Cs (Vx, Vy, cruise), VR-IR

LANDING

___ ___ ___ Approach– location, communication
___ ___ ___ Pattern Entry
___ ___ ___ ✔ Landing
___ ___ ___ Traffic pattern– downwind, base, final
___ ___ ___ Landing clearance-copy, confirm, comply

Hours		

STAGE THREE—Lesson 24

SOLO AIRCRAFT

LANDING *(continued)*

____ ____ ____ Stabilized approach

____ ____ ____ Flaps– all settings

____ ____ ____ Forward slips to landing

____ ____ ____ Landings-normal, xwind, short, soft, accuracy

____ ____ ____ Roundout– height, crosswind cx

____ ____ ____ Touchdown– full stall, drift, centerline

____ ____ ____ ✔ Go around

____ ____ ____ Taxi clearance– copy, confirm, comply

____ ____ ____ ✔ Taxi– wind, speed, braking, hazards

____ ____ ____ ✔ Shutdown

POSTFLIGHT

____ ____ ____ Postflight inspection of aircraft

____ ____ ____ Debrief / Update syllabus and logbook

COMPLETION STANDARDS

This lesson will be complete when the student has performed a satisfactory briefing, with a grade of 2 or better , and has flown the required hours and has completed all tasks.

Instructor	Student	Date	Acft Type	N #

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	AATD	Solo Day	Solo Night	Solo/PIC X-Ctry	Total Solo/PIC	Total Acft	Total Inst/ AATD
Previous											
This Lesson											
Total											
						Stage 3 only	Lesson 9 only				

Hours		

STAGE THREE—Lesson 25

DUAL AIRCRAFT

OBJECTIVE: The student will be checked in the performance of the required commercial maneuvers.

TIME: 4.0 hours approximately.

PREFLIGHT BRIEFING

___	___	___	Discussion of this lesson
___	___	___	Weather planning/ Flight Planning/ Filing
___	___	___	ADM and risk management
___	___	___	TFRs and SUA
___	___	___	Runway incursion avoidance (Call HOLD SHORT lines)
___	___	___	Stall & spin awareness
___	___	___	Checklist usage
___	___	___	Wake turb / wind shear / collision avoidance
___	___	___	Positive transfer of controls
___	___	___	CFIT/Wire strike avoidance
___	___	___	Aviation security
___	___	___	Land an Hold Short Lines (LAHSO)
___	___	___	SRM

✔ **EMERGENCY OPERATIONS (oral review)**

___	___	___	Emergency approach and landing
___	___	___	Emergency descent

✔ **SYSTEMS AND EQUIPMENT MALFUNCTIONS**

___	___	___	Partial or complete power loss
___	___	___	Engine roughness or overheat
___	___	___	Carburetor or induction icing
___	___	___	Loss of oil pressure
___	___	___	Fuel starvation
___	___	___	Electrical malfunction
___	___	___	Vacuum/pressure, & associated flight instrument malfunction
___	___	___	Pitot/static
___	___	___	Landing gear or flap malfunction
___	___	___	Inoperative or runaway trim
___	___	___	Inadvertent door or window opening
___	___	___	Structural icing
___	___	___	Smoke/fire/engine compartment fire
___	___	___	Any other emergency appropriate to the airplane
___	___	___	Emergency equipment and survival gear

PREFLIGHT

___	___	___	✔ Cockpit
___	___	___	Certificates & Documents– ARROW
___	___	___	✔ Preflight inspection
___	___	___	Airplane servicing

STARTUP

___	___	___	✔ Engine start
___	___	___	Comm radio setup-freq, vol, xmitter
___	___	___	VOR setup– freq, ID, set course
___	___	___	RNAV / GPS setup

TAXI

___	___	___	✔ Taxi
___	___	___	Taxi clearance– copy, confirm, comply
___	___	___	Begin taxi– hazards, brake& steering check
___	___	___	Taxi– wind, speed, braking, hazards
___	___	___	Call HOLD SHORT lines
___	___	___	✔ Runup

TAKEOFF

___	___	___	✔ Takeoff
___	___	___	Takeoff clearance-copy, confirm, comply
___	___	___	Takeoffs– normal, crosswind, short, soft
___	___	___	Gear retraction
___	___	___	Power reduction– throttle, propeller
___	___	___	Pattern departure

BASIC MANEUEVERS

___	___	___	✔ Climb
___	___	___	Climbs w/ turns– Cs (vx, Vy, cruise), VR-IR
___	___	___	Traffic pattern departure
___	___	___	Level-off from climb– VR-IR
___	___	___	✔ Cruise flight

