

Chapter 2 – Instrument Rating Training Course Syllabus

Table of Contents

RECORD OF REVISIONS	3
LIST OF EFFECTIVE PAGES.....	3
REVISION SYSTEM	3
SUGGESTED COURSE TIME ALLOCATION TABLE	4
STAGE 1.....	5
STAGE OBJECTIVE	5
STAGE COMPLETION STANDARDS	5
LESSON 1-GB.....	6
LESSON 2-GB.....	7
LESSON 2A-DL.....	14
LESSON 2B-DL.....	16
LESSON 3-DL.....	18
LESSON 4-DL.....	20
LESSON 5-DL.....	22
LESSON 6-DL.....	24
LESSON 7 DL.....	26
LESSON 8-DL.....	28
LESSON 9-DL.....	30
LESSON 10- DL.....	32
LESSON 11-DL.....	34
LESSON 12-GB.....	36
LESSON 13-DL.....	38
LESSON 14-DL.....	40
LESSON 14-DL.....	40
LESSON 15-DL.....	42
LESSON 16-DL.....	44
LESSON 17-DL.....	46
LESSON 18 – STO (STAGE CHECK I)	48
LESSON 19 – STF (STAGE CHECK I).....	49
STAGE 2.....	52
STAGE OBJECTIVE	52
STAGE COMPLETION STANDARDS	52
LESSON 20-DL.....	53
LESSON 21-GB.....	55
LESSON 22-DL.....	56
LESSON 23-GB.....	58
LESSON 24-DL.....	59
LESSON 25-DL.....	61
LESSON 26-DL.....	63
LESSON 27-DL.....	64
LESSON 28-DL.....	66
LESSON 29-DL.....	67
LESSON 30-DL.....	69
LESSON 31-DL.....	70
LESSON 32-DL.....	72

LESSON 33-GB.....	73
LESSON 34-DL.....	74
LESSON 35 – STO (STAGE II CHECK).....	76
LESSON 36-STF (STAGE II CHECK).....	77
STAGE 3.....	79
STAGE OBJECTIVE.....	79
STAGE COMPLETION STANDARDS.....	79
LESSON 37-GB.....	80
LESSON 38-DXC.....	81
LESSON 39-DXC.....	83
LESSON 40-GB.....	85
LESSON 41-DL.....	86
LESSON 42–STO (EOC).....	88
LESSON 43–STF (EOC).....	89

SUGGESTED COURSE TIME ALLOCATION TABLE

Stage	Lesson	Schedule Time	Ground Brief	Pre Brief	Post Brief	AATD	Level 6 DA40	Aircraft	Dual	Cross-Country	Instrument Time	Stage Check Oral	Stage Check Flight	Lesson Equipment
1	1-GB	1.0	1.0											Ground
1	2-GB	1.5	1.5											Ground
1	2a-DL	1.2		0.25	0.3			1.0	1.0					DA40
1	2b-DL	1.2		0.25	0.3			1.0	1.0					DA40
1	3-DL	1.5		0.25	0.3			1.2	1.2		1.0			DA40
1	4-DL	1.2		0.25	0.3			1.2	1.2		0.8			DA40
1	5-DL	1.5		0.25	0.5			1.2	1.2		1.0			DA40
1	6-DL	1.5		0.25	0.3			1.2	1.2		1.0			DA40
1	7-DL	1.2		0.25	0.3			1.0	1.0		0.8			DA40
1	8-DL	1.5		0.25	0.5			1.2	1.2		1.0			DA40
1	9-DL	1.5		0.25	0.3			1.2	1.2		1.0			DA40
1	10-DL	1.2		0.25	0.3			1.0	1.0		0.8			DA40
1	11-DL	1.5		0.25	0.5			1.2	1.2		1.0			DA40
1	12-GB	1.5	1.5											Ground
1	13-DL	1.5		0.25	0.3			1.2	1.2		1.0			DA40
1	14-DL	1.5		0.25	0.3			1.2	1.2		1.0			DA40
1	15-DL	1.7		0.25	0.3			1.5	1.5		1.3			DA40
1	16-DL	1.8		0.25	0.5			1.5	1.5		1.3			DA40
1	17-DL	1.8		0.25	0.3			1.5	1.5		1.3			DA40
1	18-STO	2.0										2.0		Ground
1	19-STF	2.0		0.25	0.3			1.8	1.8		1.6		1.8	DA40
2	20-DL	1.2		0.25	0.3			1.0	1.0					DA40
2	21-GB	1.5	1.5											Ground
2	22-DL	1.5		0.25	0.3			1.2	1.2		1.0			DA40
2	23-GB	2.0	2.0											Ground
2	24-DL	2.0		0.25	0.3			1.8	1.8		1.6			DA40
2	25-DL	2.5		0.25	0.5			2.2	2.2		2.0			DA40
2	26-DL	2.0		0.25	0.3			1.8	1.8		1.6			DA40
2	27-DL	2.0		0.25	0.3			1.8	1.8		1.6			DA40
2	28-DL	1.8		0.25	0.3			1.5	1.5		1.3			DA40
2	29-DL	2.2		0.25	0.5			2.0	2.0		1.8			DA40
2	30-DL	1.8		0.25	0.3			1.5	1.5		1.3			DA40
2	31-DL	2.2		0.25	0.5			2.0	2.0		1.8			DA40
2	32-DL	1.8		0.25	0.3			1.5	1.5		1.3			DA40
2	33-GB	1.5	1.5											DA40
2	34-DL	2.2		0.25	0.5			2.0	2.0		1.8			DA40
2	35-STO	2.0										2.0		DA40
2	36-STF	2.8		0.25	0.5			2.5	2.5		2.3		2.5	DA40
3	37-GB	1.5	1.5											Ground
3	38-DXC	2.8		0.25	0.5			2.5	2.5	2.5	2.3			DA40
3	39-DXC	4.5		0.25	0.5			4.0	4.0	4.0	3.8			DA40
3	40-GB	1.5	1.5											Ground
3	41-DL	2.5		0.25	0.5			2.2	2.2		2.0			DA40
3	42-STO	2.5										2.5		Ground
3	43-STF(EOC)	2.5		0.25	0.5			2.2	2.2		2.0		2.2	DA40
	TOTALS		12.0	8.5	12.8	0.0	0.0	54.8	54.8	6.5	45.4	6.5	6.5	

Course Minimums

MINIMUM BRIEFING TIME	INSTRUMENT TRAINING	AIRCRAFT INSTRUMENT
7.5	40.0	15.0

Note: The individual times shown on this table are for instructor/student guidance only. They are not mandatory for each flight.

