UNIVERSITY *of* DUBUQUE

INSTRUMENT RATING
TRAINING COURSE OUTLINE

UNIVERSITY *of* DUBUQUE

INSTRUMENT RATING
TRAINING COURSE OUTLINE

UNIVERSITY *of* DUBUQUE

This is to certify that

_____

is enrolled in the FAA approved

INSTRUMENT RATING COURSE

conducted at the University of Dubuque

School #GV8S178Q

_____

Enrollment Date

_____ _____

Primary Flight Instructor | Chief Flight Instructor

INSTRUMENT RATING COURSE

STUDENT FLIGHT RECORD

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

AIR AGENCY CERTIFICATE NO. GV8S178Q

FTN #

Pilot's Legal Name _____ SODA ☐ DOB_____

Pilot's Official Signature _____ SSN _____

CITIZENSHIP

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

Instructor _____ Date _____

Cert.# _____ Exp. _____

PERMANENT ADDRESS

Street _____ City _____ State_____ Zip_____

Phone: Home _____ Cell _____

ENROLLMENT

Date of Enrollment _____ Date Completed _____

Medical Certificate: Class _____ Date Issued _____ Expires _____

Private Pilot Certificate No. _____ Date Issued _____

Last Flight Review: Date _____

GRADUATION RECORD

FAA KNOWLEDGE TEST: DATE _____ SCORE _____

END-OF-COURSE GRADUATION: DATE _____ RESULT _____

END-OF-COURSE EXAMINER _____

RECORDS CERTIFIED COMPLETE AND ACCURATE

DATE _____ NAME _____ TITLE _____

PREVIOUS EXPERIENCE

DUAL _____ HOOD _____

X-C DUAL _____ ACTUAL IFR _____

FLIGHT TRAINING DEVICE _____

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 four 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	7-1-2002
2	Original	7-1-2002
3	Revision 15	9-15-2019
4	Original	7-1-2002
5	Revision 15	9-15-2019
6	Revision 14	6-1-2019
7	Revision 15	9-15-2019
7a	Revision 15	9-15-2019
8	Revision 14	6-1-2019
9	Revision 15	9-15-2019
10	Revision 1	2-7-2003
11	Revision 1	2-7-2003
12	Revision 15	9-15-2019
13	Revision 12	5-31-2016
14	Revision 15	9-15-2019
15	Revision 15	9-15-2019
16	Revision 15	9-15-2019
17	Revision 15	9-15-2019
18	Revision 2	1-9-2014
19	Revision 15	9-15-2019
20	Revision 15	9-15-2019
21	Revision 1	2-7-2003
22	Revision 15	9-15-2019
23	Revision 15	9-15-2019
24	Revision 15	9-15-2019
25	Revision 15	9-15-2019
26	Revision 15	9-15-2019
27	Revision 15	9-15-2019
28	Revision 12	5-31-2016
29	Revision 15	9-15-2019
30	Revision 15	9-15-2019
31	Revision 15	9-15-2019
32	Revision 15	9-15-2019
33	Revision 12	5-31-2016
34	Revision 2	1-9-2014
35	Revision 1	2-7-2003
36	Revision 9	8-6-2014
36a	Revision 12	5-31-2016
37	Revision 15	9-15-2019
38	Revision 12	5-31-2016
39	Revision 12	5-31-2016
40	Revision 12	5-31-2016
41	Revision 12	5-31-2016
42	Revision 15	9-15-2019
43	Revision 12	5-31-2016
44	Revision 12	5-31-2016
45	Original	7-1-2002
46	Original	7-1-2002
47	Original	7-1-2002
48	Original	7-1-2002
49	Original	7-1-2002
50	Original	7-1-2002
51	Original	7-1-2002
52	Original	7-1-2002
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57	Original	7-1-2002
58	Original	7-1-2002
59	Original	7-1-2002

APPROVED 1/6/2020 , DSM - FSDO
BY

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

Instrument Rating Course—Airplane

This Training Course Outline meets all the curriculum requirements for the Instrument Rating Course contained in Appendix C 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 an Instrument Rating; Airplane.

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 an Instrument Rating; Airplane category.

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 Piper PA-44-180 are available for flight training.

PERSONNEL

The Chief Instructor for the Instrument Rating 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. When training in the PA-44-180 the Flight Instructor will have a current Certified Flight Instructor Instrument Rating as well as an Airplane Multi-Engine Land Instructor Rating. All Flight Instructors will receive standardization training prior to teaching in this course. Additionally, Flight Instructors will receive annual flight standardization training.

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.

CHIEF AND ASSISTANT CHIEF INSTRUCTORS

The Chief Flight Instructor for the Instrument Rating Airplane Course is Ms. Suzanne Peterson certificate #2801778.
The Chief Ground Instructor for the Instrument Rating Airplane Course is Ms. Polly Kadolph certificate #3689827.
The following persons have been authorized as Assistant Chief Flight Instructors for the Instrument Rating Airplane Course : Mr. Michael J. Glynn certificate #2883378 and Mr. Robert Anthony (Tony) Foster certificate #3213651.

ENROLLMENT PREREQUISITES

Students must be able to write, read, speak, and understand the English language and possess a Private Pilot Certificate with at least a 3rd class medical certificate prior to enrolling in the flight portion of the Instrument Rating Course.

ENROLLMENT PROCEDURE

Students will be required to show a certified birth certificate or a U.S. passport establishing U.S. citizenship or national in accordance with 49 CFR 1552.3 (h). A copy of the proof of citizenship or U.S. national 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 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.

MINIMUM INSTRUMENT RATING FLIGHT TRAINING

	Simulated or Actual Instrument	FTD, AATD, BATD Instrument	TOTAL
STAGE 1	6.0	14.0	20.0
STAGE 2	15.0	0	15.0
TOTALS	21.0	14.0	35.0

Total minimum Instrument Rating flight training time is 35.0 hours.
The maximum AATD time is 14 hours.

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

GENERAL LESSON NOTES

Lesson items that are in italics are for instructor and check pilot guidance.

AIRPORTS USED

The airports listed below are approved for use by the University of Dubuque, 14 CFR Part 141 Instrument Instructors and Instrument students for the purpose of instrument training, to satisfy the requirements of the school's Instrument Pilot Rating TCO. Mileage to these airports is indicated.

IOWA

Cedar Rapids (CID) - 54
Independence (IIB) - 55
Oelwein (OLZ) - 58
Vinton (VTI) - 60
Monticello (MXO) - 26
Maquoketa (OQW) - 22
Clinton (CWI) - 35
Davenport (DVN) - 42

ILLINOIS

Freeport (FEP) - 50
Moline (MLI) - 58
Sterling (SQI) - 60
Savanna (SFY) - 31

WISCONSIN

Reedsburg (C35) - 65
Monroe (EFT) - 51
Lone Rock (LNR) - 54
Madison (MSN) - 53
Praire Du Chien (PDC) - 43

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

APPROVED CROSS-COUNTRY ROUTES

At least one cross-country flight with a minimum distance of 250 nm along airways or ATC directed routing to include at least 100 nm straight line distance between airports and three different kinds of instrument approaches.

√ KDBQ—KRST—KMIW—KDBQ

√ KDBQ—KPIA—KIOW—KDBQ

√ KDBQ—KMSN—KSTE—KDBQ

Other cross-country routes can be flown at the discretion of the flight instructor and must meet the requirements of CFR Title 14 Part 141 Appendix C 4 (C) (1).

ABBREVIATIONS

ACs—convective outlook
acft—aircraft
AI—Altitude Indicator
airspd—airspeed
alt—altitude
approx—approximately
ARROW—Airworthiness, Registration, Radio license (international), Operator's manual, Weight and balance
ATC—Air Traffic Control
AWW—severe weather forecast alert
CG—Center of gravity
Comm—communication
config—configuration
Cs—Constant speed
CWAs—Center Weather Advisory
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
FAs—area forecasts
FAF—Final Approach Fix
FDs—winds and temperatures aloft forecast
freq / freqs—frequency / frequencies
FSS—Flight Service Station
FTD—Flight Training Device
GPS—Global Positioning System
hdg—heading
HI—Horizontal Indicator
hr—hour
IAF—Initial Approach Fix
IDs—Identifications
IF—Intermediate Fix
inop—inoperative
inst—flight solely by reference to instruments while using a view limiting device
LR—Lead Radial
MAP—Missed Approach Procedure
MDA—Minimum Descent Altitude
METARs—aviation routine weather reports
MLC—Modified Landing Checklist
MRA—Manufacturer's Recommended Airspeed
Nav—navigation
nm—nautical miles
obs—omni bearing selector

ABBREVIATIONS

ops—operations
PCATD—Personal Computer Aviation Training Device
PIREPs—pilot weather reports
pre—before
prep—preparation
PT—Procedure Turn
pwr—power
req—required
TACs—Terminal Area Charts
TC—True Course
TAFs—Terminal Area Forecasts
TWEB—Transcribed Weather Broadcast
SDs—Scanning Detectors
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
WAs—airmet
WACs—World Aeronautical Charts
WSs—sigmet
WSTs—convective sigmet
WW—severe weather watch bulletin
xctry—cross country
xmitter—transmitter
xwind—cross wind
√—the aircraft checklist will be used

INSTRUMENT RATING
Training Course Outline

STAGE ONE

Initial Flight Training

Lessons 1—12

14.0 hours (approx) of Ground Flight Training Device (AATD)
6.0 hours (approx) of Aircraft dual instrument flight training

Stage One Objectives

The student will be instructed in basic instrument flying, tracking and intercepting, holding, and approach procedures.

Stage One Completion Standards

This stage will be complete when the student meets all lesson standards and satisfactorily performs the Stage One Check

Hours		

INSTRUMENT LESSON 1

BRIEFING—COURSE OVERVIEW AND BASIC INSTRUMENT FLIGHT

OBJECTIVE: The instructor will brief the student on course content, the airport environment and basic instrument flight procedures.

TIME: As required

COURSE OVERVIEW

____ ____ ____ Student Operations Manual
____ ____ ____ Instrument Rating Syllabus
____ ____ ____ Standardization Manual
____ ____ ____ Enrollment Paperwork
____ ____ ____ Airman Certification Standards

AIR TRAFFIC CONTROL FACILITIES

____ ____ ____ Tower
____ ____ ____ Communication Frequencies
____ ____ ____ LAHSO
____ ____ ____ Navigation Facilities

AIRPORT ENVIRONMENT

____ ____ ____ Runways
____ ____ ____ Runway Markings
____ ____ ____ Taxiways
____ ____ ____ Taxiway Markings
____ ____ ____ RUNWAY INCURSIONS
____ ____ ____ HOLD SHORT LINES (Clearances)
____ ____ ____ Ramp Areas
____ ____ ____ Ramp Markings

COMPLETION STANDARDS

The lesson will be complete when:

1. The student has been shown the airport environment.
2. The student has been tutored on the provided course materials.
3. The student' s enrollment papers have been complet-

AIRPORT SERVICES

____ ____ ____ UD Flight Operations Facility
____ ____ ____ Airport Administrative Facilities
____ ____ ____ Airport Maintenance Facilities
____ ____ ____ Airport Security
____ ____ ____ Aircraft Maintenance Facilities
____ ____ ____ Fueling Facilities
____ ____ ____ Weather Facilities
____ ____ ____ Aircraft Storage Facilities
____ ____ ____ Flight Practice Areas

BASIC INSTRUMENT FLIGHT PROCEDURES

____ ____ ____ The IFR Flight Instruments
____ ____ ____ Scanning methods-full panel
____ ____ ____ Scanning methods-partial panel
____ ____ ____ Basic Instrument Flight
____ ____ ____ Straight and Level
____ ____ ____ Turns (standard rate and timed)
____ ____ ____ Climbs
____ ____ ____ Descents
____ ____ ____ Intercepting and Tracking
____ ____ ____ Holding
____ ____ ____ Approaches
____ ____ ____ Communications

POSTBRIEF

____ ____ ____ Update TCO

Instructor _____ Student _____ Date _____

_____ _____ _____

_____ _____ _____

Hours		

INSTRUMENT LESSON 2

AATD or ACFT—BASIC INSTRUMENT FLIGHT PROCEDURES

OBJECTIVE: Student will be introduced to and practice basic instrument flying procedures.