COMMERCIAL MANEUVERS

___	___	___	Emerg field, PMC, collision avoidance
___	___	___	Slow flight– P-factor, torque, heading, altitude
___	___	___	Spin awareness
___	___	___	Stalls- power-off
___	___	___	Stalls– power-on
___	___	___	Accelerated stalls
___	___	___	Steep turns
___	___	___	Lazy eights
___	___	___	Chandelles
___	___	___	Steep spirals
___	___	___	Eights on pylons

Hours		

STAGE THREE—Lesson 25

DUAL AIRCRAFT

✔ **EMERGENCY OPERATIONS**

___ ___ ___ Emergency approach and landing
___ ___ ___ Emergency descent
___ ___ ___ Systems and equipment malfunctions
___ ___ ___ Emergency equipment and survival gear

NAVIGATION

___ ___ ___ Pilotage
___ ___ ___ Dead reckoning
___ ___ ___ Navigation Systems
___ ___ ___ ATC radar services
___ ___ ___ Diversion
___ ___ ___ Lost Procedures

BASIC MANEUVERS

___ ___ ___ ✔ Descents
___ ___ ___ Descents w/ turns– Cs (Vx, Vy, cruise), VR-IR

LANDING

___ ___ ___ Approach-location, communication
___ ___ ___ Pattern entry
___ ___ ___ ✔ Landing

LANDING *(continued)*

___ ___ ___ Traffic Pattern– downwind, base, final
___ ___ ___ Landing clearance-copy, confirm, comply
___ ___ ___ Stabilized Approach
___ ___ ___ Flaps– all settings
___ ___ ___ Forward slips to landing
___ ___ ___ Landings-normal, crosswind, short, soft, accuracy
___ ___ ___ Roundout-height, crosswind cx
___ ___ ___ Touchdown– full stall, drift, centerline
___ ___ ___ ✔ Go Around
___ ___ ___ Taxi clearance– copy, confirm, comply
___ ___ ___ ✔ Taxi
___ ___ ___ Taxi– wind, speed, braking, hazards
___ ___ ___ ✔ Shutdown

POSTFLIGHT

___ ___ ___ Postflight inspection of aircraft
___ ___ ___ Debrief / Update syllabus and logbook

COMPLETION STANDARDS

This lesson will be complete when the student has performed a satisfactory briefing, with a grade of 3 or better , and has flown the required hours and has completed all tasks.

Instructor	Student	Date	Acft Type	N #

	Dual Day	Dual Night	Dual X-Ctry	Dual Inst	AATD	Solo Day	Solo Night	Solo X-Ctry	Total Solo/PIC	Total Acft	Total Inst/ AATD
Previous											
This Lesson											
Total											
		(2 min)		(5 min)			**(5 min)**		(65 min)		

Dual day + Dual Night + Dual AATD = 55 (min)

Solo Day + Solo Night + Solo/PIC X-C = 65 (min)

Dual + Solo/PIC = 120 (min)

Hours		

STAGE THREE —LESSON 26— (BRIEFING) PRE-EVALUATION ORAL

OBJECTIVE: The student will demonstrate the knowledge necessary to act as Commercial Pilot.

TIME: As required.

CERTIFICATES—STUDENT

_____ _____ _____ Syllabus correct
_____ _____ _____ Verification of Pilot Certificate
_____ _____ _____ Verification of Medical Certificate
_____ _____ _____ Completing 8710 Form/ IACRA
_____ _____ _____ Endorsements

PILOT QUALIFICATIONS

_____ _____ _____ Currency, Privileges, Limitations
_____ _____ _____ Documents & ID Requirements
_____ _____ _____ Logbook/Record Keeping
_____ _____ _____ Compensation
_____ _____ _____ Medical Certificates
_____ _____ _____ Risk Elements

AIRWORTHINESS REQUIREMENTS

_____ _____ _____ Certificates
_____ _____ _____ Inspections
_____ _____ _____ Preventative Maintenance
_____ _____ _____ Required Equipment
_____ _____ _____ Inoperative Equipment (MEL, KOEL)
_____ _____ _____ Special Flight Permit
_____ _____ _____ ADs, SAIBs
_____ _____ _____ Risk Elements

WEATHER INFORMATION

Adverse Conditions:
_____ _____ _____ TFRs
_____ _____ _____ Closed/Unsafe NOTAMs
_____ _____ _____ WST/WS/WA/UUA/CWA

Current Weather:
_____ _____ _____ METARs/UAs
_____ _____ _____ Wx Depiction/Surf. Analysis Chart
_____ _____ _____ Radar & Radar Summary Chart

Forecasts:
_____ _____ _____ FA/TAF/FD
_____ _____ _____ Surface/SIGWX Prog. Charts
_____ _____ _____ Convective Outlook
_____ _____ _____ Freezing Level/Icing Prob. & Sev.