Note: Student must have 50 Hours of PIC XC time. If student is lacking XC time convert Stage 2 lessons into XC

Stage 1

Stage Objective

The objective of this stage is for the student to demonstrate precise airplane attitude control solely by instrument reference.

Lessons 2a and 2b to be completed by students who have not completed their Private Airplane Single Engine Land certificate in any of the aircraft used in this course.

Stage Completion Standards

At the completion of this stage, the student will demonstrate to the flight instructor an increased level of proficiency in precise airplane attitude control by instrument reference only. This will include the use of full panel and partial panel instrument reference.

Lesson 1-GB

Equipment

Briefing Room with Cockpit Poster

Lesson Objective

This lesson provides a review of full and partial panel BAI knowledge and procedures.

Lesson Content

Publications Instrument PTS Instrument Flying Handbook Aircraft Operating Handbook AFA Flight Standardizations Manual Pilot Qualifications	Introduction Introduction Introduction Introduction Introduction
Airplane Attitude Instrument Flying Primary and Supporting Method Control/Performance Method	Introduction Introduction
Operations of Systems Instrument Cockpit Check	Introduction
Chair Flying Cockpit Flows Instrument Flying Procedures	Introduction Introduction
Special Emphasis Areas Positive Aircraft Control	Introduction
Additional Areas As Assigned by Instructor (If Necessary)	

Completion Standards

At the completion of this lesson the student will have gained an increased level of knowledge in the tasks listed above.

Lesson 2-GB

Equipment

Briefing Room with Cockpit Poster

Lesson Objective

This ground briefing will build on the skills introduced during lesson 1. Ample time should be spent to prepare the student for all future flight training. The flight instructor will also conduct a preflight inspection of the aircraft with the student which will help familiarize the student with the aircraft in training.

Lesson Content

Aircraft Performance Data Performance Charts V Speeds	Introduction Introduction
Takeoff Data Card Pressure Altitude Density Altitude Fuel Requirements Takeoff & Landing Distances	Introduction Introduction Introduction Introduction
Operation of Systems Engine Fuel System Electrical System Primary Flight Controls and Trim Flaps Propeller Landing Gear Hydraulic Avionics Pitot-Static System Vacuum System Environmental Deicing and Anti-Icing	Introduction Introduction Introduction Introduction Introduction Introduction Introduction Introduction Introduction Introduction Introduction Introduction Introduction
Chair flying Use/Location of Equipment Cockpit Flows	Introduction Introduction
Special Emphasis Areas Checklist Usage	Introduction
Additional Areas As Assigned by Instructor (If Necessary)	

Completion Standards

At the completion of this lesson the student will have a solid understanding of the tasks required during preflight preparation.

Lesson 2a-DL

Equipment

DA40

If the student has conducted training in this aircraft for a previous license, he/she is not required to conduct this lesson.

Lesson Objective

During this lesson the student will be introduced to the Diamond DA40. The student will conduct a flight in the local traffic pattern and execute Normal and/or Crosswind Takeoffs and landings to better understand the aircraft's handling characteristics and performance. This lesson will allow the student to understand how to interpret the primary flight display (PFD) and multi-function flight display (MFD) during repetitive takeoff and landings.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist	Introduction Introduction Introduction Introduction Introduction
Cockpit Familiarization Flight Controls Engine Controls Avionics	Introduction Introduction Introduction
Preflight Procedures Preflight Briefing Preflight Inspection	Introduction Introduction
Flows Cockpit Flows	Introduction
Taxi Operations Basic Aircraft Control - Aileron Position Nose Wheel or Free Castering Steering Differential Braking	Introduction Introduction Introduction
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Introduction
Traffic Pattern Operations Traffic Patter Procedures Wind Drift Checklist/ Power Settings	Introduction Introduction Introduction
Approach and Landing Procedures Normal and/or Crosswind Landing Go-Around/Rejected Landing	Introduction Introduction

Postflight Operations Securing Aircraft Postflight Debrief	Introduction Introduction
Special Emphasis Areas Land and Hold Short Operations (LAHSO) Runway Incursion Avoidance Wake Turbulence Avoidance	Introduction Introduction Introduction
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will have gained an introductory knowledge of the aircraft systems. In addition, the student will become familiar with the aircraft control systems and how they are used to maneuver the airplane on the ground and in the air. Takeoffs and landings will be completed with instructor assistance.

Lesson 2b-DL

Equipment

DA40

If the student has conducted training in this aircraft for a previous license, he/she is not required to conduct this lesson.

Lesson Objective

During this lesson the student will continue to review the operation of systems in the Diamond DA40. The student will conduct a flight in the local traffic pattern and execute normal/crosswind takeoffs and landings to better understand the aircraft's handling characteristics and performance. This lesson will allow the student to understand how to interpret the primary flight display (PFD) and multifunction flight display (MFD) during a normal flight.

Lesson

The student will plan a VFR flight in the local traffic pattern.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist	Review Review Review Review Review
Cockpit Familiarization Flight Controls Engine Controls Avionics	Review Review Review
Preflight Procedures Preflight Briefing Preflight Inspection	Review Review
Flows Cockpit Flows	Review
Taxi Operations Basic Aircraft Control - Aileron Position Nose Wheel or Free Castering Steering Differential Braking	Review Review Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
Traffic Pattern Operations Traffic Patter Procedures Wind Drift Checklist/ Power Settings	Review Review Review

Approach and Landing Procedures Normal and/or Crosswind Landing Go-Around/Rejected Landing	Review Review
Postflight Operations Securing Aircraft Postflight Debrief	Review Review
Special Emphasis Areas Land and Hold Short Operations (LAHSO) Runway Incursion Avoidance Wake Turbulence Avoidance	Review Review Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will have gained an introductory knowledge of the aircraft systems. In addition, the student will become familiar with the aircraft control systems and how they are used to maneuver the airplane on the ground and in the air. Takeoffs and landings will be completed with instructor assistance.

Lesson 3-DL

Equipment

DA40

Lesson Objective

This lesson provides an introduction to attitude instrument flying with special emphasis on learning precise aircraft control solely by instrument reference. Proper instrument scan, interpretation, pitch/power coordination and trim technique will be emphasized.