TIME: Approx 2.0 hours

PREFLIGHT BRIEFING

____ ____ ____ Briefing on the Lesson

____ ____ ____ Documents and required instrument checks

____ ____ ____ Wake turb, wind shear, collision avoidance

____ ____ ____ Incursion avoidance - *call all hold short lines*

____ ____ ____ Weather

____ ____ ____ Enroute charts, approach plates, sectionals

____ ____ ____ Flight equipment—*kneeboard, pencils, etc.*

PREFLIGHT PREPARATION

____ ____ ____ IFR cockpit √—*ARROW*

____ ____ ____ Tests—*VOR, Transponder, Alternate-Static, Altimeter, 121.5 check, RNAV/ GPS, ADF (as applicable)*

____ ____ ____ IFR Preflight Inspection √

____ ____ ____ IFR cockpit organization

STARTUP

____ ____ ____ Engine Start √

____ ____ ____ Comm radio setup—*freq, vol, transmitter*

____ ____ ____ Nav radio setup—*freq, ID, set course*

____ ____ ____ ATIS—*copy and review*

____ ____ ____ IFR clearance—*copy, confirm, comply*

TAXI AND RUNUP

____ ____ ____ Taxi √

____ ____ ____ Taxi Clearance—*copy, confirm, comply*

____ ____ ____ Taxi—*wind, brakes, steering, speed, hazards*

____ ____ ____ Gyros and compass check—*first turn*

____ ____ ____ Flight Instrument Check

____ ____ ____ Runup √

TAKEOFF / CLIMB

____ ____ ____ Takeoff √

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

____ ____ ____ Takeoff—*normal*

____ ____ ____ Climb 500' then "on course"

____ ____ ____ Climb √

____ ____ ____ Tower handoff / Center Check-in

____ ____ ____ Center Clearance—*copy, confirm, comply*

BASIC INSTRUMENT FLIGHT

____ ____ ____ Constant Speed / Rate Climbs

____ ____ ____ Climbs with turns

____ ____ ____ Level-off from climb procedure

____ ____ ____ Cruise √

____ ____ ____ Scan instruction and practice
(Primary instruments / Secondary instruments)

____ ____ ____ Straight and level

____ ____ ____ Turns—*headings, standard & 1/2 rate, timed*

____ ____ ____ Throttle settings / speeds

____ ____ ____ Constant speed / rate descents

____ ____ ____ Descents with turns

____ ____ ____ Level-off from descent procedure

____ ____ ____ Steep turns

____ ____ ____ Slow flight

____ ____ ____ Stalls

____ ____ ____ Recover from unusual altitudes

____ ____ ____ Partial panel, all maneuvers above

INSTRUMENT LESSON 2

AATD or ACFT—BASIC INSTRUMENT FLIGHT PROCEDURES

(CONTINUED)

LANDING

____ ____ ____ Landing √

____ ____ ____ Landing clearance—*copy, confirm, comply*

____ ____ ____ Stabilized approach

____ ____ ____ Roundout—*height, crosswind cx*

____ ____ ____ Touchdown—*drift, centerline, full stall*

____ ____ ____ Taxi √—*wind, speed, braking, hazards*

____ ____ ____ Taxi clearance—*copy, confirm, comply*

____ ____ ____ Shutdown √

____ ____ ____ Postflight inspection

POSTFLIGHT

____ ____ ____ Debrief

____ ____ ____ Update TCO and logbook

COMPLETION STANDARDS

The lesson will be complete when all areas have a grade of 2 or better. Standards are as follows:

1. Altitude ±200 feet
2. Headings and rollouts ±15º
3. Airspeed within ±15 knots
4. Climbs and descents at specified rate ±200 feet

	Flight	Inst	AATD	Total Inst	Instructor	Student	Date	Aircraft Type	Tail Number
This Lesson									
Total									

COMMENTS

_____

_____

Hours		

INSTRUMENT LESSON 3

AATD or ACFT—INTERCEPTING AND TRACKING NAVIGATION FACILITIES

OBJECTIVE: The student will practice navigation intercepting and tracking procedures.

TIME: Approx 1.0 hour

PREFLIGHT BRIEFING

____ ____ ____ Briefing on the Lesson

____ ____ ____ Documents and required instrument checks

____ ____ ____ Wake turb, wind shear, collision avoidance

____ ____ ____ Incursion avoidance—call all hold short lines

____ ____ ____ Weather

____ ____ ____ FAR AIM, enroute charts, approach plates

____ ____ ____ Flight equipment—*kneeboard, pencils, etc.*

PREFLIGHT PREPARATION

____ ____ ____ IFR cockpit √—*ARROW*

____ ____ ____ Tests—*VOR, Transponder, Alternate-Static, Altimeter, ELT, 121.5 check, RNAV/GPS, ADF (as applicable)*

____ ____ ____ IFR Preflight Inspection √

____ ____ ____ IFR cockpit organization

STARTUP

____ ____ ____ Engine Start √

____ ____ ____ Comm radio setup—*freq, vol, transmitter*

____ ____ ____ Nav radio setup—*freq, ID, set course*

____ ____ ____ ATIS—*copy and review*

____ ____ ____ IFR clearance—*copy, confirm, comply*

TAXI AND RUNUP

____ ____ ____ Taxi √

____ ____ ____ Taxi Clearance—*copy, confirm, comply*

____ ____ ____ Taxi—*wind, brakes, steering, speed, hazards*

____ ____ ____ Gyros and compass check—*first turn*

____ ____ ____ Flight instrument check

____ ____ ____ Runup √

TAKEOFF / CLIMB

____ ____ ____ Takeoff √

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

____ ____ ____ Takeoff—*normal*

____ ____ ____ Climb 500' then "on course"

____ ____ ____ Climb √

____ ____ ____ Tower handoff / Center check-in

____ ____ ____ Center Clearance—*copy, confirm, comply*

BASIC INSTRUMENT FLIGHT

____ ____ ____ Constant Speed / Rate Climbs with turns

____ ____ ____ Level-off procedure

____ ____ ____ Cruise checklist √—*trim & mixture*

____ ____ ____ Radial scan

____ ____ ____ Straight and level with turns

____ ____ ____ Turns—*headings, standard & 1/2 rate, timed*

____ ____ ____ Throttle settings vs. speeds

____ ____ ____ Constant speed / rate descents with turns

____ ____ ____ Partial panel

INTERCEPTING / TRACKING

____ ____ ____ Intercepting nav radials / courses

____ ____ ____ Tracking to / from nav stations

____ ____ ____ Partial panel, all maneuvers above

LANDING

____ ____ ____ Landing √

____ ____ ____ Landing clearance—*copy, confirm, comply*

____ ____ ____ Stabilized approach

____ ____ ____ Use of flaps

____ ____ ____ Landing—*centerline, drift, roundout, touchdown*

____ ____ ____ Taxi √—*wind, speed, braking, hazards*

____ ____ ____ Shutdown √

____ ____ ____ Postflight inspection

INSTRUMENT LESSON 3

AATD or ACFT—INTERCEPTING AND TRACKING NAVIGATION FACILITIES

(CONTINUED)

POSTFLIGHT

____ ____ ____ Debrief

____ ____ ____ Update TCO and logbook

COMPLETION STANDARDS

The lesson will be complete when all areas have a grade of 2 or better. Standards are as follows:

1. Altitude ±200 feet
2. Headings and rollouts ±15º
3. Airspeed within ±15 knots
4. Climbs and descents at specified rate ±200 feet

	Flight	Inst	AATD	Total Inst	Instructor	Student	Date	Aircraft Type	Tail Number
Previous									
This Lesson									
Total									

COMMENTS

Hours		

INSTRUMENT LESSON 4

BRIEFING—VOR, RNAV/GPS, DME AND INTERSECTION HOLDING PROCEDURES

OBJECTIVE: Instructor will tutor the student on the elements of instrument holding procedures.

TIME: As required

THE HOLDING CLEARANCE

____ ____ ____ Holding direction
____ ____ ____ Holding facility
____ ____ ____ Holding radial or bearing
____ ____ ____ DME holds
____ ____ ____ Direction of turns
____ ____ ____ Length of inbound leg
____ ____ ____ EFC Time
____ ____ ____ Protected / unprotected airspace
____ ____ ____ Reporting required

PLANNING THE HOLD—STANDARD AND NON-STANDARD

____ ____ ____ Drawing the hold
____ ____ ____ Drawing the wind direction and speed
____ ____ ____ Understanding the effects of the wind
____ ____ ____ Drawing the aircraft bearing to the fix
____ ____ ____ Direct entry
____ ____ ____ Parallel entry
____ ____ ____ Teardrop entry

FLYING THE HOLD

____ ____ ____ Tracking to the fix
____ ____ ____ Entering the hold
____ ____ ____ Establishing wind cx inbound
____ ____ ____ Crossing the holding fix
____ ____ ____ Reporting to ATC when established
____ ____ ____ Flying the fix end turn, re: the wind
____ ____ ____ Beginning time abeam the fix
____ ____ ____ Establishing wind cx on the outbound
____ ____ ____ Timing outbound
____ ____ ____ Flying the outbound end turn
____ ____ ____ Monitoring the intercept
____ ____ ____ Intercepting the holding course
____ ____ ____ Beginning time on the intercept
____ ____ ____ Flying the inbound course
____ ____ ____ Timing inbound
____ ____ ____ Adjusting time & wind cx on the outbound leg

POSTBRIEF

____ ____ ____ Update TCO

COMPLETION STANDARDS

The lesson will be complete when all areas have a grade of 2 or better. Standards are as follows:

1. Accurately describe a holding pattern
2. Identify the elements of holding clearance
3. Accurately describe the three standard and non-standard entry methods

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

Hours		

INSTRUMENT LESSON 5

AATD or ACFT—VOR, GPS, DME AND INTERSECTION HOLDING PROCEDURES

OBJECTIVE: The student will practice, with instructor guidance, instrument holding procedures.