General:
_____ _____ _____ En Route Weather/Wx Sources
_____ _____ _____ NOTAMs (D and FDC)
_____ _____ _____ Meteorology (i.e. Wx Theory)
_____ _____ _____ Risk Elements

CROSS-COUNTRY FLIGHT PLANNING

_____ _____ _____ Route Planning & Checkpoints
_____ _____ _____ Applying UTC and Time Zones
_____ _____ _____ Pilotage and Dead Reckoning
_____ _____ _____ Time, Speed, and Distance
_____ _____ _____ True Airspeed & Density Altitude
_____ _____ _____ Planned vs. Actual Calculations
_____ _____ _____ Magnetic Compass Errors
_____ _____ _____ Power Setting Selection
_____ _____ _____ Terms: MC, TC, TH, MH, CH
_____ _____ _____ Fuel Planning
_____ _____ _____ Altitudes and Obstacles
_____ _____ _____ Sectional and Symbology
_____ _____ _____ Activating/Closing Flight Plans
_____ _____ _____ Ground-based Navigation (orientation, course determination, tests, and regulations)
_____ _____ _____ GPS, RAIM, WAAS
_____ _____ _____ Radar Services/Assistance
_____ _____ _____ Diversion and Lost Procedures
_____ _____ _____ Risk Elements

NATIONAL AIRSPACE SYSTEM

_____ _____ _____ Types of Airspace and Classes
_____ _____ _____ Requirements and Restrictions
_____ _____ _____ SUA, SFRA, and Other Airspace
_____ _____ _____ Airspeed Limitations
_____ _____ _____ Risk Elements

STAGE THREE —LESSON 26
(BRIEFING) PRE-EVALUATION ORAL
(CONTINUED)

PERFORMANCE AND LIMITATIONS

_____ _____ _____ Charts, Tables, and Data
_____ _____ _____ Factors Affecting Performance
_____ _____ _____ Loading on Performance
_____ _____ _____ Weight and Balance
_____ _____ _____ Aerodynamics
_____ _____ _____ Risk Elements

OPERATION OF SYSTEMS

_____ _____ _____ Primary Flight Controls and Trim
_____ _____ _____ Secondary Flight Controls
_____ _____ _____ Powerplant and Propeller
_____ _____ _____ Landing Gear
_____ _____ _____ Fuel, Oil, and Hydraulic
_____ _____ _____ Electrical
_____ _____ _____ Avionics
_____ _____ _____ Pitot-Static, Vacuum/Pressure & Associated Flight Instruments
_____ _____ _____ Environmental
_____ _____ _____ Deicing and Anti-Icing
_____ _____ _____ Oxygen Systems
_____ _____ _____ Risk Elements

HUMAN FACTORS

_____ _____ _____ Hypoxia
_____ _____ _____ Hyperventilation
_____ _____ _____ Middle Ear and Sinus Problems
_____ _____ _____ Spatial Disorientation
_____ _____ _____ Motion Sickness
_____ _____ _____ Carbon Monoxide Poisoning
_____ _____ _____ Stress and Fatigue
_____ _____ _____ Dehydration and Nutrition
_____ _____ _____ Hypothermia
_____ _____ _____ Optical Illusions
_____ _____ _____ Dissolved nitrogen
_____ _____ _____ Alcohol, Drugs, OTC Meds
_____ _____ _____ ADM & Hazardous Attitudes
_____ _____ _____ Collision Avoidance
_____ _____ _____ Risk Elements

COMMUNICATIONS AND LIGHT GUN SIGNALS

_____ _____ _____ Obtaining Frequencies
_____ _____ _____ Communication Procedures and Phraseology
_____ _____ _____ ATC Light Signal Recognition
_____ _____ _____ Transponders
_____ _____ _____ Radar Assistance
_____ _____ _____ Lost Communication Procedures
_____ _____ _____ Automated WX and Airport Info
_____ _____ _____ NTSB reporting
_____ _____ _____ Risk Elements

TRAFFIC PATTERNS

_____ _____ _____ Towered/Non-towered Operations
_____ _____ _____ Runway Selection
_____ _____ _____ Right-of-Way Rules
_____ _____ _____ Wake Turbulence
_____ _____ _____ Runway Incursion Avoidance
_____ _____ _____ Parachuting Operations
_____ _____ _____ Different Types of Aircraft
_____ _____ _____ Airport markings/lighting
_____ _____ _____ Risk Elements

HIGH ALTITUDE OPERATIONS

_____ _____ _____ Supplemental Oxygen—Unpressurized and pressurized
_____ _____ _____ Physiological factors
_____ _____ _____ Continuous flow, demand, and pressure-demand oxygen systems
_____ _____ _____ Types of oxygen
_____ _____ _____ Pressurization
_____ _____ _____ Time of useful consciousness
_____ _____ _____ Risk Elements