Lesson

The student will plan a local flight. During the lesson, the flight instructor will simulate flight into instrument meteorological conditions (IMC).

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist	Review Review Review Review Review
Preflight Procedures Preflight Briefing	Review
Avionics MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed) Flight Director Usage (If Installed)	Introduction Introduction Introduction Introduction
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
Climbs (IR) Constant Airspeed Climbs Constant Rate Climbs	Introduction Introduction
Flight by Reference to Instruments Instrument Scan (Cross-check) Instrument Interpretation Aircraft Control Straight and Level Flight Change of Airspeed Use of Trim	Introduction Introduction Introduction Introduction Introduction Introduction
Slow Flight (IR) Pitch/Airspeed Control Power/Altitude Control	Introduction Introduction

Turns (IR) Standard Rate Turns Constant Bank Turns Descending Turns Climbing Turns	Introduction Introduction Introduction Introduction
Descents (IR) Constant Airspeed Descents Constant Rate Descents	Introduction Introduction
Special Emphasis Areas Positive Aircraft Control Stall/Spin Awareness Checklist Usage	Review Introduction Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

The student should demonstrate an understanding of the instrument indications related to aircraft control. During this flight the student should maintain altitude within ± 200 feet, heading within $\pm 20^\circ$, airspeed ± 15 knots.

Lesson 4-DL

Equipment

DA40

Lesson Objective

This lesson provides a review of attitude instrument flying with special emphasis on learning precise aircraft control solely by instrument reference. Proper instrument scan, interpretation, pitch/power coordination and trim technique will be emphasized.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist	Review Review Review Review Review
Preflight Procedures Aircraft Systems Related to IFR Operations Aircraft Flight Instruments and Navigation Equipment Instrument Cockpit Check (Including IFR Preflight Inspection)	Introduction Introduction Introduction
Avionics MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed) Flight Director Usage (If Installed)	Review Review Review Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
Climbs (IR) Constant Airspeed Climbs Constant Rate Climbs	Review Review
Flight by Reference to Instruments Instrument Scan (Cross-check) Instrument Interpretation Aircraft Control Change of Airspeed Use of Trim Pattern Alpha	Review Review Review Review Review Introduction
Slow Flight (IR) Pitch/Airspeed Control Power/Altitude Control	Review Review
Turns (IR) Standard Rate Turns Constant Bank Turns Descending Turns Climbing Turns	Review Review Review Review

Descents (IR) Constant Airspeed Descents Constant Rate Descents	Review Review
Approach and Landing Procedures Normal and/or Crosswind Approach Procedures	Review
Special Emphasis Areas Positive Aircraft Control Stall/Spin Awareness Checklist Usage	Review Review Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will demonstrate an understanding of the instrument indications related to aircraft control. During this flight, the student should maintain altitude within ± 200 feet, heading within $\pm 20^\circ$, airspeed within ± 15 knots.

Lesson 5-DL

Equipment

DA40

Lesson Objective

This lesson provides a review of attitude instrument flying with special emphasis on learning precise aircraft control solely by instrument reference. Proper instrument scan, interpretation, pitch/power coordination and trim technique will be emphasized.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist	Review Review Review Review Review
Preflight Procedures Preflight Briefing Preflight Inspection Instrument Cockpit Check	Review Review Review
Avionics MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed) Flight Director Usage (If Installed)	Review Review Review Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
Climbs (IR) Constant Airspeed Climbs Constant Rate Climbs	Review Review
Flight by Reference to Instruments Instrument Scan (Cross-check) Instrument Interpretation Aircraft Control Change of Airspeed Use of Trim Pattern Bravo	Review Review Review Review Review Introduction
Slow Flight (IR) Pitch/Airspeed Control Power/Altitude Control	Review Review
Turns (IR) Standard Rate Turns Constant Bank Turns Descending Turns Climbing Turns	Review Review Review Review

Descents (IR) Constant Airspeed Descents Constant Rate Descents	Review Review
Approach and Landing Procedures Normal and/or Crosswind Landing	Review
Postflight Operations Securing Aircraft Postflight Debrief	Review Review
Special Emphasis Areas Positive Exchange of Flight Controls Controlled Flight into Terrain Positive Aircraft Control	Review Introduction Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will demonstrate an understanding of the instrument references related to aircraft control. During this flight, the student should maintain altitude within ± 200 feet and heading within $\pm 20^\circ$ during level flight. Climb and descent airspeeds will be maintained within ± 15 knots. All normal and/or crosswind takeoffs and landings must be safely executed with minimal instructor assistance.

Lesson 6-DA40

Equipment

DA40

Lesson Objective

This lesson provides a review of attitude instrument flying.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management	Review Review Review Review
Preflight Procedures Preflight Briefing Instrument Cockpit Check	Review Review
Avionics MFD Setup and Usage (If installed) PFD Setup and Usage (If installed) GPS Setup and Usage (If installed) Flight Director Usage (If installed)	Review Review Review Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
Flight by Reference to Instruments Straight and Level Flight Change of Airspeed Operations in Turbulence	Review Review Introduction
Unusual Attitudes (IR) Unusual Attitudes /Recovery Procedures	Introduction
Slow Flight (IR) Pitch/Airspeed Control Power/Altitude Control	Review Review
Steep Turns (IR) Steep Turns	Introduction
Climbs (IR) Constant Airspeed Climbs Constant Rate Climbs	Review Review
Turns (IR) Standard Rate Turns Timed Turns to Magnetic Compass Headings Compass Turns to Magnetic Compass Headings	Review Introduction Introduction
Descents (IR) Constant Airspeed Descents Constant Rate Descents	Review Review

Stalls (IR) Power-Off Stalls Power-On Stalls	Introduction Introduction
Special Emphasis Areas Collision Avoidance Positive Aircraft Control	Review Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will be able to immediately recognize the approach of stalls and other unusual attitudes and demonstrate correct recovery procedures. Altitude should be maintained within ± 150 feet, heading within $\pm 15^\circ$ and airspeed within ± 15 knots.