TIME: Approx 3.0 hours

PREFLIGHT BRIEFING

____ ____ ____ Briefing on the Lesson

____ ____ ____ Documents and required instrument checks

____ ____ ____ Wake turb, wind shear, collision avoidance

____ ____ ____ Incursion avoidance—*call all hold short lines*

____ ____ ____ Weather

____ ____ ____ FAR AIM, enroute charts, approach plates

____ ____ ____ Flight equipment—*kneeboard, pencils, etc.*

PREFLIGHT PREPARATION

____ ____ ____ IFR cockpit √—*ARROW*

____ ____ ____ Tests—*VOR, Transponder, Alternate-Static, Altimeter, ELT, 121.5 check, RNAV/GPS (as required)*

____ ____ ____ IFR Preflight Inspection √

____ ____ ____ IFR cockpit organization

STARTUP

____ ____ ____ Engine Start √

____ ____ ____ Comm radio setup—*freq, vol, transmitter*

____ ____ ____ Nav radio setup—*freq, ID, set course*

____ ____ ____ ATIS—*copy and review*

____ ____ ____ IFR clearance—*copy, confirm, comply*

TAXI AND RUNUP

____ ____ ____ Taxi √

____ ____ ____ Taxi Clearance—*copy, confirm, comply*

____ ____ ____ Taxi—*wind, brakes, steering, speed, hazards*

____ ____ ____ Gyros and compass check—*first turn*

____ ____ ____ Flight Instrument Check

____ ____ ____ Runup √

TAKEOFF / CLIMB

____ ____ ____ Takeoff √

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

____ ____ ____ Takeoff—*normal*

____ ____ ____ Climb 500’ then “on course”

____ ____ ____ Climb √

____ ____ ____ Tower handoff / Center Check-in

____ ____ ____ Center Clearance—*copy, confirm, comply*

BASIC INSTRUMENT FLIGHT

____ ____ ____ Constant Speed / Rate Climbs with turns

____ ____ ____ Level-off procedure

____ ____ ____ Cruise checklist √—*trim & mixture*

____ ____ ____ Straight and level

____ ____ ____ Turns—*headings, standard & 1/2 rate, timed*

____ ____ ____ Constant speed / rate descents with turns

____ ____ ____ Partial panel, all maneuvers

INTERCEPTING / TRACKING

____ ____ ____ Intercepting radials / courses

____ ____ ____ Tracking to / from nav stations

____ ____ ____ Partial panel, all maneuvers

INSTRUMENT LESSON 5
AATD or ACFT—HOLDING PROCEDURES
(CONTINUED)

HOLDING PROCEDURES—STANDARD / NON-STANDARD

____ ____ ____ Holding clearance—copy, confirm, comply

____ ____ ____ Drawing the hold, entry, and wind

____ ____ ____ Flying the entry and estimating wind cx

____ ____ ____ Tracking to the holding fix and reporting to ATC

____ ____ ____ Flying the fix end turn

____ ____ ____ Flying to the abeam point / establishing the wind cx

____ ____ ____ Timing—flying the outbound leg

____ ____ ____ Flying the outbound end turn and intercepting

____ ____ ____ Timing—tracking the inbound course with wind cx

____ ____ ____ Reporting to ATC on leaving the hold

LANDING

____ ____ ____ Landing √

____ ____ ____ Landing clearance—*copy, confirm, comply*

____ ____ ____ Stabilized approach

____ ____ ____ Landing—*centerline, drift, roundout, touchdown, full stall*

____ ____ ____ Taxi √—*wind, speed, braking, hazards*

____ ____ ____ Taxi clearance—*copy, confirm, comply*

____ ____ ____ Shutdown √

POSTFLIGHT

____ ____ ____ Debrief

____ ____ ____ Update TCO and logbook

COMPLETION STANDARDS

The student will understand and be able to perform basic instrument flight procedures while maintaining the following

1. Altitude ±200 feet
2. Headings ±15º
3. Airspeed within ±10 knots
4. Climbs and descents at specified rate ±200 feet

	Flight	Inst	AATD	Total Inst	Instructor	Student	Date	Aircraft Type	Tail Number
Previous									
This Lesson									
Total									

COMMENTS

Hours		

INSTRUMENT LESSON 6

BRIEFING—NON-PRECISION / PRECISION APPROACH PROCEDURES

OBJECTIVE: The student will be tutored on non-precision approach procedures.

TIME: As required

TRANSITION FROM ENROUTE STRUCTURE

____ ____ ____ Obtaining weather—*ATIS, AWOS, ASOS*

____ ____ ____ Brief approach

____ ____ ____ Set frequencies and ID stations

____ ____ ____ Tracking to the IAF

INITIAL AND INTERMEDIATE APPROACH SEGMENTS

____ ____ ____ Timing / mileage outbound from the IAF

____ ____ ____ Turning outbound on the PT

____ ____ ____ Descending to altitude

____ ____ ____ Complete landing checklist

____ ____ ____ Timing the PT outbound

____ ____ ____ Turning PT inbound

FINAL APPROACH SEGMENT

____ ____ ____ Beginning time at the FAF (if required)

____ ____ ____ Beginning descent at the FAF

____ ____ ____ Descending to the MDA / DA

____ ____ ____ Time as the Missed Approach Point

____ ____ ____ Distance as the Missed Approach Point

____ ____ ____ Nav facility as the Missed Approach Point

____ ____ ____ Maintaining MDA until the Missed Approach Point

____ ____ ____ Confirm landing checklist

____ ____ ____ Transitioning to visual approach

____ ____ ____ Beginning the Missed Approach Procedure

MISSED APPROACH SEGMENT

____ ____ ____ Transition to missed approach

____ ____ ____ Call ATC re: "… going missed!"

____ ____ ____ ATC Clearance—copy, confirm, comply

POSTBRIEF

____ ____ ____ Update TCO

COMPLETION STANDARDS

The lesson will be complete when all areas have a grade of 2 or better. Standards are as follows:

1. Accurately describe the segments of the approach.
2. Accurately describe the procedures to be used in each segment.

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

Hours		

INSTRUMENT LESSON 7

AATD or ACFT—FLYING NON-PRECISION APPROACH PROCEDURES

OBJECTIVE: Instructor will demonstrate and student will practice non-precision approach procedures.

TIME: Approx 6.0 hours

PREFLIGHT BRIEFING

____ ____ ____ Briefing on the Lesson

____ ____ ____ Documents and required instrument checks

____ ____ ____ Wake turb, wind shear, collision avoidance

____ ____ ____ Incursion avoidance—*call all hold short lines*

____ ____ ____ Weather

____ ____ ____ FAR AIM, enroute charts, approach plates

____ ____ ____ Flight equipment—*kneeboard, pencils, etc.*

PREFLIGHT PREPARATION

____ ____ ____ IFR cockpit √—*ARROW*

____ ____ ____ Tests—*VOR, Transponder, Alternate-Static, Altimeter, ELT, 121.5 check, RNAV/GPS (as required)*

____ ____ ____ IFR Preflight Inspection √

____ ____ ____ IFR cockpit organization

STARTUP

____ ____ ____ Engine Start √

____ ____ ____ Comm radio setup—*freq, vol, transmitter*

____ ____ ____ Nav radio setup—*freq, ID, set course*

____ ____ ____ ATIS—*copy and review*

____ ____ ____ IFR clearance—*copy, confirm, comply*

TAXI AND RUNUP

____ ____ ____ Taxi √

____ ____ ____ Taxi Clearance—*copy, confirm, comply*

____ ____ ____ Taxi—*wind, brakes, steering, speed, hazards*

____ ____ ____ Gyros and compass check—*first turn*

____ ____ ____ Flight Instrument Check

____ ____ ____ Runup √

TAKEOFF / CLIMB

____ ____ ____ Takeoff √

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

____ ____ ____ Takeoff—*normal*

____ ____ ____ Climb 500' then "on course"

____ ____ ____ Climb √

____ ____ ____ Tower handoff / Center Check-in

____ ____ ____ Center Clearance—*copy, confirm, comply*

TRANSITION FROM ENROUTE STRUCTURE

____ ____ ____ Obtain ATIS

____ ____ ____ Brief the approach

____ ____ ____ Set frequencies

____ ____ ____ Identify stations

____ ____ ____ Set course

____ ____ ____ Intercept course

____ ____ ____ Track course

____ ____ ____ Descent to altitude

____ ____ ____ Configure acft for approach

INITIAL / INTERMEDIATE FIX TO FAF

____ ____ ____ Timing outbound from the IAF

____ ____ ____ Landing √

____ ____ ____ Timing/flying Procedure Turn outbound

____ ____ ____ Remaining within protected airspace

____ ____ ____ Intercepting the inbound course to IF or FAF

____ ____ ____ Reviewing the Missed Approach Procedure

____ ____ ____ Confirm track / course

____ ____ ____ Begin descent, if required

INSTRUMENT LESSON 7

AATD or ACFT—FLYING NON-PRECISION APPROACH PROCEDURES (CONTINUED)

FAF TO MAP

____ ____ ____ Start time

____ ____ ____ Maintaining track / course

____ ____ ____ Begin descent to MDA

____ ____ ____ Inform ATC

____ ____ ____ Confirm landing √

____ ____ ____ Identify MAP

____ ____ ____ Transition to visual and land… or

____ ____ ____ Begin missed approach procedure… or

____ ____ ____ Circle to land

FLYING THE MISSED APPROACH PROCEDURE

____ ____ ____ Getting established on the Missed Approach

____ ____ ____ Calling ATC re: "… going missed!"

____ ____ ____ Missed clearance—copy, confirm, comply

POSTFLIGHT

____ ____ ____ Debrief

____ ____ ____ Update TCO and logbook

COMPLETION STANDARDS

The lesson will be complete when all areas have a grade of 2 or better. The standards are as follows:

1. Altitude ±200 feet
2. Headings ±15º
3. Airspeed within ±10 knots
4. Climbs and descents at specified rate ±200 feet

	Flight	Inst	AATD	Total Inst	Instructor	Student	Date	Aircraft Type	Tail Number
Previous									
This Lesson									
Total									

COMMENTS

Hours		

INSTRUMENT LESSON 8

AATD or ACFT—FLYING PRECISION APPROACH PROCEDURES

OBJECTIVE: The student, under instructor guidance, will practice flying precision approach procedures.