STAGE THREE —LESSON 26
(BRIEFING) PRE-EVALUATION ORAL
(CONTINUED)

EMERGENCY OPERATIONS

____	____	____	Emergency Descent
____	____	____	Immediate action items
____	____	____	Glide Speed vs. Distance
____	____	____	Stabilized Approach
____	____	____	Energy Management
____	____	____	Wind and Effects
____	____	____	Load Factors
____	____	____	Communications
____	____	____	ATC Deviations
____	____	____	ELTs: Operation/Limitations/Tests
____	____	____	Radar Assistance/Transponders
____	____	____	Minimum Fuel
____	____	____	Emergency Equipment
____	____	____	Climate Extremes (Hot/Cold)
____	____	____	Mountainous Terrain
____	____	____	Overwater Operations
____	____	____	Gear and Physical Needs
____	____	____	Supplemental Oxygen
____	____	____	Fire Extinguisher
____	____	____	High Drag Vs. Low Drag

System and Equipment Malfunction:

____	____	____	Partial or Complete Power Loss
____	____	____	Engine Roughness or Overheat
____	____	____	Carburetor or Induction Icing
____	____	____	Loss of Oil Pressure
____	____	____	Fuel Starvation
____	____	____	Electrical Malfunction
____	____	____	Vacuum/Pressure and Associated Flight Instruments Malfunction
____	____	____	Pitot/Static System Malfunction
____	____	____	Inoperative Trim
____	____	____	Inadvertent Door or Window Opening
____	____	____	Structural Icing
____	____	____	Smoke/Fire/Engine Compartment Fire
____	____	____	Electronic Flight Deck Display Malfunction
____	____	____	Landing Gear or Flap Malfunction
____	____	____	Any Other Emergency Appropriate to the Airplane
____	____	____	Risk Elements for all Emergency Operations

COMPLETION STANDARDS

The student must demonstrate sufficient knowledge in the lesson areas to rate at least a 3 on each item.

Instructor	Student	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____

UD COMMERCIAL PILOT END-OF-COURSE EVALUATION— PAGE 1

OBJECTIVE: The student will demonstrate the knowledge and skills necessary to become a Commercial Pilot.

TIME: As required.

Student_____ Examiner_____ Date_____

Note: The evaluator must assess the applicant on all skill elements for each task included in each area of operation of the ACS unless otherwise noted. The evaluator must also assess at least one knowledge element and one risk management element in each task, focusing on any task element(s) the applicant missed on the knowledge exam.

EVALUATION PRELIMINARIES

_____ _____ _____ Driver license– current, picture ID

_____ _____ _____ Private certificate– current

_____ _____ _____ Log Endorsements– correct

_____ _____ _____ Medical Certificate– current 3rd Class or higher

_____ _____ _____ 8710 Form– correct, dated, signed

_____ _____ _____ Knowledge test report– current, 70 or better, test deficiencies signed off by the instructor

_____ _____ _____ Certificate of Enrollment– completed

_____ _____ _____ Training Course Outline– completed, hours

_____ _____ _____ Ground School sign-off– verified

I. PREFLIGHT PREPARATION

_____ _____ _____ Certificates & Documents

_____ _____ _____ Airworthiness requirements

_____ _____ _____ Weather information

_____ _____ _____ Cross-Country flight planning

_____ _____ _____ National Airspace System

_____ _____ _____ Performance & Limitations

_____ _____ _____ Systems operations

_____ _____ _____ Human factors

II. PREFLIGHT PROCEDURES

_____ _____ _____ Preflight assessment

_____ _____ _____ Flight deck management

_____ _____ _____ Engine starting

_____ _____ _____ Taxiing

_____ _____ _____ Before takeoff check

III. AIRPORT OPERATIONS

_____ _____ _____ Communications and ATC light signals

_____ _____ _____ Traffic patterns

IV. TAKEOFFS, LANDINGS, GO-AROUNDS

_____ _____ _____ Normal takeoff and climb

_____ _____ _____ Normal approach and landing

_____ _____ _____ Soft field takeoff and climb

_____ _____ _____ Soft-field approach and landing

_____ _____ _____ Short-field takeoff and climb

_____ _____ _____ Short-field approach and landing

_____ _____ _____ Power-off 180° approach and landing

_____ _____ _____ Go-around/rejected landing

V. PERFORMANCE & GROUND REFERENCE MANEUVERS

Note: The examiner shall at least select either Task A or B, and either C or D.