Lesson 7- DL

Equipment

DA40

Lesson Objective

This lesson provides a review to increase proficiency of attitude instrument flying.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management	Review Review Review Review
Preflight Procedures Instrument Cockpit Check	Review
Avionics MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed) Flight Director Usage (If Installed)	Review Review Review Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
Climbs (IR) Constant Airspeed Climbs Constant Rate Climbs	Review Review
Flight by Reference to Instruments Straight and Level Flight Change of Airspeed Operations in Turbulence	Review Review Review
Unusual Attitudes (IR) Unusual Attitudes /Recovery Procedures	Review
Slow Flight (IR) Pitch/Airspeed Control Power/Altitude Control	Review Review
Steep Turns (IR) Steep Turns	Review
Turns (IR) Standard Rate Turns Timed Turns to Magnetic Compass Headings Compass Turns to Magnetic Compass Headings	Review Review Review
Descents (IR) Constant Airspeed Descents Constant Rate Descents	Review Review

Stalls (IR) Power-Off Stalls Power-On Stalls	Review Review
Approach and Landing Procedures Normal and/or Crosswind Approach Procedures	Review
Special Emphasis Areas Positive Aircraft Control Checklist Usage	Review Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will have gained an increased proficiency of IFR procedures and the student will be able to immediately recognize the approach of stalls and other unusual attitudes and demonstrate correct recovery procedures. Altitude should be maintained within ± 150 feet, heading within $\pm 15^\circ$ and airspeed within ± 15 knots.

Lesson 8-DL

Equipment

DA40

Lesson Objective

This lesson provides a review to increase proficiency of attitude instrument flying.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist	Review Review Review Review Review
Preflight Procedures Preflight Briefing Preflight Inspection Instrument Cockpit Check	Review Review Review
Avionics MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed) Flight Director Usage (If Installed)	Review Review Review Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
Climbs (IR) Constant Airspeed Climbs Constant Rate Climbs	Review Review
Flight by Reference to Instruments Straight and Level Flight Change of Airspeed Operations in Turbulence	Review Review Review
Unusual Attitudes (IR) Unusual Attitudes /Recovery Procedures	Review
Slow Flight (IR) Pitch/Airspeed Control Power/Altitude Control	Review Review
Steep Turns (IR) Steep Turns	Review
Turns (IR) Standard Rate Turns Timed Turns to Magnetic Compass Headings Compass Turns to Magnetic Compass Headings	Review Review Review

Descents (IR) Constant Airspeed Descents Constant Rate Descents	Review Review
Stalls (IR) Power-Off Stalls Power-On Stalls	Review Review
Approach and Landing Procedures Normal and/or Crosswind Landing	Review
Postflight Operations Securing Aircraft Postflight Debrief	Review Review
Special Emphasis Areas Runway Incursion Avoidance Wake Turbulence Avoidance	Review Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will have gained an increased proficiency of IFR procedures and the student will be able to immediately recognize the approach of stalls and other unusual attitudes and demonstrate correct recovery procedures. Altitude should be maintained within ± 150 feet, heading within $\pm 15^\circ$ and airspeed within ± 15 knots.

Lesson 9-DL

Equipment

DA40

Lesson Objective

This lesson provides an introduction to partial panel attitude instrument procedures.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management	Review Review Review Review
Preflight Procedures Preflight Briefing Instrument Cockpit Check	Review Review
Avionics MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed) Flight Director Usage (If Installed)	Review Review Review Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
Climbs (IR) Constant Airspeed Climbs Constant Rate Climbs	Review Review
Flight by Reference to Instruments Straight and Level Flight Change of Airspeed Use of Trim Operations in Turbulence Use of Standby Instruments Pattern Alpha	Review Review Review Review Introduction Review
Unusual Attitudes (IR) Unusual Attitudes /Recovery Procedures	Review
Slow Flight (IR) Pitch/Airspeed Control Power/Altitude Control	Review Review
Turns (IR) Standard Rate Turns Timed Turns to Magnetic Compass Headings Compass Turns to Magnetic Compass Headings Climbing Turns Descending Turns	Review Review Review Review Review

Descents (IR) Constant Airspeed Descents Constant Rate Descents	Review Review
Stalls (IR) Power-Off Stalls Power-On Stalls	Review Review
Approach and Landing Procedures Visual Approach Procedures	Introduction
Special Emphasis Areas Positive Aircraft Control Checklist Usage	Review Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will maintain altitude within ± 150 feet, heading within $\pm 15^\circ$ and airspeeds within ± 15 knots. Using partial panel instrument reference, the student should maintain altitude within ± 200 feet, heading within $\pm 20^\circ$ and airspeed within ± 20 knots.

Lesson 10- DL

Equipment

DA40

Lesson Objective

This lesson provides a review of partial panel attitude instrument procedures. The flight instructor will simulate conditions requiring the student to execute all maneuvers in partial panel conditions.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist	Review Review Review Review Review
Preflight Procedures Preflight Briefing Instrument Cockpit Check	Review Review
Avionics MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed) Flight Director Usage (If Installed)	Review Review Review Review
Climbs (IR) Constant Airspeed Climbs Constant Rate Climbs	Review Review
Flight by Reference to Instruments Straight and Level Flight Change of Airspeed Use of Trim Operations in Turbulence Use of Standby Instruments Pattern Bravo	Review Review Review Review Review Review
Unusual Attitudes (IR) Unusual Attitudes /Recovery Procedures	Review
Slow Flight (IR) Pitch/Airspeed Control Power/Altitude Control	Review Review

Turns (IR) Standard Rate Turns Constant Bank Turns Timed Turns to Magnetic Compass Headings Compass Turns to Magnetic Compass Headings Climbing Turns Descending Turns	Review Review Review Review Review Review
Descents (IR) Constant Airspeed Descents Constant Rate Descents	Review Review
Stalls (IR) Power-Off Stalls Power-On Stalls	Review Review
Special Emphasis Areas Positive Aircraft Control CFIT Checklist Usage	Review Review Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will maintain altitude within ± 150 feet, heading within $\pm 15^\circ$ and airspeeds within ± 15 knots.