TIME: Approx 3.0 hours

PREFLIGHT BRIEFING

____ ____ ____ Briefing on the Lesson

____ ____ ____ Documents and required instrument checks

____ ____ ____ Wake turb, wind shear, collision avoidance

____ ____ ____ Incursion avoidance—*call all hold short lines*

____ ____ ____ Weather

____ ____ ____ FAR AIM, enroute charts, approach plates

____ ____ ____ Flight equipment—*kneeboard, pencils, etc.*

PREFLIGHT PREPARATION

____ ____ ____ IFR cockpit √—*ARROW*

____ ____ ____ Tests—*VOR, Transponder, Alternate-Static, Altimeter, ELT, 121.5 check, RNAV/GPS (as required)*

____ ____ ____ IFR Preflight Inspection √

____ ____ ____ IFR cockpit organization

STARTUP

____ ____ ____ Engine Start √

____ ____ ____ Comm radio setup—*freq, vol, transmitter*

____ ____ ____ Nav radio setup—*freq, ID, set course*

____ ____ ____ ATIS—*copy and review*

____ ____ ____ IFR clearance—*copy, confirm, comply*

TAXI AND RUNUP

____ ____ ____ Taxi √

____ ____ ____ Taxi Clearance—*copy, confirm, comply*

____ ____ ____ Taxi—*wind, brakes, steering, speed, hazards*

____ ____ ____ Gyros and compass check—*first turn*

____ ____ ____ Flight Instrument Check

____ ____ ____ Runup √

TAKEOFF / CLIMB

____ ____ ____ Takeoff √

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

____ ____ ____ Takeoff—*normal*

____ ____ ____ Climb 500' then "on course"

____ ____ ____ Climb √

____ ____ ____ Tower handoff / Center Check-in

____ ____ ____ Center Clearance—*copy, confirm, comply*

FLYING TO THE IAF

____ ____ ____ Obtain ATIS

____ ____ ____ Brief the approach

____ ____ ____ Set frequencies

____ ____ ____ Identify stations

____ ____ ____ Set course

____ ____ ____ Intercept course

____ ____ ____ Track course

____ ____ ____ Descent to altitude

____ ____ ____ Configure acft for approach

IAF TO INTERMEDIATE FIX

____ ____ ____ Timing outbound from the IAF

____ ____ ____ Landing √

____ ____ ____ Timing/flying Procedure Turn outbound

____ ____ ____ Remaining within protected airspace

____ ____ ____ Intercepting the inbound course to IF

____ ____ ____ Reviewing the Missed Approach Procedure

IF TO FAF

____ ____ ____ Confirm track / course

____ ____ ____ Begin descent, if required

____ ____ ____ Intercepting / descending on glide slope

INSTRUMENT LESSON 8

AATD or ACFT—FLYING PRECISION APPROACH PROCEDURES
(CONTINUED)

FAF TO MAP (the DA)

____ ____ ____ Start timing

____ ____ ____ Maintaining track / course

____ ____ ____ Descending on glide slope

____ ____ ____ Inform ATC

____ ____ ____ Confirm landing √

____ ____ ____ Identify DA

____ ____ ____ Transitioning to visual and land… or

____ ____ ____ Begin missed approach procedure… or

____ ____ ____ Circling to land

FLYING THE MISSED APPROACH PROCEDURE

____ ____ ____ Getting established on the Missed Approach Procedure

____ ____ ____ Calling ATC re: "… going missed!"

____ ____ ____ Missed clearance—*copy, confirm, comply*

POSTFLIGHT

____ ____ ____ Debrief

____ ____ ____ Update TCO and logbook

COMPLETION STANDARDS

The lesson will be complete when all areas have a grade of 2 or better. The standards are as follows:

1. Altitude ±200 feet
2. Headings ±15º
3. Airspeed within ±10 knots
4. Climbs and descents at specified rate ±200 feet

	Flight	Inst	AATD	Total Inst	Instructor	Student	Date	Aircraft Type	Tail Number
Previous									
This Lesson									
Total									

COMMENTS

_____

_____

Hours		

INSTRUMENT LESSON 9

AATD or ACFT—FLYING DME ARCS

OBJECTIVE: The student, under instructor guidance, will practice flying DME ARCS.

TIME: Approx 1.0 hour

PREFLIGHT BRIEFING

___ ___ ___ Briefing on the Lesson

___ ___ ___ Documents and required instrument checks

___ ___ ___ Wake turb, wind shear, collision avoidance

___ ___ ___ Incursion avoidance—*call all hold short lines*

___ ___ ___ Weather

___ ___ ___ FAR AIM, enroute charts, approach plates, WACs

___ ___ ___ Flight equipment—*kneeboard, pencils, etc.*

PREFLIGHT PREPARATION

___ ___ ___ IFR cockpit √—*ARROW*

___ ___ ___ Tests—*VOR, Transponder, Alternate-Static, Altimeter, ELT, 121.5 check, RNAV/GPS (as required)*

___ ___ ___ IFR Preflight Inspection √

___ ___ ___ IFR cockpit organization

STARTUP

___ ___ ___ Engine Start √

___ ___ ___ Comm radio setup—*freq, vol, transmitter*

___ ___ ___ Nav radio setup—*freq, ID, set course*

___ ___ ___ ATIS—*copy and review*

___ ___ ___ IFR clearance—*copy, confirm, comply*

TAXI AND RUNUP

___ ___ ___ Taxi √

___ ___ ___ Taxi Clearance—*copy, confirm, comply*

___ ___ ___ Taxi—*wind, brakes, steering, speed, hazards*

___ ___ ___ Gyros and compass check—*first turn*

___ ___ ___ Flight Instrument Check

___ ___ ___ Runup √

FLYING TO THE ARC

___ ___ ___ Brief the approach

___ ___ ___ Set freqs for the ARC and approach

___ ___ ___ Identify stations

___ ___ ___ Set courses for the ARC and approach

___ ___ ___ Tracking radial to the ARC

___ ___ ___ Descending to altitude

___ ___ ___ Intercepting the ARC

FLYING THE ARC

___ ___ ___ Resetting courses to first crossing radial

___ ___ ___ Monitoring distance

___ ___ ___ Intercepting crossing radials

___ ___ ___ Adjusting course to maintain the ARC

INTERCEPTING THE FINAL APPROACH COURSE

___ ___ ___ Anticipating the LR or final approach course

___ ___ ___ Intercepting the final approach course

___ ___ ___ Tracking the course inbound

___ ___ ___ Landing √

___ ___ ___ Review of Missed Approach Procedure

___ ___ ___ Intercepting the Glide Slope (if appropriate)

FLYING THE FINAL APPROACH SEGMENT

___ ___ ___ Start timing

___ ___ ___ Maintaining track / course

___ ___ ___ Descending to DA / MDA

___ ___ ___ Informing ATC

___ ___ ___ Identifying DA / MDA

___ ___ ___ Confirm landing √

___ ___ ___ Transitioning to visual landing…or

___ ___ ___ Begin missed approach procedure… or

___ ___ ___ Circle to land

INSTRUMENT LESSON 9

AATD or ACFT—FLYING DME ARCS
(CONTINUED)

FLYING THE MISSED APPROACH PROCEDURE

____ ____ ____ Getting established on the Missed Approach Procedure

____ ____ ____ Calling ATC

____ ____ ____ Missed approach clearance—*copy, confirm, comply*

POSTFLIGHT

____ ____ ____ Debrief

____ ____ ____ Update TCO and logbook

COMPLETION STANDARDS

The lesson will be complete when all areas have a grade of 2 or better. The standards are as follows:

1. Altitude ±200 feet
2. Headings ±15º
3. Airspeed within ±10 knots
4. Climbs and descents at specified rate ±200 feet

	Flight	Inst	AATD	Total Inst	Instructor	Student	Date	Aircraft Type	Tail Number
Previous									
This Lesson									
Total									

COMMENTS

Hours		

INSTRUMENT LESSON 10

BRIEFING—FOR STAGE ONE CHECK

OBJECTIVE: The student will demonstrate an understanding of the IFR procedures and operations listed.

TIME: As required.

PREFLIGHT PREPARATIONS

____ ____ ____ Risk Factors—PAVE

____ ____ ____ Recent Flight Experience—IFR

____ ____ ____ Required documents

____ ____ ____ Required instruments/inspections

AIRCRAFT SYSTEMS

Icing:

____ ____ ____ Airframe, Pitot-static, Intake

____ ____ ____ Effects of icing

G1000:

____ ____ ____ ADC Failure/AHRS Failure

____ ____ ____ GPS and WAAS Failure

____ ____ ____ Electrical Power Supply Malfunctions

____ ____ ____ Autopilot/Trim failures

GPS Terms:

____ ____ ____ RAIM

____ ____ ____ WAAS

____ ____ ____ LPV/DA

____ ____ ____ LNAV/VNAV/DA

____ ____ ____ LNAV/MDA

WEATHER

____ ____ ____ Reports/Forecasts—TAF/FA/FD

____ ____ ____ Sigmets/Airmets/AV Charts

____ ____ ____ Wx Radar

____ ____ ____ Notams

ATC CLEARNACES AND PROCEDURES

____ ____ ____ Flight Plan Filing/Closing

____ ____ ____ Standard Clearance Items

____ ____ ____ Abbreviated/Full Route/Amended

____ ____ ____ Holding Clearances/Procedures

____ ____ ____ Approach Clearances/Visual/ Contact

____ ____ ____ Required Reports/Lost Communications

CHARTS AND PUBLICATIONS

____ ____ ____ Enroute Charts/Symbology

____ ____ ____ A/FD

Approach Charts/Symbology:

____ ____ ____ ILS/LOC/BC

____ ____ ____ VOR/DME/w/arcs

____ ____ ____ RNAV (GPS)

____ ____ ____ SDF/LDA/ASR

____ ____ ____ Inoperative Components Table

Departure Procedures:

____ ____ ____ ODP's/SID's/Takeoff & Alternate Mins.

____ ____ ____ STARS

REGULATIONS/PROCEDURES

____ ____ ____ Instrument Flight Rules Part 91

____ ____ ____ UD Inst. Training Limitations

COMPLETION STANDARDS

The student will receive a grade of 2 or better and demonstrate an understanding of all procedures by thoroughly explaining their execution.

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

Hours		

INSTRUMENT LESSON 11

AATD or ACFT—REVIEW FOR THE STAGE ONE CHECK

OBJECTIVE: Student will demonstrate proficiency in all procedures previously introduced.

TIME: Approx 3.0 hours

PREFLIGHT BRIEFING

____ ____ ____ Briefing on the Lesson

____ ____ ____ Documents and required instrument checks

____ ____ ____ Wake turb, wind shear, collision avoidance

____ ____ ____ Incursion avoidance—*call all hold short lines*

____ ____ ____ Weather

____ ____ ____ FAR AIM, enroute charts, approach plates, sectionals, WACs

PREFLIGHT PREPARATION

____ ____ ____ IFR cockpit √—*ARROW*

____ ____ ____ Tests—*VOR, Transponder, Alternate-Static, Altimeter, ELT, 121.5 check, RNAV/GPS (as required)*

____ ____ ____ IFR Preflight Inspection √

____ ____ ____ IFR cockpit organization

STARTUP

____ ____ ____ Engine Start √

____ ____ ____ Comm radio setup—*freq, vol, transmitter*

____ ____ ____ Nav radio setup—*freq, ID, set course*

____ ____ ____ ATIS—*copy and review*

____ ____ ____ IFR clearance—*copy, confirm, comply*

TAXI AND RUNUP

____ ____ ____ Taxi √

____ ____ ____ Taxi Clearance—*copy, confirm, comply*

____ ____ ____ Taxi—*wind, brakes, steering, speed, hazards*

____ ____ ____ Gyros and compass check—*first turn*

____ ____ ____ Flight Instrument Check

____ ____ ____ Runup √

TAKEOFF / CLIMB

____ ____ ____ Takeoff √

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

____ ____ ____ Takeoff—*normal*

____ ____ ____ Climb 500' then "on course"

____ ____ ____ Climb √

____ ____ ____ Tower handoff / Center Check-in

BASIC INSTRUMENT FLIGHT

____ ____ ____ S + L flight at various airspeeds

____ ____ ____ Constant rate / speed climbs and descents

____ ____ ____ Standard and 1/2 rate turns

____ ____ ____ Steep turns

____ ____ ____ Slow flight (various configurations)

____ ____ ____ Stalls (power on / off)

____ ____ ____ Recovery from unusual altitudes

____ ____ ____ Partial panel—all exercises above

INTERCEPTING / TRACKING (VOR and RNAV/GPS)

____ ____ ____ Intercepting nav radials / courses

____ ____ ____ Tracking to / from nav stations

____ ____ ____ Partial panel, all maneuvers above

HOLDING—STANDARD / NON-STANDARD

____ ____ ____ VOR—*holding at the nav aid*

____ ____ ____ VOR—*holding at intersections*

____ ____ ____ DME holds

____ ____ ____ GPS

INSTRUMENT LESSON 11

AATD or ACFT—REVIEW FOR THE STAGE ONE CHECK

(CONTINUED)

APPROACHES

____ ____ ____ DME ARC

____ ____ ____ ILS

____ ____ ____ NDB (optional)

____ ____ ____ VOR

____ ____ ____ Localizer

____ ____ ____ Localizer Back Course

____ ____ ____ GPS

LANDINGS

____ ____ ____ Identifying DA / MDA

____ ____ ____ Transitioning to visual landing… or

____ ____ ____ Flying a missed approach procedure

____ ____ ____ From a missed approach

____ ____ ____ Circling to land

POSTFLIGHT

____ ____ ____ Debrief

____ ____ ____ Update TCO and logbook

COMPLETION STANDARDS

The student will understand and be able to perform basic instrument flight procedures while maintaining the following:

1. Altitude ±150 feet
2. Headings ±15º
3. Airspeed within ±10 knots
4. Climbs and descents at specified rate ±200 feet

	Flight	Inst	AATD	Total Inst	Instructor	Student	Date	Aircraft Type	Tail Number
Previous									
This Lesson									
Total									

COMMENTS

_____

_____

Hours		

INSTRUMENT LESSON 12

AATD or ACFT—STAGE ONE CHECK

OBJECTIVE: The student shall demonstrate understanding of and proficiency in the procedures listed below.