_____ _____ _____ A. Steep Turns

_____ _____ _____ B. Steep spirals

_____ _____ _____ C. Chandelles

_____ _____ _____ D. Lazy eights

_____ _____ _____ Eight on Pylons

VI. NAVIGATION

_____ _____ _____ Pilotage/dead reckoning

_____ _____ _____ Navigation systems/ATC radar services

_____ _____ _____ Diversion

_____ _____ _____ Lost procedures

UD COMMERCIAL PILOT END-OF-COURSE EVALUATION— PAGE 2

VII. SLOW FLIGHT AND STALLS

Stall Note: Acknowledges the cues and recover promptly at the first indication of an impending stall (e.g., aircraft buffet, stall horn, etc.)

_____ _____ _____ Maneuvering during slow flight

_____ _____ _____ Power– off stalls

_____ _____ _____ Power– on stalls

_____ _____ _____ Accelerated stalls

_____ _____ _____ Spin Awareness

VIII. HIGH ALTITUDE OPERATIONS

_____ _____ _____ Supplemental oxygen

_____ _____ _____ Pressurization

IX. EMERGENCY OPERATIONS

_____ _____ _____ Emergency descent

_____ _____ _____ Emergency equipment and survival gear

_____ _____ _____ Emergency approach and landing

_____ _____ _____ Systems & equipment malfunctions

X. POSTFLIGHT PROCEDURES

_____ _____ _____ After landing—parking and securing

UD COMMERCIAL PILOT END-OF-COURSE EVALUATION—PAGE 3 CRITIQUE

Attempt Flight 1

Examiner_____

Student _____

Date_____

Oral Time _____

Flight Time _____

Attempt Flight 2

Examiner_____

Student _____

Date_____

Oral Time _____

Flight Time _____

Attempt Flight 3

Examiner_____

Student_____

Date _____

Oral Time_____

Flight Time_____

TOTAL ORAL TEST TIME _____

TOTAL FLIGHT TEST TIME _____

AIRCRAFT N # _____

COMPLETION STANDARDS

A student pilot must meet the FAA Commercial Pilot ACS on this evaluation before being awarded a Commercial Pilot Certificate.

COMMENTS:

Recommendations:

1 ____ **The End-Of-Course Evaluation performance indicates the additional review is necessary.**

- Do review lessons on all items marked "1" until your instructor indicates a satisfactory "3".
- Insert the review lesson sheets following this page.
- Then return to the Chief or Assistant Chief Instructor for reevaluation.

Chief/ Assistant Chief Instructor	**Student**	**Date**
_____	_____	_____

2 ____ **This End-of–Course Evaluation was performed in a satisfactory manner.**

Chief/ Assistant Chief Instructor	**Student**	**Date**
_____	_____	_____

MEMO

TO: Chief Instructor, University of Dubuque Flight Center

FROM: Chief Ground Instructor / Instructors

DATE: _____

RE: Commercial Pilot Ground School Graduation

The following student has successfully completed all the requirements for the Commercial Pilot Ground School Course:

_____

COMMERCIAL PILOT CERTIFICATION
Ground Training Course

Hours

Stage 1 – approximately15.0 ground training hours
Stage 2 – approximately 5.0 ground training hours
Stage 3 – approximately 15.0 ground training hours
Minimum of 35.0 ground training hours

Objective

The objective of the Commercial Ground School Training Course is to provide the commercial pilot student with the background and knowledge required of the professional commercial pilot operating in the modern National Airspace System and today's challenging aviation environment. At the end of this course, the student will have the knowledge to pass the FAA Commercial Pilot Airplane Knowledge test and to meet other UD Assessment criteria.

Completion Standards

Students will meet the ground school completion standards by demonstrating through written tests, oral tests, and school records that they meet the requirements specified in 14 CFR 61 and 141. A passing grade of 80% on all stage exams and a final exam will be required for completion.

COMMERCIAL PILOT CERTIFICATION
Ground Training Course

STAGE 1

AIRPORTS, AIRSPACE AND FLIGHT INFORMATION

Lessons 1-6

15.0 hours (approx) of ground training

Stage 1 Objectives

In this stage the student will review information relating to airports, flight planning, navigation, and meteorology and aircraft performance. Aviation physiology, aeronautical decision making and the Code of Federal Regulations [CFRs] relating to commercial pilot operations will be discussed.

Stage 1 Completion Standards

To complete this stage the student must pass a stage exam with a minimum score of 80%. The instructor will review each incorrect response to ensure complete understanding before the student progresses to the next stage.

LESSON 1

AIRPORTS, AIRSPACE AND FLIGHT INFORMATION

OBJECTIVES

⇒ To review the airport environment, national airspace system, flight information sources, collision avoidance and runway incursion avoidance techniques.