Lesson 11-DL

Equipment

DA40

Lesson Objective

This lesson provides the instructor the opportunity to evaluate the student's proficiency in controlling the aircraft solely by instrument reference in both full and partial panel situations for all applicable maneuvers.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist	Review Review Review Review Review
Preflight Procedures Preflight Briefing Preflight Inspection Instrument Cockpit Check	Review Review Review
Avionics MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed) Flight Director Usage (If Installed)	Review Review Review Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
Climbs (IR) Constant Airspeed Climbs Constant Rate Climbs	Review Review
Flight by Reference to Instruments Straight and Level Flight Change of Airspeed Use of Standby Instruments	Review Review Review
Unusual Attitudes (IR) Unusual Attitudes /Recovery Procedures	Review
Slow Flight (IR) Pitch/Airspeed Control Power/Altitude Control	Review Review
Turns (IR) Standard Rate Turns Timed Turns to Magnetic Compass Headings	Review Review
Descents (IR) Constant Airspeed Descents Constant Rate Descents	Review Review

Approach and Landing Procedures Normal and/or Crosswind Landing	Review
Special Emphasis Areas Aeronautical Decision Making Positive Exchange of Flight Controls Stall/ Spin Awareness Collision Avoidance Wake Turbulence Avoidance Runway Incursion Avoidance Checklist Usage	Review Review Review Review Review Review Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will exhibit improved skills for the listed tasks. During both the full and partial panel tasks the student will be able to maintain altitude within ± 150 feet, heading within $\pm 15^\circ$, airspeeds within ± 15 knots and targeted climb or descent rates within ± 200 feet per minute. During recovery from unusual attitudes any intervention by the evaluator to prevent the aircraft from exceeding any operating limitations or entering an unsafe flight condition shall be unsatisfactory.

Lesson 12-GB

Equipment

Briefing Room

Lesson Objective

This lesson provides an introduction of aircraft flight instruments, navigation equipment, and operations of systems in preparation for lesson 13 and Stage I check.

Lesson Content

Very High Frequency Omni-directional Range (VOR) VOR components Function of VOR VOR Operational Errors VOR Accuracy VOR Accuracy Checks VOR Test Facility Certified Checkpoints	Introduction Introduction Introduction Introduction Introduction Introduction Introduction
Non-directional Radio Beacon (NDB) NDB Components ADF Components Function of ADF Operational Errors of ADF	Introduction Introduction Introduction Introduction
Distance Measuring Equipment (DME) DME Components Function of DME DME Errors	Introduction Introduction Introduction
Global Positioning Systems (GPS) GPS Components Function of GPS GPS Substitution GPS Errors System Status Wide Area Augmentation System (WAAS)	Introduction Introduction Introduction Introduction Introduction Introduction
Localizer (LOC) Localizer Components Function of Localizer Localizer Errors	Introduction Introduction Introduction
Aircraft Flight Instruments & Navigation Equipment Altimeter Airspeed Indicator Vertical Speed Indicator Attitude Indicator Horizontal Situation Indicator Heading Indicator Magnetic Compass Turn & Slip Indicator/Turn Coordinator	Introduction Introduction Introduction Introduction Introduction Introduction Introduction Introduction

Electronic Flight Instrument Display	Introduction
National Airspace System Controlled/Uncontrolled Class A, B, C, D, E, G Special Use Airspace Other Use Airspace	Introduction Introduction Introduction Introduction
Aeromedical Factors Spatial Disorientation Illusions in Flight	Introduction Introduction
Special Emphasis Areas Icing Condition Hazards Anti-Icing / De-icing Equipment	Introduction Introduction
Additional Areas As Assigned by Instructor (If Necessary)	

Completion Standards

At the completion of this lesson the student will have gained an increased level of knowledge in the tasks listed above.

Lesson 13-DL

Equipment

DA40

Lesson Objective

Now is the time to expand your knowledge and skills while flying in IMC. This lesson will introduce full panel VOR and GPS or NDB intercepting and tracking procedures.

Lesson Content

SRM Risk Assessment Collision Avoidance Task Management Automation Management	Review Review Review Review
Preflight Procedures Preflight Briefing Instrument Cockpit Check	Review Review
Flows Cockpit Flows	Review
Checklist Usage Normal Procedures Checklist	Review
Avionics Flight Director Usage (If Installed) MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed)	Review Review Review Review
Flight by Reference to Instruments Pattern Bravo	Review
Slow Flight (IR) Pitch/Airspeed Control Power/Altitude Control Climbs/Turns/Descents	Review Review Review
Intercepting & Tracking (IR) VOR Orientation VOR Intercepting & Tracking GPS or NDB Intercepting & Tracking Use of RMI	Introduction Introduction Introduction Introduction
Unusual Attitudes (IR) Unusual Attitudes /Recovery Procedures	Review

DME Arcs DME Arc Procedures Intercepting and Tracking DME Arcs Autopilot Coupled DME Arc Procedures	Introduction Introduction Introduction
Special Emphasis Areas Positive Aircraft Control Aeronautical Decision Making (ADM)	Review Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will have gained an increased proficiency in local instrument navigation procedures. During completion of the tasks the student will maintain altitude within ± 150 feet, heading within $\pm 15^\circ$ and airspeeds within ± 15 knots.

Lesson 14-DL

Equipment

DA40

Lesson Objective

During this lesson you will continue to build on BAI by introducing full panel LOC and LOC back course intercepting and tracking. Situations requiring the student to execute emergency/abnormal procedures may be presented by the flight instructor and any time during the lesson.

Lesson Content

SRM Risk Assessment Collision Avoidance Task Management Automation Management	Review Review Review Review
Preflight Procedures Preflight Briefing Instrument Cockpit Check	Review Review
Cockpit Familiarization Flight Controls Engine Controls	Review Review
Checklist Usage Normal Procedures Checklist	Review
Engine Start Engine Fire On Start Procedures	Introduction
Avionics MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed) Flight Director Setup and Usage (If Installed)	Review Review Review Review
Climbs (IR) Constant Airspeed Climbs Constant Rate Climbs Climbs Using PFD	Review Review Review
Turns (IR) Level Turns Using PFD Standard Rate Turns Compass Turns Timed Turns to Magnetic Headings	Review Review Review Review

Intercepting & Tracking Localizer Orientation Localizer Intercepting & Tracking Localizer/BC Orientation Localizer/BC Intercepting & Tracking	Introduction Introduction Introduction Introduction
Unusual Attitudes (IR) Unusual Attitudes /Recovery Procedures	Review
DME Arcs Intercepting and Tracking DME Arcs Autopilot Coupled DME Arc Procedures (If Installed)	Review Review
Steep Turns (IR) Steep Turns	Review
Descents (IR) Constant Rate Descents Constant Airspeed Descents Descents Using PFD	Review Review Review
Approach and Landing Procedures Normal and/or Crosswind Approach Procedures	Review
Postflight Operations Postflight Procedures Postflight Debrief	Review Review
Special Emphasis Areas Checklist Usage Controlled Flight Into Terrain (CFIT)	Review Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will display increased proficiency in attitude instrument flight. During the full panel flight the student should maintain altitude within ± 150 feet, heading within $\pm 15^\circ$, and airspeed within ± 15 knots. The student will exhibit a basic understanding of LOC and LOC/BC orientation and tracking procedures.