TIME: As required

PREFLIGHT BRIEFING

___ ___ ___ Briefing on the Lesson

___ ___ ___ Documents and required instrument checks

___ ___ ___ Wake turb, wind shear, collision avoidance

___ ___ ___ Incursion avoidance—*call all hold short lines*

___ ___ ___ Weather

___ ___ ___ FAR AIM, enroute charts, approach plates

PREFLIGHT PREPARATION

___ ___ ___ IFR cockpit √—*ARROW*

___ ___ ___ Tests—*VOR, Transponder, Altimeter/Static System, ELT, GPS database expiration*

___ ___ ___ IFR Preflight Inspection √

___ ___ ___ IFR cockpit organization

STARTUP

___ ___ ___ Engine Start √

___ ___ ___ Comm radio setup—*freq, vol, transmitter*

___ ___ ___ Nav radio setup—*freq, ID, set course*

___ ___ ___ ATIS—*copy and review*

___ ___ ___ IFR clearance—*copy, confirm, comply*

TAXI AND RUNUP

___ ___ ___ Taxi √

___ ___ ___ Taxi Clearance—*copy, confirm, comply*

___ ___ ___ Taxi—*wind, brakes, steering, speed, hazards*

___ ___ ___ Gyros and compass check—*first turn*

___ ___ ___ Flight Instrument Check

___ ___ ___ Runup √

TAKEOFF / CLIMB

___ ___ ___ Takeoff √

___ ___ ___ Takeoff clearance—*copy, confirm, comply*

___ ___ ___ Takeoff—*normal*

___ ___ ___ Climb 500' then "on course"

___ ___ ___ Climb √

BASIC INSTRUMENT FLIGHT

At least 2 below AI and HI covered

___ ___ ___ S + L flight at various airspeeds

___ ___ ___ Constant rate / speed climbs and descents

___ ___ ___ Standard and 1/2 rate turns

___ ___ ___ Steep turns (full panel)

___ ___ ___ Slow flight (various configurations)

___ ___ ___ Stalls (power on / off)-recovery at first indication

___ ___ ___ Recovery from unusual altitudes (AI covered)

HOLDING—STANDARD / NON-STANDARD

Minimum of 2 holds (at least 1 partial panel)

___ ___ ___ VOR—*holding at the nav aid (optional)*

___ ___ ___ VOR—*holding at an intersection (optional)*

___ ___ ___ GPS—(optional)

___ ___ ___ DME—hold (optional)

APPROACHES

Minimum of 3 approaches (at least 1 partial panel)

___ ___ ___ DME ARC

___ ___ ___ GPS

___ ___ ___ ILS or LPV

___ ___ ___ NDB (optional)

___ ___ ___ VOR (optional)

___ ___ ___ Localizer (optional)

___ ___ ___ Localizer Back Course (optional)

INSTRUMENT LESSON 12

AATD or ACFT—STAGE ONE CHECK

(CONTINUED)

LANDINGS

____ ____ ____ Identifying DA / MDA

____ ____ ____ One missed approach procedure

____ ____ ____ From a straight in approach

____ ____ ____ Circling approach

POSTFLIGHT

____ ____ ____ Debrief

____ ____ ____ Update TCO and logbook

COMPLETION STANDARDS

The student will understand and be able to perform basic instrument flight procedures while maintaining the following:

1. Altitude ±150 feet
2. Headings ±15º
3. Airspeed within ±10 knots
4. Climbs and descents at specified rate ±200 feet

	Flight	Inst	AATD	Total Inst	Instructor	Student	Date	Aircraft Type	Tail Number
Previous									
This Lesson									
Total									

CRITIQUE

_____

_____

RECOMMENDATION

1 ____ This stage check performance indicates that additional review is necessary.

A. Do Review Lessons on all items marked "1" until your Instructor indicates a satisfactory "2".

B. Insert the Review Lesson sheets following this page.

C. 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** _____

INSTRUMENT RATING COURSE

STAGE TWO

Cross Country Flight Training

Lessons 13-16

15.0 hours (approx) of dual instrument flight training in an airplane to include:
10.0 hours (approx) of instrument cross-country training to include:

1. At least one instrument cross-country flight of at least 250 nautical miles
2. Along airways or using ATC-directed routing
3. Doing three different kinds of instrument approaches
4. Comprehensive instrument procedures review prior to the final rating check
5. 3 hours flight training in preparation for the practical test must be within 2 calendar months of the date of the test.

Stage two Objectives

The student will be instructed in cross-country instrument flying, and will review all instrument procedures in preparation for the Instrument Rating Check

Stage Two Completion Standards

This stage will be complete when the student meets all lesson standards and performs all maneuvers to Airman Certification Standards.

Hours		

INSTRUMENT LESSON 13

BRIEFING—IFR CROSS-COUNTRY PLANNING AND FLYING

OBJECTIVE: The instructor will guide the student in planning a simulated IFR cross-country.

TIME: As required

PREFLIGHT PLANNING

____ ____ ____ Pilot—human factors

____ ____ ____ CFR Parts 61 / 91

____ ____ ____ Enroute and approach charts

____ ____ ____ Take off and landing minima

____ ____ ____ Navigation log

____ ____ ____ FSS

WEATHER REPORTS

____ ____ ____ METARs

____ ____ ____ PIREPs

____ ____ ____ SDs

____ ____ ____ Satellite Weather Pictures

WEATHER FORECASTS

____ ____ ____ TAFs

____ ____ ____ FAs (area forecasts)

____ ____ ____ TWEB (route forecasts)

____ ____ ____ WAs, WSs, WSTs

____ ____ ____ FDs (winds and temps aloft)

____ ____ ____ CWAs

____ ____ ____ ACs (convective outlooks)

____ ____ ____ AWW (severe weather forecast alert)

____ ____ ____ WW (severe weather watch bulletin)

____ ____ ____ ATIS

NOTAMS

____ ____ ____ D and FDCs

WEATHER CHARTS

____ ____ ____ Surface Analysis Charts

____ ____ ____ Weather Depiction Charts

____ ____ ____ Radar Summary Charts

____ ____ ____ Low-Level Prog Charts

____ ____ ____ Winds & Temps Aloft Charts

____ ____ ____ Composite Moisture Stability Charts

____ ____ ____ Severe Weather Outlook Charts

____ ____ ____ Constant Pressure Analysis Charts

FLIGHT PLANNING

____ ____ ____ Review aircraft emergency procedures

____ ____ ____ Completing flight plan

____ ____ ____ Filing flight plan (controlled and uncontrolled airports)

AIRCRAFT PREFLIGHT

____ ____ ____ Normal preflight items

____ ____ ____ IFR preflight items

COMMUNICATIONS

____ ____ ____ IFR clearance—*copy, confirm, comply*

____ ____ ____ Taxi clearance—*copy, confirm, comply*

____ ____ ____ IFR Clearance (controlled and uncontrolled airports)

TAXI AND RUNUP

____ ____ ____ Taxi √

____ ____ ____ Gyro-compass check on first turn

____ ____ ____ Flight instrument check

____ ____ ____ Runup √

INSTRUMENT LESSON 13

BRIEFING—IFR CROSS-COUNTRY PLANNING AND FLYING
(CONTINUED)

TAKEOFF

____ ____ ____ Takeoff √

____ ____ ____ Climb out and transition to IFR

____ ____ ____ "Runway heading" or "assigned"

DEPARTURE

____ ____ ____ Tower handoff to departure

____ ____ ____ ATC clearance—*copy, confirm, comply*

IFR EMERGENCY OPERATIONS

____ ____ ____ Takeoff, enroute, approach

____ ____ ____ Unforecasted adverse wx

____ ____ ____ Inadvertent icing encounter

____ ____ ____ Communications failure

____ ____ ____ Electrical failure

____ ____ ____ Pitot / static system failure

____ ____ ____ Vacuum pump failure

____ ____ ____ Loss of situational awareness

____ ____ ____ Unusual attitude recovery procedures

ENROUTE

____ ____ ____ Maintaining course and altitude

____ ____ ____ Use of autopilot (all phases of flight)

____ ____ ____ Communications procedures

____ ____ ____ Use of enroute charts to monitor flight

____ ____ ____ Completing flight log

____ ____ ____ Obtaining ATIS before ATC handoff

____ ____ ____ Handoff to approach control

APPROACH

____ ____ ____ ATC clearance—*copy, confirm, comply*

____ ____ ____ Briefing the approach

____ ____ ____ Setting up for the approach

____ ____ ____ Flying the approach

____ ____ ____ Transition to visual and landing

____ ____ ____ Canceling the flight plan

POSTBRIEF

____ ____ ____ Update TCO and logbook

COMPLETION STANDARDS

The lesson will be complete when the student can perform the following:

1. Obtain and interpret all types of weather reports
2. Use the weather reports and aircraft POH to complete a flight plan
3. Explain the various takeoff and in flight IFR procedures
4. Explain the various IFR emergency procedures
5. Interpret and use enroute charts and approach plates
6. Perform the required calculations to complete a flight log

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

Hours		

INSTRUMENT LESSON 14

ACFT—IFR CROSS-COUNTRY FLIGHT PROCEDURES

OBJECTIVE: Instructor guided, student flight experiences in IFR cross-country flight procedures. **One flight must be at least 250 nm long and include 3 different instrument approaches and one leg of at least 100 nm.**