CONTENT

— Runway and Taxiway Markings
— Runway Incursion Avoidance
— Land and Hold Short Operations
— Airport Lighting Systems
— National Airspace System
— Sources of Flight Information

LESSON COMPLETION STANDARDS

Demonstrate understanding of the airport environment, airspace and flight information by a written or oral quiz.

ASSIGNED READING

Read material on meteorology and weather information products in the appropriate texts.

LESSON 2

WEATHER PATTERNS AND HAZARDS

OBJECTIVES

⇒ To review sources of weather information, weather patterns and hazards related to flight operations, weather reports, forecasts and other weather products.

CONTENT

— Weather Factors
— Weather Hazards
— Printed Reports and Forecasts
— Graphic Weather Products
— Sources of Weather Information

LESSON COMPLETION STANDARDS

Demonstrates adequate knowledge of the material by a written or oral quiz.

ASSIGNED READING

Reading and homework for the next lesson will be assigned as required.

LESSON 3

PILOTAGE AND DEAD RECKONING

OBJECTIVES

⇒ To improve the student's knowledge of VFR flight planning procedures, route selection and lost procedures.

⇒ To review pilotage and dead reckoning navigation under VFR.

AERONAUTICAL CHARTS

— Sectional charts
— VFR Terminal Area Charts
— World Aeronautical Charts
— Longitude and Latitude
— Airport Data
— Navigation aids
— Airspace
— Obstructions

PILOTAGE AND DEAD RECKONING

— Pilotage
— Selecting Checkpoints
— Following a Route
— Orientation
— Dead Reckoning
— Navigation Plotter
— Flight Planning
— Navigation Log
— Flight Plan
— Position Reports
— Flying Over Hazardous Terrain

LESSON COMPLETION STANDARDS

Demonstrate an understanding of VFR charts, pilotage, dead reckoning and cross-country planning by means of a written or oral quiz and completion of a sample flight log.

ASSIGNED READING

Read Human Factors Concepts in appropriate texts.

LESSON 4

AVIATION PHYSIOLOGY AND AERONAUTICAL DECISION MAKING

OBJECTIVES

⇒ To become familiar with the physiological factors affecting day and night flight operations and the adverse effects of these factors. In addition, human factors concepts and the principles of crew resource management that affect aeronautical decision-making will be discussed.

AVIATION PHYSIOLOGY

— The Eye
— Night Vision
— Night Scanning
— Visual Illusions
— Autokinesis
— Landing Illusions
— Flicker Vertigo
— Disorientation and causes
— Motion Sickness
— Respiration
— Hypoxia and Prevention
— Hyperventilation
— Decompression Sickness
— Alcohol, Drugs and Effects on Performance

AERONAUTICAL DECISION MAKING AND JUDGMENT

— Aeronautical Decision Making
— SRM
— Decision Making Process
— Pilot in Command Responsibility
— Hazardous Attitudes
— Communication
— Resource Use
— Workload Management
— Situational Awareness

LESSON COMPLETION STANDARDS

Demonstrate knowledge of the Physiological factors affecting the pilot in flight, human factors concepts, CRM principles and their effects on flight safety by a written or oral quiz.

ASSIGNED READING

Review Title 14 CFR Parts 1, 61, 91 and NTSB Part 830.

LESSON 5

REGULATIONS PERTAINING TO COMMERCIAL PILOT OPERATIONS

OBJECTIVES

⇒ To introduce the regulations of particular importance to commercial pilot operations and to review NTSB Part 830.

TITLE 14 CFR

— Part 1
— Part 61
— Part 91

NTSB

— Part 830

LESSON COMPLETION STANDARDS

Demonstrate understanding of the regulations by a written or oral quiz.

ASSIGNED READING

Review for Stage Exam.

LESSON 6

STAGE EXAM

OBJECTIVES

⇒ To administer and review the Stage 1 Exam covering all material in Lessons 1 to 5.

LESSON COMPLETION STANDARDS

The student must pass the Stage 1 exam with a minimum score of 80% and the instructor will review each incorrect response to ensure complete understanding before the student progresses to the next stage. An endorsement confirming that the student has achieved a minimum grade of 80% will be placed in the student's file.

ASSIGNED READING

Read material on high performance power-plants in appropriate texts.

COMMERCIAL PILOT CERTIFICATION
Ground Training Course

STAGE 2

HIGH PERFORMANCE AND COMPLEX AIRCRAFT SYSTEMS

Lessons 7-10

5.0 hours (approx) of ground training

Stage 2 Objectives

In this stage the student will be introduced to high performance airplane systems and environmental and ice control systems. The student will review information relating to the safe operations of complex aircraft and high performance aircraft systems.

Stage 2 Completion Standards

To complete this stage the student must pass a stage exam with a minimum score of 80%. The instructor will review each incorrect response with the student to ensure complete understanding before the student progresses to the next stage.