Lesson 15-DL

Equipment

DA40

Lesson Objective

This lesson provides a review of intercepting and tracking, and DME arc's and procedures both full and partial panel. Situations requiring the student to execute emergency/abnormal procedures may be presented by the flight instructor and any time during the lesson.

Lesson Content

SRM Risk Assessment Collision Avoidance Task Management Automation Management	Review Review Review Review
Preflight Procedures Preflight Briefing Instrument Cockpit Check	Review Review
Checklist Usage Normal Procedures Checklist	Review
Engine Start General Starting Procedures Engine Fire On Start Procedures	Review Review
ATC Communications ATC Communications Standard Phraseology	Review Review
Avionics Flight Director Usage (If Installed) MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed)	Review Review Review Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
Flight by Reference to Instruments Standby Instrument Usage	Review
Stalls (IR) Stalls /Recovery Procedures Autopilot Stalls	Review Introduction

Intercepting & Tracking (IR) VOR Orientation VOR Intercepting & Tracking GPS or NDB Intercepting & Tracking Localizer Orientation Localizer Intercepting & Tracking Localizer/BC Orientation Localizer/BC Intercepting & Tracking Use of RMI	Review Review Review Review Review Review Review Review
Unusual Attitudes (IR) Unusual Attitudes /Recovery Procedures	Review
DME Arcs Intercepting and Tracking DME Arcs Autopilot Coupled DME Arc Procedures	Review Review
Approach and Landing Procedures Normal and/or Crosswind Approach Procedures	Review
Postflight Operations Postflight Procedures Postflight Debrief	Review Review
Special Emphasis Areas Aeronautical Decision Making (ADM)	Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will display increased proficiency in attitude instrument flight. During both full and partial panel flight the student should maintain altitude within ± 150 feet, heading within $\pm 15^\circ$, and airspeed within ± 15 knots. Course navigation will be maintained with less than full scale deflection of the CDI. The student will exhibit a basic understanding of VOR/LOC orientation and tracking procedures, including the interception of specific VOR radials and DME Arcs.

Lesson 16-DL

Equipment DA40

Lesson Objective

This lesson provides a review of both partial and full panel VOR, GPS or ADF procedures if a VOR/ADF is installed in the aircraft.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist	Review Review Review Review Review
Preflight Procedures Aircraft Systems Related to IFR Operations Aircraft Flight Instruments and Navigation Equipment Instrument Cockpit Check (Including IFR Preflight Inspection)	Review Review Review
Avionics MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed) Flight Director Usage (If Installed)	Review Review Review Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
Instrument Approach Procedures VOR Orientation Intercepting and Tracking VOR Navigational Systems VOR Time, Speed, and Distance to a Station ADF Orientation (If Installed) ADF Time, Speed and Distance (If Installed) GPS or NDB Bearing Interception and Tracking (If Installed) GPS Operation (If Installed)	Review Review Introduction Introduction Introduction Review Review
DME Arc Intercepting and Tracking DME Arcs	Review
Approach and Landing Procedures Normal and/or Crosswind Landing	Review
Postflight Operations Securing Aircraft Postflight Debrief	Review Review
Special Emphasis Areas All Areas	Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will exhibit increased proficiency in all ADF/GPS and VOR tracking. The student will understand ADF/GPS orientation and demonstrate VOR orientation using partial panel attitude instrument procedures. The student will maintain altitude within ± 150 feet, heading within $\pm 15^\circ$, and airspeed within ± 15 knots during both full and partial panel procedures.

Lesson 17-DL

Equipment

DA40

Lesson Objective

This lesson provides an instructor evaluation of the student's proficiency in basic attitude instrument flying and navigation using full and partial panel instrument procedures.

Lesson Content

Training Record Review of Training Folder Verify/Update Manuals Verify/Update Publications	Review Review Review
SRM Risk Assessment Collision Avoidance Task Management Automation Management	Review Review Review Review
Preflight Procedures Pilot Qualifications Performance and Limitations Lesson Planning Preflight Briefing Instrument Cockpit Check	Review Review Review Review Review
Checklist Usage Normal Procedures Checklist	Review
Engine Start General Starting Procedures Engine Fire On Start Procedures	Review Review
ATC Communications ATC Communications Standard Phraseology	Review Review
Avionics Flight Director Usage (If Installed) MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed)	Review Review Review Review
Taxi Operations Basic Aircraft Control - Aileron Position Steering With Castering Nose Wheel Differential Braking	Review Review Review
Before Takeoff Check Engine Check Instrument Check Avionics Setup	Review Review Review

Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
Turns (IR) Standard Rate Turns Compass Turns to Magnetic Headings Timed Turns to Magnetic Headings	Review Review Review
Slow Flight (IR) Pitch/Airspeed Control Power/Altitude Control	Review Review
Stalls (IR) Stalls /Recovery Procedures	Review
Intercepting & Tracking VOR Orientation VOR Intercepting & Tracking GPS or NDB Intercepting & Tracking Localizer Orientation Localizer Intercepting & Tracking Use of RMI	Review Review Review Review Review Review
Unusual Attitudes (IR) Unusual Attitudes /Recovery Procedures	Review
DME Arcs Intercepting and Tracking DME Arcs Autopilot Coupled DME Arc Procedures	Review Review
Steep Turns (IR) Steep Turns	Review
Approach and Landing Procedures Normal and/or Crosswind Approach Procedures	Review
Postflight Operations Postflight Procedures Postflight Debrief	Review Review
Special Emphasis Areas All Areas	Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will show increased proficiency for all listed tasks. Altitude will be maintained within ± 150 feet, heading within $\pm 15^\circ$ and airspeed within ± 15 knots, and targeted climb or descent rates within ± 200 feet per minute. VOR, LOC, GPS and DME ARC will be accurate with the student maintaining position orientation at all times maintaining no more than $\frac{3}{4}$ scale deflection of the CDI using full and partial panel instrument procedures.

Lesson 18 – STO (Stage Check I)

Equipment

Briefing Room

Lesson Objective

During this stage check, the Chief Instructor, designated Assistant Chief or another designated Check Instructor will evaluate the student's proficiency in basic attitude instrument flying and navigation knowledge.