TIME: Approx 10.0 hours

PREFLIGHT BRIEFING

____ ____ ____ Briefing on the lesson

____ ____ ____ Documents and required instrument checks

____ ____ ____ Wake turb, wind shear, collision avoidance

____ ____ ____ INCURSION avoidance - *call HOLD SHORT*

____ ____ ____ Weather briefing (reports, forecasts, charts)

____ ____ ____ FAR AIM, enroute charts, approach plates, sectionals

____ ____ ____ Flight equipment—*kneeboard, pencils, etc.*

PREFLIGHT PREPARATION

____ ____ ____ Completing / filing flight plan

____ ____ ____ IFR cockpit √—*ARROW*

____ ____ ____ Tests—*VOR, Transponder, Altimeter/ Static, GPS database expiration*

____ ____ ____ IFR Preflight Inspection √

____ ____ ____ IFR cockpit organization

STARTUP

____ ____ ____ Engine Start √

____ ____ ____ Comm radio setup—*freq, vol, transmitter*

____ ____ ____ Nav radio setup#1— *freq, ID, set course*

____ ____ ____ Nav radio setup #2—emergency return and review approach

____ ____ ____ ATIS—*copy and review*

____ ____ ____ IFR clearance—*copy, confirm, comply*

TAXI AND RUNUP

____ ____ ____ Taxi √

____ ____ ____ Taxi Clearance—*copy, confirm, comply*

____ ____ ____ Taxi—*wind, brakes, steering, speed, hazards*

____ ____ ____ Gyros and compass check—*first turn*

____ ____ ____ Flight Instrument Check

____ ____ ____ Runup √

TAKEOFF / CLIMB

____ ____ ____ Takeoff √

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

____ ____ ____ Takeoff—*type optional*

____ ____ ____ Climb 500’ then “on course”

____ ____ ____ Climb √

____ ____ ____ Tower handoff / Center Check-in

____ ____ ____ Center Clearance—*copy, confirm, comply*

IFR EMERGENCY OPERATIONS

____ ____ ____ Takeoff, enroute, approach

____ ____ ____ Unforecasted adverse wx

____ ____ ____ Inadvertent icing encounter

____ ____ ____ Communications failure

____ ____ ____ Electrical failure

____ ____ ____ Pitot / static system failure

____ ____ ____ Vacuum pump failure

____ ____ ____ Loss of situational awareness

____ ____ ____ Unusual attitude recovery procedures

Hours		

INSTRUMENT LESSON 14

ACFT—IFR CROSS-COUNTRY FLIGHT PROCEDURES

OBJECTIVE: Instructor guided, student flight experiences in IFR cross-country flight procedures. **One flight must be at least 250 nm long and include 3 different instrument approaches and one leg of at least 100 nm.**

TIME: Approx 10.0 hours

ENROUTE

____ ____ ____ Intercepting and tracking courses

____ ____ ____ Level-off from climb procedure

____ ____ ____ Maintaining course and altitude

____ ____ ____ Use of VORs/Victor Airways

____ ____ ____ Use of GPS

____ ____ ____ Autopilot use (all phases)

____ ____ ____ Enroute communications

____ ____ ____ Use of enroute charts to identify position

____ ____ ____ Completing flight logs

____ ____ ____ Identifying intersections

____ ____ ____ Holding procedures

____ ____ ____ Obtaining ATIS prior to approach control

____ ____ ____ Briefing the approach

____ ____ ____ Setting up approach—*freq, ID, set course*

INBOUND

____ ____ ____ Hand off to the approach controller

____ ____ ____ Navigation to the IAP or vectors to final

____ ____ ____ Approach—*initial, intermediate seg*

FINAL

____ ____ ____ Hand off to the tower or CTAF

____ ____ ____ Approach—*final seg within tolerances*

____ ____ ____ Preparations for missed approach

INSTRUMENT APPROACH PROCEDURES

Non-precision approaches full and partial panel

____ ____ ____ ILS

____ ____ ____ LOC

____ ____ ____ LOC/BC (optional)

____ ____ ____ VOR

____ ____ ____ GPS

____ ____ ____ Radar - ASR or PAR (optional)

____ ____ ____ Missed approach

____ ____ ____ Circling approach

____ ____ ____ Landing from straight-in / circling approach

____ ____ ____ Coupled approach with auto pilot

LANDING

____ ____ ____ Transitioning to visual

____ ____ ____ Completion of landing

____ ____ ____ Canceling flight plan *(if applicable)*

MISSED APPROACH

____ ____ ____ Begins at the MAP

____ ____ ____ Transitions to missed approach configuration

____ ____ ____ Communicates with ATC appropriately

____ ____ ____ ATC clearance—*copy, confirm, comply*

____ ____ ____ Proceeds per ATC instructions

POSTFLIGHT

____ ____ ____ Debrief

____ ____ ____ Update TCO and logbook

INSTRUMENT LESSON 14
ACFT—IFR CROSS-COUNTRY FLIGHT PROCEDURES
(CONTINUED)

COMPLETION STANDARDS

The student will perform instrument cross-country planning and flying procedures while maintaining the following:

1. Altitude ±150 feet
2. Headings ±15º
3. Airspeed within ±10 knots
4. Climbs and descents at specified rate ±150 feet

Cross-Country Routes—List approaches at each airport	Dates

	Flight	Inst	AATD	Total Inst					
Previous					Instructor	Student	Date	Aircraft Type	Tail Number
This Lesson									
Total									

COMMENTS

Hours		

INSTRUMENT LESSON 15

BRIEFING—PRIOR TO THE RATING CHECK

OBJECTIVE: Student will demonstrate understanding of all procedures required for the instrument rating.

TIME: As required

CERTIFICATES—STUDENT

___ ___ ___ Logbook and TCO correct
___ ___ ___ Verification of Private Certificate
___ ___ ___ Verification of Medical Certificate

PILOT QUALIFICATIONS

___ ___ ___ Recent Flight Experience
___ ___ ___ Flight Review
___ ___ ___ Safety Pilot Requirement
___ ___ ___ Logbook Records/Entries
___ ___ ___ IPC Requirements
___ ___ ___ IMSAFE
___ ___ ___ Medical Requirements
___ ___ ___ 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
___ ___ ___ NOTAMs (D and FDC)
___ ___ ___ Meteorology (i.e. Wx Theory)
___ ___ ___ Risk Elements

CROSS-COUNTRY FLIGHT PLANNING

___ ___ ___ IFR Fuel Requirements
___ ___ ___ Alternate Airport Requirements
___ ___ ___ Low Altitude Chart
___ ___ ___ IFR Preferred Routing
___ ___ ___ Flight Plans (Filing/Act./Closing)
___ ___ ___ Oxygen Requirements
___ ___ ___ IFR Altitudes
___ ___ ___ Airspace, Cloud Clearance, & Vis.
___ ___ ___ Risk Elements

AIRCRAFT SYSTEMS RELATED TO IFR OPS.

___ ___ ___ Anti- & De-Icing Systems
___ ___ ___ Fuselage
___ ___ ___ Wing
___ ___ ___ Tailplane
___ ___ ___ Propeller
___ ___ ___ Carburetor and Intake
___ ___ ___ Pitot-static
___ ___ ___ Risk Elements

AIRCRAFT FLIGHT INSTRUMENTS AND NAV EQUIP.

___ ___ ___ Pitot-static and ADC
___ ___ ___ AHRS & Magnetometer
___ ___ ___ Vacuum & Gyro System
___ ___ ___ Magnetic Compass
___ ___ ___ NAVAIDs
___ ___ ___ VOR
___ ___ ___ ILS
___ ___ ___ GPS & FMS
___ ___ ___ WAAS and RAIM
___ ___ ___ Autopilot/Flight Director Limitations
___ ___ ___ Failure Modes and Errors
___ ___ ___ Risk Elements

INSTRUMENT LESSON 15

BRIEFING—PRIOR TO THE RATING CHECK
(CONTINUED)

INSTRUMENT COCKPIT CHECK

___ ____ ____ Documents
___ ____ ____ Inspections
___ ____ ____ Required Instruments/Equipment
___ ____ ____ Inoperative Equipment
___ ____ ____ Aviation Databases
___ ____ ____ Risk Elements

COMPLIANCE WITH ATC CLEARANCES

___ ____ ____ Responsibilities/Requirements
___ ____ ____ PIC Authority
___ ____ ____ Methods to Obtain Clearances
___ ____ ____ Terrain Clearance Requirements
___ ____ ____ Lost Communications
___ ____ ____ “Expect” in Clearances
___ ____ ____ Departure, En Route, and Arrival
___ ____ ____ Position Reporting
___ ____ ____ Required IFR Reports
___ ____ ____ VFR-On-Top Clearance
___ ____ ____ Risk Elements

HOLDING

____ ____ ____ Purpose
____ ____ ____ Reports
____ ____ ____ Entries
____ ____ ____ EFC Time
____ ____ ____ Minimum vs. Emergency Fuel
____ ____ ____ Wind Corrections
____ ____ ____ Autopilot Methods
____ ____ ____ Risk Elements

FLIGHT BY REFERENCE TO INSTRUMENTS

____ ____ ____ Pitch, Bank, & Power Instruments
____ ____ ____ SD and Optical Illusions
____ ____ ____ Normal/Abnormal Instrument Indications and Operations
____ ____ ____ Unusual Attitudes
____ ____ ____ Risk Elements

INTERCEPTING AND TRACKING NAV SYSTEMS

____ ____ ____ Procedures
____ ____ ____ CDI vs. HSI
____ ____ ____ Bearing Pointer System (RMI)
____ ____ ____ Nav System Failures
DME Arcs:
____ ____ ____ “Turn 10, Twist 10”
____ ____ ____ Bearing Pointer
____ ____ ____ Published Arcs with FMS
____ ____ ____ Risk Elements (All the above)

DEPARTURE, EN ROUTE, AND ARRIVAL OPS.

____ ____ ____ SIDs and ODPs
____ ____ ____ STARs
____ ____ ____ Terms (e.g. “Climb/Descend via”)
____ ____ ____ Airport Lighting, Signs, & Markings
____ ____ ____ Inoperative Components Table
____ ____ ____ Climb/Descent Table
____ ____ ____ Cold Temperature Table
____ ____ ____ Standard/Expanded Circling

INSTRUMENT LESSON 15

BRIEFING—PRIOR TO THE RATING CHECK (CONTINUED)

Instrument Procedure Charts

____ ____ ____ ILS/PAR

____ ____ ____ GPS (LPV, LNAV/VNAV, LNAV, LP, LNAV+V,LP+V)

____ ____ ____ VOR, LOC, BC, LDA, SDF, ASR

____ ____ ____ IAF, IF, FAF, MAP, MAWP, MSA

____ ____ ____ MDA vs. DA

____ ____ ____ Risk Elements

MISSED APPROACH

____ ____ ____ Procedures and Limitations

____ ____ ____ Identifying MAP

____ ____ ____ MAP and FMS

____ ____ ____ GA Button (C172S)

____ ____ ____ Autopilot , FD, and Missed Approach

____ ____ ____ Risk Elements

CIRCLING APPROACH

____ ____ ____ Procedures and Limitations

____ ____ ____ Approach Category and Airspeed

____ ____ ____ Expanded Circling Radii

____ ____ ____ Missed Approach Procedure

____ ____ ____ Risk Elements

LANDING FROM AN INSTRUMENT APPROACH

____ ____ ____ Procedures and Limitations

____ ____ ____ Stabilized Approach

____ ____ ____ Continuing from DA/MDA

____ ____ ____ Approach Lighting Systems

____ ____ ____ LAHSO

____ ____ ____ Risk Elements

POSTFLIGHT

____ ____ ____ Aircraft Securing

____ ____ ____ Documenting Malfunctions

____ ____ ____ Accident/Incident Reporting

____ ____ ____ Risk Elements

The student will demonstrate an understanding of all IFR procedures by thoroughly explaining their execution. The student must achieve a 3 rating on this lesson before proceeding to the Rating Check.

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

Hours		

INSTRUMENT LESSON 16

ACFT—FLIGHT REVIEW FOR END OF COURSE EVALUATION

OBJECTIVE: To review all IFR procedures and maneuvers in preparation for the end of course evaluation flight.