LESSON 7

HIGH PERFORMANCE POWERPLANTS

OBJECTIVES

⇒ To understand the operation of fuel injection and high performance engine systems and constant speed propellers.

HIGH PERFORMANCE POWERPLANTS

— Fuel Injection Systems
— Starting Procedures
— Normal Starts
— Hot Starts
— Flooded Starts
— Engine Monitoring
— Exhaust Gas Temperature Gauge
— Cylinder Head Temperature Gauge
— Abnormal Combustion
— Induction Icing

TURBOCHARGING

— Turbocharging Principles
— System Operation
— High Altitude Performance

CONSTANT-SPEED STANDARDS

— Propeller Principles
— Constant Speed Propeller Operations
— Power Controls

LESSON COMPLETION STANDARDS

Understanding of the material will be demonstrated by a written or oral quiz administered by the instructor.

ASSIGNED READING

Review aircraft environmental and ice control systems in appropriate texts.

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LESSON 8

ENVIRONMENTAL AND ICE CONTROL SYSTEMS

OBJECTIVES

⇒ To understand the operation of aircraft environmental control systems and the operations and limitations of ice control systems.

OXYGEN SYSTEMS

— Continuous flow
— Diluter Demand
— Pressure Demand
— Oxygen Storage
— Oxygen Servicing

CABIN PRESSURIZATION

— Operating Principles
— Pressurization Principles
— Pressurization system Components
— Pressurization Emergencies

ICE CONTROL SYSTEMS

— Airfoil Ice Control
— Windshield Ice Control
— Propeller Ice Control
— Other Ice Control Systems

LESSON COMPLETION STANDARDS

Demonstrate an understanding of aircraft environmental and ice control systems by completing a written or oral quiz.

ASSIGNED READING

Review retractable landing gear systems in the appropriate texts.

LESSON 9

RETRACTABLE LANDING GEAR SYSTEMS

OBJECTIVES

⇒ To understand the operation and limitations of retractable landing gear systems.

RETRACTABLE LANDING GEAR SYSTEMS

— Landing Gear Systems
— Gear System Safety
— Airspeed Limitations
— Operating Procedures
— Gear System Malfunctions'
— Emergency Gear Extension

LESSON COMPLETION STANDARDS

Demonstrate an understanding of retractable landing gear systems by a short written or oral quiz.

ASSIGNED READING

Review all material covered in this stage in preparation for the Stage 2 exam.

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LESSON 10

STAGE 2 EXAM

OBJECTIVES

⇒ To administer and review the Stage 2 Exam covering all material in Lessons 7 to 9.

LESSON COMPLETION STANDARDS

The student must pass the Stage 2 exam with a minimum score of 80% and the instructor will review each incorrect response to ensure complete understanding before the student progresses to the next stage. An endorsement confirming that the student has achieved a minimum grade of 80% will be placed in the student's file.

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ASSIGNED READING

Review advanced aerodynamics and theory of flight in the appropriate texts.

COMMERCIAL PILOT CERTIFICATION
Ground Training Course

STAGE 3

ADVANCED AERODYNAMICS, AIRCRAFT PERFORMANCE AND COMMERCIAL PILOT DECISION MAKING

Lessons 11-17

15.0 hours (approx) of ground training

Stage 3 Objectives

The student will review aerodynamics, aircraft performance calculations and pilot decision making as it relates to commercial flight operations.

Stage 3 Completion Standards

To complete this stage the student must pass a stage exam with a minimum score of 80%. The instructor will review each incorrect response with the student to ensure complete understanding before the student progresses to the next stage. In addition, the student must successfully pass the end of course exam with a minimum grade of 80% before being given an endorsement for the FAA Commercial Pilot Knowledge Examination.

LESSON 11

ADVANCED AERODYNAMICS

OBJECTIVES

⇒ To relate the theory of flight to the performance of airplanes.

FOUR FORCES IN FLIGHT

— Lift
— Lift equation
— Controlling Lift
— High Lift Devices
— Drag
— Induced Drag
— Parasitic Drag
— Ground Effect
— Thrust
— Weight and Load Factor
— Vg Diagram

AIRCRAFT STABILITY

— Static
— Dynamic
— Longitudinal
— Lateral
— Directional

AERODYNAMICS AND FLIGHT MANEUVERS

— Straight and Level flight
— Climbs
— Glides
— Turns
— Turns
— Stall and Spin Awareness
— Stall causes and Types
— Stall Recognition and Recovery
— Spin causes and Phases
— Spin Recovery

LESSON COMPLETION STANDARDS

Demonstrate an understanding of the material covered by the completion of a written or oral quiz.

ASSIGNED READING

Review aircraft performance calculations in the appropriate texts and Pilot Operating Handbooks.