Lesson Content

ORAL

Training Records <ul style="list-style-type: none">Identity VerificationReview of Training FolderVerify/Update ManualsVerify/Update Publications
Preflight Procedures <ul style="list-style-type: none">Pilot QualificationsAircraft Systems Related to IFR OperationsAircraft Flight Instruments and Navigation EquipmentInstrument Cockpit Check (Including IFR Preflight Inspection)Aeromedical Factors
Special Emphasis Areas <ul style="list-style-type: none">All Areas

Completion Standards

At the completion of this stage check oral, the student must demonstrate adequate knowledge of the elements to each of the topics listed.

Lesson 19 – STF (Stage Check I)

Equipment

DA40

Lesson Objective

During this stage check, the Chief Instructor, designated Assistant Chief or another designated Check Instructor will evaluate the student's proficiency in basic attitude instrument flying and navigation using full and partial panel instrument procedures. It is the determination of the Instructor, designated Assistant Chief or another designated Check Instructor which procedures or maneuvers will be conducted as full or partial panel.

Lesson Content

FLIGHT

SRM Risk Assessment Collision Avoidance Task Management Automation Management
Preflight Procedures Pilot Qualifications Performance and Limitations Lesson Planning Preflight Briefing Instrument Cockpit Check
Cockpit Familiarization Flight Controls Engine Controls
Flows Cockpit Flows
Checklist Usage Normal Procedures Checklist
Engine Start General Starting Procedures
ATC Communications ATC Communications Standard Phraseology
Avionics Flight Director Usage (If Installed) MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed)

<p>Taxi Operations</p> <ul style="list-style-type: none"> Basic Aircraft Control - Aileron Position Nose Wheel or Free Castering Steering Differential Braking
<p>Before Takeoff Check</p> <ul style="list-style-type: none"> Engine Check Instrument Check Avionics Setup
<p>Takeoff and Climb Procedures</p> <ul style="list-style-type: none"> Normal and/or Crosswind Takeoff
<p>Climbs (IR)</p> <ul style="list-style-type: none"> Constant Airspeed Climbs Constant Rate Climbs
<p>Turns (IR)</p> <ul style="list-style-type: none"> Standard Rate Turns Compass Turns to Magnetic Headings Timed Turns to Magnetic Headings
<p>Slow Flight (IR)</p> <ul style="list-style-type: none"> Pitch/Airspeed Control Power/Altitude Control
<p>Stalls (IR)</p> <ul style="list-style-type: none"> Stalls /Recovery Procedures
<p>Intercepting & Tracking</p> <ul style="list-style-type: none"> VOR Orientation VOR Intercepting & Tracking GPS or NDB Intercepting & Tracking Localizer Orientation Localizer Intercepting & Tracking
<p>Unusual Attitudes (IR)</p> <ul style="list-style-type: none"> Unusual Attitudes /Recovery Procedures
<p>DME Arcs</p> <ul style="list-style-type: none"> Intercepting and Tracking DME Arcs Autopilot Coupled DME Arc Procedures
<p>Steep Turns (IR)</p> <ul style="list-style-type: none"> Steep Turns
<p>Descents (IR)</p> <ul style="list-style-type: none"> Constant Rate Descents Constant Airspeed Descents Descents Using PFD
<p>Approach and Landing Procedures</p> <ul style="list-style-type: none"> Normal and/or Crosswind Approach Procedures

Postflight Operations Postflight Procedures Postflight Debrief
Special Emphasis Areas All Areas
Additional Areas As Assigned By Instructor (If Necessary)

Completion Standards

At the completion of this lesson, the student will show increased proficiency for all listed tasks. Altitude will be maintained within ± 150 feet, heading within $\pm 1^\circ$, and airspeed within ± 15 knots, and targeted climb or descent rates within ± 200 feet per minute. VOR, LOC, GPS and DME ARC will be accurate with the student maintaining position orientation at all times maintaining no more than $\frac{3}{4}$ scale deflection of the CDI using full and partial panel instrument procedures.

Stage 2

Stage Objective

The objective of this stage is for the student to be introduced to instrument approach procedures, missed approach procedures, and holding patterns.

If the aircraft used in this course does not have an Autopilot system installed, the student will still be required to conduct the instrument procedure “hand flown”.

Stage Completion Standards

At the completion of this stage, the student will demonstrate to the flight instructor an increased level of proficiency in instrument approach procedures, missed approach procedures, and holding patterns, as well as all IFR flight maneuvers and procedures to the proficiency level of an Instrument Rated Pilot.

Lesson 20-DL

Equipment

DA40

Lesson Objective

This lesson provides a review of emergency and abnormal procedures through the use of simulated situations in the appropriate flight training devices for which this course is being taught.

Lesson Content

SRM Risk Assessment Collision Avoidance Task Management Automation Management	Review Review Review Review
Preflight Procedures Lesson Planning Preflight Briefing	Review Review
Checklist Usage Normal Procedures Checklist Abnormal Procedures Checklist Emergency Procedures Checklist	Review Review Review
Engine Start General Starting Procedures Hot Start Procedures	Review Review
Emergency/Abnormal Procedures Systems and Equipment Malfunctions Door Open in Flight CAPS Deployment (If Installed) Electrical Trim/Autopilot Failure (If Installed) Pitot/Static Malfunction Engine Partial Power Loss Low Oil Pressure Engine Failure in Flight Emergency Equipment and Survival Gear Wing Fire in Flight Propeller Governor Failure (If Installed) Alternator Failure in Flight	Review Introduction Introduction Introduction Introduction Introduction Introduction Introduction Introduction Introduction Introduction Introduction
Postflight Operations Postflight Debrief	Review
Special Emphasis Areas All Areas	Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will have gained proficiency in emergency and abnormal procedures with respect for the private pilot and instrument rating practical test standards. During the postflight debrief, the student will be assigned specific tasks to prepare for the next flight activity.

Lesson 21-GB

Equipment

Briefing Room

Lesson Objective

During this lesson the student will review IFR cross-country flight planning in preparation for the student's first IFR cross-country flight. The student and flight instructor will plan a cross-country from your home airport to an airport at least 50 nm away.