TIME: Approx 5.0 hours

PREFLIGHT PREPARATION

___ ___ ___ Weather information
___ ___ ___ Unforecasted adverse weather
___ ___ ___ Cross-Country flight planning
___ ___ ___ Inadvertent icing encounter
___ ___ ___ National Airspace System
___ ___ ___ Performance and limitations
___ ___ ___ Operation of systems
___ ___ ___ Minimum equipment list
___ ___ ___ Aeromedical factors
___ ___ ___ IFR emergencies

PREFLIGHT PROCEDURES

___ ___ ___ Aircraft systems related to IFR ops (airframe, propeller/intake, fuel, pitot-static, vacuum pump)
___ ___ ___ Flight instruments
___ ___ ___ Navigation equipment
___ ___ ___ Cockpit, instrument & radio checks
___ ___ ___ Risk Elements

ATC CLEARANCES AND PROCEDURES

___ ___ ___ ATC clearances
___ ___ ___ Compliance with all clearances
___ ___ ___ Holding procedures
___ ___ ___ Risk Elements

FLIGHT BY REFERENCE TO INSTRUMENTS

___ ___ ___ Straight and level-partial & full panel
___ ___ ___ Change of airspeed-partial & full panel
___ ___ ___ Constant airspeed climbs and descents-partial & full panel
___ ___ ___ Constant rate climbs and descents-partial & full panel
___ ___ ___ Timed turns to magnetic compass headings-partial & full panel
___ ___ ___ Unusual attitudes-partial & full panel
___ ___ ___ Use of autopilot
___ ___ ___ Risk Elements

INTERCEPTING AND TRACKING, DME ARCS

___ ___ ___ Intercepting radials
___ ___ ___ Tracking radials / courses
___ ___ ___ DME Arc
___ ___ ___ Receiver or facility failure
___ ___ ___ Risk Elements

HOLDING—STANDARD / NON-STANDARD

___ ___ ___ VOR—*holding at the nav aid*
___ ___ ___ VOR—*holding at an intersection*
___ ___ ___ GPS
___ ___ ___ DME—hold
___ ___ ___ Risk Elements

INSTRUMENT APPROACH PROCEDURES

Non-precision approaches full and partial panel

___ ___ ___ ILS
___ ___ ___ LOC
___ ___ ___ LOC/BC (Optional)
___ ___ ___ VOR
___ ___ ___ GPS
___ ___ ___ Radar - ASR or PAR (Optional)
___ ___ ___ Coupled approach
___ ___ ___ Missed approach
___ ___ ___ Circling approach
___ ___ ___ Landing from straight-in / circling approach
___ ___ ___ Risk Elements

INSTRUMENT LESSON 16
ACFT—FLIGHT REVIEW FOR END OF COURSE EVALUATION
(CONTINUED)

IFR EMERGENCY OPERATIONS

____ ____ ____ Takeoff, En Route, Approach
____ ____ ____ Communications Failure
____ ____ ____ Electrical Failure
____ ____ ____ Pitot / Static System Failure
____ ____ ____ Vacuum Pump Failure
____ ____ ____ GPS Failure
____ ____ ____ AHRS/ADC Failure
____ ____ ____ Risk Elements

POSTFLIGHT PROCEDURES

____ ____ ____ Checking instruments and equipment
____ ____ ____ Debrief
____ ____ ____ Update TCO and logbook
____ ____ ____ Risk Elements

COMPLETION STANDARDS

The student will perform instrument cross-country planning and flying procedures while maintaining the following:

1. Altitude ±100 feet
2. Headings ±10º
3. Airspeed within ±10 knots
4. Climbs and descents at specified rate ±100 feet or as per the latest FAA Instrument A.C.S.

	Flight	Inst	AATD	Total Inst	Instructor	Student	Date	Aircraft Type	Tail Number
Previous									
This Lesson									
Total									

COMMENTS

UD INSTRUMENT RATING END-OF-COURSE EVALUATION—PAGE 1

OBJECTIVE: The application will display the knowledge, skills, and risk management elements necessary to obtain an Instrument Rating.

TIME: As required

Student _____ **Examiner** _____ **Date** _____

EVALUATION PRELIMINARIES

____ ____ ____ Drivers license—current picture ID

____ ____ ____ Private certificate—current

____ ____ ____ Log endorsements—correct

____ ____ ____ Medical certificate—current 3rd class or higher

____ ____ ____ 8710 Form completed, dated, signed

____ ____ ____ Knowledge test report—current, 70 or better, test deficiencies signed off by the instructor

____ ____ ____ Certificate of Enrollment—completed

____ ____ ____ TCO—completed

____ ____ ____ Ground school sign off verified

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 Area of Operation and Task. Additionally, the evaluator must include each task element (s) the applicant missed on the Knowledge test.

I. PREFLIGHT PREPARATION

____ ____ ____ Pilot qualifications

____ ____ ____ Weather information

____ ____ ____ Cross-Country flight planning

II. PREFLIGHT PROCEDURES

____ ____ ____ Aircraft systems related to IFR ops

____ ____ ____ Flight instruments & Nav Equip.

____ ____ ____ Instrument cockpit check

III. ATC CLEARANCES AND PROCEDURES

____ ____ ____ ATC clearances (actual or simulated)

____ ____ ____ Compliance with all clearances

____ ____ ____ Holding procedures

IV. FLIGHT BY REFERENCE TO INSTRUMENTS

____ ____ ____ Basic instrument maneuvers

____ ____ ____ Recovery from unusual attitudes (both nose high & nose low)

V. NAVIGATION SYSTEMS

____ ____ ____ Intercepting & tracking Nav systems and DME arcs

____ ____ ____ Departure, En Route, and Arrival Ops.

VI. INSTRUMENT APPROACH PROCEDURES

Non-precision approach

____ ____ ____ Full panel

____ ____ ____ Partial panel

____ ____ ____ Precision approach

____ ____ ____ Missed approach

____ ____ ____ Circling approach

____ ____ ____ Landing from a straight-in or circling approach

UD INSTRUMENT RATING END-OF-COURSE EVALUATION—PAGE 2

OBJECTIVE: The student will display the knowledge and skills necessary to receive an Instrument Rating.

TIME: As required

VII. EMERGENCY OPERATIONS

____ ____ ____ Loss of communications

____ ____ ____ Approach with loss of primary flight instruments

Note: This approach shall count as one of the required non-precision approaches.

VIII. POSTFLIGHT PROCEDURES

____ ____ ____ Check instruments and equipment

COMPLETION STANDARDS

The student pilot must meet the requirements of FAA publication FAA-ACS-8081-8, or latest Instrument Rating Airman Certification Standards.

FLIGHT 1

Examiner _____

Student _____

Date _____

Oral Time _____

Flight Time _____

FLIGHT 2

Examiner _____

Student _____

Date _____

Oral Time _____

Flight Time _____

FLIGHT 3

Examiner _____

Student _____

Date _____

Oral Time _____

Flight Time _____

TOTAL ORAL TEST TIME [ ]

TOTAL FLIGHT TEST TIME [ ]

AIRCRAFT N # [ ]

INSTRUMENT RATING END-OF-COURSE EVALUATION

(CONTINUED)

CRITIQUE

RECOMMENDATION

1 - This stage check performance indicates that additional review is necessary.

A. Do Review Lessons on all items marked "1" until your Instructor indicates a satisfactory "3".

B. Insert the Review Lesson sheets following this page.

C. Return to the Chief / Assistant Chief Instructor for reevaluation.

Check Instructor - Student _ _ _ _ _ _ _ _ _ _ _ _ _ Date _ _ _ _ _ _ _ _

2 _ _ This stage check was performed in a satisfactory manner.

Check Instructor - Student _ _ _ _ _ _ _ _ _ _ _ _ _ Date _ _ _ _ _ _ _ _

MEMO

TO: Chief Instructor, University of Dubuque Flight Center

FROM: Chief Ground Instructor / Instructors

DATE: _____

RE: Instrument Rating Ground School Graduation

The following student has successfully completed all the requirements for the Instrument Rating Ground School Course:

Instructor - **Student** _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

INSTRUMENT RATING
Ground Training Course

Hours

Stage 1—a minimum of 14.0 ground training hours

Stage 2—a minimum of 12.0 ground training hours

Stage 3—a minimum of 6.0 ground training hours

Minimum of 32.0 ground training hours

Objectives

The objective of the ground training course is to provide students with the necessary aeronautical knowledge to meet the prerequisites specified in 14 CFR 61 and 141 for the FAA Instrument Airplane Knowledge Examination.

Completion Standards

Students will meet the ground training course completion standards by demonstrating through a combination of oral tests, written tests, and school records, that they meet the prerequisites specified in 14 CFR 61 and 141, and have the knowledge necessary to pass the FAA Instrument Airplane Knowledge Examination.

INSTRUMENT RATING
Ground Training Course

STAGE 1

Lessons 1-6

14.0 hours (minimum) of ground training

Stage 1 Objectives

The student will be introduced to the principles of instrument flight , limitations of flight instruments and navigations receivers / systems, and the proper operation of flight instruments and navigation equipment. The student will obtain a basic knowledge of the limitations of the human body and pertinent physiological factors related to instrument flight. The student will also be introduced to the role of ATC in the National Airspace System and the instrument flight publications necessary for IFR planning and flight. Emphasis will be placed on FARs and AIM information applicable to instrument flight.

Stage 1 Completion Standards

This stage will be complete when the student has completed the stage written examination with a minimum score of 80%. The instructor will review each incorrect response with the student to ensure understanding before the student progresses to the next stage.

LESSON 1
THE INSTRUMENT PROFESSIONAL PILOT

OBJECTIVES

- Become familiar with the advantages and capabilities of an instrument rated pilot.
- Gain a better understanding human factors and aviation physiology as they relate to instrument flight.
- Become familiar with UD TCO for instrument rating.

INSTRUMENT TRAINING

- Eligibility requirements
- Types of training available
- Phases of training
- Instrument pilot privileges and limitations
- Commercial pilot privileges
- Additional ratings

DECISION MAKING

- The decision making process
- CRM
- PIC responsibility
- Resource and work load management
- Situational awareness
- Judgment

PHYSIOLOGY

- Fitness for flight
- Alcohol and drugs
- Fatigue
- Stress
- Spatial disorientation
- Vestibular disorientation
- Hypoxia
- Decompression sickness
- Hyperventilation
- Tricks of mind and body

LESSON COMPLETION STANDARDS

The student will demonstrate understanding during oral or written quizzes by the instructor at the completion of the lesson. The instructor will review incorrect responses to ensure student understanding.

ASSIGNED READING

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

LESSON 2
BASIC INSTRUMENT FLIGHT

OBJECTIVES

- Develop working knowledge of flight instruments and components.
- Become familiar with the limitations and errors of flight instruments and components.
- Review basic principles of altitude instrument flight.
- Understand fundamental skills associated with instrument cross-check, instrument interpretation and aircraft control.
- Introduce partial panel flight procedures.