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LESSON 12

AIRCRAFT PERFORMANCE

OBJECTIVES

⇒ To develop the ability to use the Pilot's Operating Handbook and other information in calculating aircraft performance.

FACTORS AFFECTING PERFORMANCE

— Density Altitude
— Surface Winds
— Weight
— Runway Conditions

THE PILOT'S OPERATING HANDBOOK

— Performance Charts
— Takeoff charts
— Climb Performance Charts
— Cruise Performance Charts
— Descent Charts
— Landing distance Charts
— Glide Distance
— Stall Speeds

WEIGHT AND BALANCE

— Weight and Balance Limitations
— Center of Gravity Limits
— Weight and Balance Documents
— Weight and balance Computations
— Weight and balance Condition Checks
— Computations Method
— Graph Method
— Table Method
— Weight Shift Computations

LESSON COMPLETION STANDARDS

Demonstrate the ability to calculate aircraft performance by the completion of a written or oral quiz.

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ASSIGNED READING

Review the techniques for performing maximum takeoffs and landings and other high performance commercial maneuvers in the appropriate texts and POH.

LESSON 13

PERFORMANCE TAKE OFFS, LANDINGS AND COMMERCIAL PILOT MANEUVERS

OBJECTIVES

⇒ To understand the techniques to perform maximum take offs and landings, steep turns and the performance of the commercial pilot maneuvers.

MAXIMUM PERFORMANCE TAKEOFFS AND LANDINGS

— PTS standards
— Soft Field
    — Take off and Climb
    — Procedure
    — Approach and Landing
— Short Field
    — Take off and Climb
    — Procedure
    — Approach and Landing
— Combined Procedure

STEEP TURNS

— PTS standards
— Definition and Procedure

CHANDELLES

— PTS standards
— Definition and Procedure

LAZY EIGHTS

— PTS standards
— Definition and Procedure

EIGHT ON PYLONS

— PTS standards
— Definition and Procedure

LESSON COMPLETION STANDARDS

Demonstrate and understanding of the material covered in this lesson by means of a written or oral quiz.

ASSIGNED READING

Review emergency procedures in the appropriate texts.

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LESSON 14

EMERGENCY PROCEDURES

OBJECTIVES

⇒ To understand the procedures for various emergencies that may arise under commercial VFR operations.

EMERGENCY PROCEDURES

— Emergency Descent
— Emergency Approach and Landing
— In-Flight fire
— Partial Power Loss
— Door Opening In Flight
— Asymmetric Flap Extension
— Emergency Equipment and Survival Gear

LESSON COMPLETION STANDARDS

Demonstrate understanding of the material by the completion of a written or oral quiz.

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ASSIGNED READING

Review commercial decision making in the relevant texts.

LESSON 15

COMMERCIAL DECISION MAKING

OBJECTIVES

⇒ To understand the decision making process in commercial flight operations and to discuss aeronautical decision making and crew resource management and flight safety.

COMMERCIAL DECISION MAKING

— Commercial Operation
— The decision making process
— SRM
— Hazardous Attitudes
— Crew Relationships
— Communications
— Barriers to Effective Communications
— Resource Use
— Internal and External Resources
— Workload Management
— Planning and Preparation
— Prioritizing
— Situational awareness
— Controlled Flight Into Terrain

LESSON COMPLETION STANDARDS

Knowledge of the material will be demonstrated by a written or oral quiz.

ASSIGNED READING

Review all stage 3 material in preparation for the stage 3 exam.

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LESSON 16

STAGE 3 EXAM

OBJECTIVES

⇒ To administer and review the Stage 3 Exam covering all material in Lessons 11 to 15.

LESSON COMPLETION STANDARDS

The student must pass the Stage 3 exam with a minimum score of 80% and the instructor will review each incorrect response to ensure complete understanding before the student progresses to the next stage. An endorsement confirming that the student has achieved a minimum grade of 80% will be placed in the student's file.

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ASSIGNED READING

Review all course material in preparation for the end of course exam and FAA knowledge test.

LESSON 17

END OF COURSE EXAM

OBJECTIVES

⇒ To demonstrate knowledge and understanding of the material covered in this course in preparation for the FAA commercial pilot airplane knowledge test.

⇒ The student will complete a comprehensive written test to include all knowledge areas found in the FAA commercial pilot airplane knowledge test.

LESSON COMPLETION STANDARDS

The student must pass the end of course exam with a minimum grade of 80%. The instructor will review all incorrect responses to ensure complete understanding of the material before endorsing the student for the FAA commercial pilot airplane knowledge test.

The instructor will provide the student with an endorsement to write the FAA commercial pilot airplane knowledge test on the completion of all the requirements of this course and meeting the completion standards of Lesson 17.

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