FLIGHT INSTRUMENTS

- Gyroscope
- Magnetic compass
- Pitot-static

FUNDAMENTAL SKILLS

- Cross-check
- Interpretation
- Aircraft control
- Primary / support instrument concept

FLIGHT MANEUVERS

- Straight and level
- Standard rate turns
- Steep turns
- Constant airspeed climbs and descents
- Constant rate climbs and descents
- Climbing and descending turns
- Unusual attitude recovery
- Partial panel considerations

INSTRUMENT FAILURES

- Identification
- Attitude indicator
- Heading indicator
- Compass / timed turns
- Pitot-static

LESSON COMPLETION STANDARDS

The student will demonstrate understanding during oral or written quizzes by the instructor at the completion of the lesson. The instructor will review incorrect responses to ensure student understanding.

ASSIGNED READING

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

LESSON 3
INSTRUMENT NAVIGATION

OBJECTIVES

- Learn the operation of VOR, DME, ADF and GPS for navigation and its associated limitations.
- Become familiar with RNAV systems.

VOR NAVIGATION

- HSI / OBS
- Intercepting / tracking a radial
- Time and distance to a station
- Station passage
- VOR checks and limitations
- DME operations

ADF NAVIGATION

- RMI
- Intercepting / tracking a bearing
- Time and distance to a station
- Station passage
- Limitations

RNAV

- VORTAC based
- INS
- LORAN
- GPS

LESSON COMPLETION STANDARDS

The student will demonstrate understanding during oral or written quizzes by the instructor at the completion of the lesson. The instructor will review incorrect responses to ensure student understanding.

ASSIGNED READING

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

LESSON 4
FAR / AIM WORKSHOP

OBJECTIVES

- Acquire knowledge of NTSB regulations and FARs as they pertain to instrument flight.
- Gain greater understanding of the National Airspace System and the instrument environment in which pilots operate.

RULES AND REGULATIONS

- FAR Part 1
- FAR Part 66
- FAR Part 91
- FAR Part 141
- NTSB Part 830

ENVIRONMENT

- Airport
- Airspace
- Flight information

LESSON COMPLETION STANDARDS

The student will demonstrate understanding during oral or written quizzes by the instructor at the completion of the lesson. The instructor will review incorrect responses to ensure student understanding.

ASSIGNED READING

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

LESSON 5
ATC

OBJECTIVES

- Learn the services provided by ATC
- Become familiar with enroute and terminal facilities.
- Understand the elements of a clearance.

ATC SYSTEM

- ARTCC
- Weather information
- Safety alerts
- ATIS
- Clearance delivery procedures
- Approach and departure control
- FSS

CLEARANCES

- Pilot responsibilities
- Flight plan
- Elements of a clearance
- VFR restrictions
- Departure procedures and restrictions
- Clearance shorthand and read back

LESSON COMPLETION STANDARDS

The student will demonstrate understanding during oral or written quizzes by the instructor at the completion of the lesson. The instructor will review incorrect responses to ensure student understanding.

ASSIGNED READING

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

LESSON 6
STAGE 1 EXAMINATION

OBJECTIVES

- Demonstrate comprehension of the materials presented in Lessons 1 through 5.

EXAMINATION

- Aviation physiology
- Decision making
- Basic instrument skills
- Instrument NAV
- FAR / AIM
- Airport environment
- ATC system
- Clearances

LESSON COMPLETION STANDARDS

This lesson and stage are complete when the student has completed the stage examination with a minimum grade of 80%. The instructor will review each incorrect response with the student to ensure understanding before the student progresses to the next stage.

ASSIGNED READING

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

INSTRUMENT RATING
Ground Training Course

STAGE 2

Lessons 7-10

12.0 hours (minimum) of ground training

Stage 2 Objectives

The student will learn the procedures used when flying IFR approaches. In addition, they will learn to transition to the enroute structure via departure and arrive procedures.

Stage 2 Completion Standards

This stage will be complete when the student has completed the stage written examination with a minimum score of 80%. The instructor will review each incorrect response with the student to ensure understanding before the student progresses to the next stage.

LESSON 7
IFR DEPARTURES

OBJECTIVES
- Gain an understanding of departure chart information.
- Understand DP procedures and selection of a departure method.

CHARTS
- DPs
- Symbols
- Vector DP
- Pilot NAV DP
- Departure standards

PROCEDURES
- Takeoff minimums
- Options
- Textual procedures
- Radar departures
- VFR departures
- Departure selection decision making

LESSON COMPLETION STANDARDS
The student will demonstrate understanding during oral or written quizzes by the instructor at the completion of the lesson. The instructor will review incorrect responses to ensure student understanding.

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

LESSON 8
ENROUTE PROCEDURES

OBJECTIVES
- Gain proficiency in the use of area and enroute charts.
- Learn IFR charting symbols.
- Understand holding patterns and usage.

IFR CHARTS
- Enroute
- Symbols
- Area
- Navigation aids
- Victor airways
- Airspace

HOLDING
- Patterns
- Timing
- Crosswind corrections
- Speeds
- Entry procedures
- ATC communications

PROCEDURES
- Radar
- Reporting
- Communications
- RNAV
- Special use airspace
- Transitions to the arrival

LESSON COMPLETION STANDARDS
This lesson and stage are complete when the student has completed the stage examination with a minimum grade of 80%. The instructor will review each incorrect response with the student to ensure understanding before the student progresses to the next stage.

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

LESSON 9
APPROACHES

OBJECTIVES
- Understand the procedures and methods to transition to an approach.
- Understand charting symbols.
- Gain an understanding of VOR and NDB approaches.
- Gain an understanding of ILS components and approach procedures.
- Gain an understanding of RNAV approach procedures.

ARRIVAL
- STAR
- Vertical navigation planning
- Reviewing the approach
- Altitude and airspeed management

APPROACH SEGMENTS
- Initial
- Intermediate
- Final
- Missed

CHARTS
- Heading
- Plan view
- Profile views
- Step down fix and VDP
- Landing minimums
- Approach categories
- Minimum descent requirements
- Visibility required
- Inoperative components
- Runway information
- ALT takeoff and landing minima

PROCEDURES
- Reviewing the approach
- Clearance
- Straight in
- Use of ATC radar
- Course reversal
- Timed approaches
- Circling
- Side step
- Missed approach
- Visual and contact approaches

LESSON 9
(CONTINUED)

APPROACHES
- VOR
- NDB
- ILS
- LDA
- SDF
- MLS
- RNAV / GPS

LESSON COMPLETION STANDARDS
This lesson and stage are complete when the student has completed the stage examination with a minimum grade of 80%. The instructor will review each incorrect response with the student to ensure understanding before the student progresses to the next stage.

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

LESSON 10
STAGE 2 EXAMINATION

OBJECTIVES

- Demonstrate comprehension of the materials presented in Lessons 7 through 9.

EXAMINATION

- Departures
- Enroute procedures
- Approaches

LESSON COMPLETION STANDARDS

This lesson and stage are complete when the student has completed the stage examination with a minimum grade of 80%. The instructor will review each incorrect response with the student to ensure understanding before the student progresses to the next stage.

ASSIGNED READING

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

INSTRUMENT RATING
Ground Training Course

STAGE 3

Lessons 11-15

6.0 hours (minimum) of ground training

Stage 3 Objectives

The student will accurately analyze weather information and apply it to IFR planning and IFR decision making. Emphasis will be placed on emergency procedures and the decision making process.

Stage 3 Completion Standards

This stage will be complete when the student has completed the stage written examination with a minimum score of 80%. The instructor will review each incorrect response with the student to ensure understanding before the student progresses to the next stage. Additionally, the student will pass a randomly selected set of questions in the form of a comprehensive examination with a score of 80% or better being allowed to proceed to the FAA instrument rating airmen knowledge test.

LESSON 11
WEATHER FACTORS AND HAZARDS

OBJECTIVES

- Gain a better understanding of the weather factors as they effect IFR flight.
- Become familiar with weather patterns and hazards that effect IFR flight operations.

WEATHER FACTORS

- Atmospheric conditions and circulation
- Pressure and wind patterns
- Clouds and air mass(es)
- Moisture, precipitation and stability
- Fronts and high altitude weather

WEATHER HAZARDS

- Thunderstorms and avoidance
- Turbulence
- Wind shear
- Icing and cold weather operations
- Hydroplaning
- Low visibility
- Volcanic ash

LESSON COMPLETION STANDARDS

The student will demonstrate understanding during oral or written quizzes by the instructor at the completion of the lesson. The instructor will review incorrect responses to ensure student understanding.

ASSIGNED READING

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

LESSON 12
WEATHER PRODUCTS AND SOURCES

OBJECTIVES

- Locate and interpret printed weather reports and forecasts.
- Locate and interpret graphic weather products.
- Learn how to manage in-flight sources of weather.

REPORTS

- METAR
- Radar
- Area
- TAF
- Winds aloft
- Severe weather

SOURCES

- FSS
- DUATS
- Private industry
- Airmets and Sigmets
- Convective Sigmets
- EFAS
- Center weather advisory
- TWEBs
- ASOS / AWOS

PRODUCTS

- Surface analysis chart
- Weather depiction chart
- Radar summary chart
- Satellite pictures
- Composite Moisture Stability chart
- Constant Pressure Analysis chart
- Observed Winds and Temperature Aloft chart
- Airborne radar
- Airborne lightning detection systems

LESSON COMPLETION STANDARDS

This lesson and stage are complete when the student has completed the stage examination with a minimum grade of 80%. The instructor will review each incorrect response with the student to ensure understanding before the student progresses to the next stage.

ASSIGNED READING

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

LESSON 13
IFR EMERGENCIES

OBJECTIVES

- Recognize emergency situations.
- Understand the decision making process to enhance the selection of correct emergency actions.

EMERGENCIES

- Declaring an emergency
- Minimum fuel
- Gyroscopic instrument
- Communications
- Approach procedures
- Malfunction reports

DECISION MAKING

- Managing risk
- Mitigation strategies
- PIC responsibility
- Attitude
- CRM
- Situational awareness

LESSON COMPLETION STANDARDS

The student will demonstrate understanding during oral or written quizzes by the instructor at the completion of the lesson. The instructor will review incorrect responses to ensure student understanding.

ASSIGNED READING

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

LESSON 14
IFR FLIGHT PLANNING

OBJECTIVES

- Demonstrate the knowledge necessary to plan an IFR flight.
- Determine critical factors related to decision making.

FLIGHT PLANNING

- Route selection
- Flight publications
- Weather considerations / decisions
- Altitude selections
- Navigation log
- Filing, opening and closing flight plan

LESSON COMPLETION STANDARDS

This lesson and stage are complete when the student has completed the stage examination with a minimum grade of 80%. The instructor will review each incorrect response with the student to ensure understanding before the student progresses to the next stage.

ASSIGNED READING

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

LESSON 15
STAGE 3 EXAMINATION

OBJECTIVES

- Demonstrate comprehension of the materials presented in Lessons 11 through 14.

EXAMINATION

- Weather factors and hazards
- Weather products and sources
- IFR emergencies
- Aeronautical IFR decision making
- Flying IFR

LESSON COMPLETION STANDARDS

This lesson and stage are complete when the student has completed the stage examination with a minimum grade of 80%. The instructor will review each incorrect response with the student to ensure complete understanding before the student progresses to the End-of-Course Examination.

LESSON 16
INSTRUMENT RATING GROUND SCHOOL
END-OF-COURSE EXAMINATION

OBJECTIVES

Demonstrate comprehension of the material presented in this course and the student's readiness to complete the FAA Instrument Rating Knowledge Test.

LESSON COMPLETION STANDARDS

The student must complete a practice Instrument Rating End-of-Course Examination with a minimum score of 80%.