Lesson Content

Stage Goals & Objective Stage 2 Overview	Review
Holding Procedures Entries Speeds/Altitudes Timing/Patterns 5 T's	Introduction Introduction Introduction Introduction
Instrument Approach Procedures Approach Briefing Precision Approaches Non-Precision Approaches Circling Approach Procedures	Introduction Introduction Introduction Introduction
Flight Plans Filing IFR Flight Plans	Introduction
Publications Chart Currency Terminal Charts Enroute Charts Use of AFD Instrument Pilot PTS	Introduction Introduction Introduction Introduction Introduction
Chair flying Cockpit Flows Instrument Approach Procedures	Introduction Introduction
Special Emphasis Areas All Areas	Introduction
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will have gained a complete knowledge of IFR cross-country flight planning.

Lesson 22-DL

Equipment

DA40

Lesson Objective

This lesson provides an introduction to the student is introduced to VOR, GPS and/or ADF, VOR Intersection and Localizer holding patterns (standard and non-standard) (as appropriate).

Lesson Content

SRM Risk Assessment Collision Avoidance Task Management Automation Management	Review Review Review Review
Preflight Procedures Lesson Planning Preflight Briefing Instrument Cockpit Check	Review Review Review
Checklist Usage Normal Procedures Checklist	Review
ATC Communications ATC Communications Standard Phraseology	Review Review
Takeoff and Climb Procedures Instrument Takeoff	Introduction
Holding Procedures VOR GPS or NDB VOR/Intersection LOC Holding Entry and Patterns	Introduction Introduction Introduction Introduction Introduction
Approach and Landing Procedures Normal and/or Crosswind Approach Procedures	Review
Postflight Operations Postflight Procedures Postflight Debrief	Review Review
Special Emphasis Areas All Areas	Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this Lesson, the student, using the VOR, GPS, ADF, VOR/ Intersection and LOC hold, will demonstrate correct entries to holding patterns. During holding procedures, the student should be able to maintain altitude within ± 150 feet, headings within $\pm 15^\circ$ and airspeeds within ± 15 knots.

Lesson 23-GB

Equipment

Briefing Room

Lesson Objective

This lesson provides an introduction to IFR navigation logs, DPs, STARs, and Air Traffic Control Clearances in preparation for Stage II lessons and stage check.

Lesson Content

Training Records Review of Training Folder Verify/Update Manuals Verify/Update Publications	Review Review Review
IFR Cross Country Flight Planning IFR Navigation Logs Preferred Routes Alternate Considerations Fuel Considerations	Introduction Introduction Introduction Introduction
Departure Procedures Abbreviated IFR Departure Clearance Procedures Hold for Release/Release Times Clearance Void Times Instrument Departure Procedures Standard Instrument Departure (SID) Obstacle Departure Procedure (ODP)	Introduction Introduction Introduction Introduction Introduction Introduction
Enroute Procedures Position Reports Mandatory Reports Non-Radar Reporting Points Additional Reports Airways and Route Systems Changeover Points	Introduction Introduction Introduction Introduction Introduction Introduction
Arrival Procedures STAR's Visual Approach Procedures Contact Approach Procedures Side-Step Maneuver	Introduction Introduction Introduction Introduction
Special Emphasis Areas All Areas	Introduction
Additional Areas As Assigned by Instructor (If Necessary)	

Completion Standards

At the completion of this lesson the student will have knowledge of the tasks that meets or exceeds the desired outcome level listed above.

Lesson 24-DL

Equipment

DA40

Lesson Objective

This lesson provides an introduction to instrument approach procedures as well as a review of standard and non-standard holds. Proficiency is increased through the practice of instrument approach procedures.

Lesson Content

SRM Risk Assessment Collision Avoidance Personal Weather Minimums Checklist Task Management Automation Management	Review Review Review Review Review
Preflight Procedures Lesson Planning Preflight Briefing	Review Review
Checklist Usage Normal Procedures Checklist	Review
ATC Communications ATC Communications Standard Phraseology	Review Review
Avionics Flight Director Usage (If Installed) MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed)	Review Review Review Review
Takeoff and Climb Procedures Instrument Takeoff	Review
Instrument Approaches ILS Approach & Procedures Full VOR Approach & Procedures GPS or NDB Approach & Procedures	Introduction Introduction Introduction
Instrument Approach Procedures Circling Approach Procedures Use of RMI	Introduction Introduction
Missed Approach Procedures Missed Approach Procedures	Introduction
Holding Procedures GPS or NDB VOR/Intersection	Introduction Introduction

Approach and Landing Procedures Normal and/or Crosswind Approach Procedures	Review
Postflight Operations Postflight Procedures Postflight Debrief	Review Review
Special Emphasis Areas All Areas	Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will have the necessary skill and knowledge to determine correct holding pattern entries for both standard and nonstandard holding patterns. Instrument approaches will be held to within full scale deflection of the course deviation indicator (CDI). Altitude should be maintained within ± 150 feet, heading within $\pm 15^\circ$ and airspeed within ± 15 knots. While holding, one minute inbound legs ± 10 seconds should be accomplished

Lesson 25-DL

Equipment DA40

Lesson Objective

This lesson provides a review of ILS, LOC, LOC/BC, holding procedures and autopilot coupled approaches.

Lesson Content

SRM Risk Assessment Collision Avoidance Task Management Automation Management Personal weather Minimums Checklist	Review Review Review Review Review
Preflight Procedures Lesson Planning Preflight Briefing Instrument Cockpit Check	Review Review Review
Checklist Usage Normal Procedures Checklist	Review
ATC Communications ATC Communications Standard Phraseology	Review Review
Avionics Flight Director Usage (If Installed) MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed)	Review Review Review Review
Instrument Approaches ILS Approach & Procedures LOC Approach & Procedures Autopilot Coupled LOC/BC Approach & Procedures (If Installed)	Review Review Introduction
Instrument Approach Procedures Circling Approach Procedures	Review
Missed Approach Procedures Missed Approach Procedures	Review
Holding Procedures Hold	Review
Approach and Landing Procedures Normal and/or Crosswind Landing Landing from a Straight-In/Circling Approach	Review Review

Postflight Operations Postflight Procedures Postflight Debrief	Review Review
Special Emphasis Areas All Areas	Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will maintain altitude within ± 150 feet, headings within $\pm 15^\circ$ and airspeeds within ± 15 knots while practicing holding procedures. Instrument approaches will be held to within full scale deflection of the course deviation indicator (CDI). During all operations other than holding procedures, the student must meet the Instrument Rating Airplane Practical Test Standards.

Lesson 26-DL

Equipment

DA40

Lesson Objective

This lesson provides a review of VOR, GPS, localizer, missed approach and circling approach procedures.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist	Review Review Review Review Review
Avionics MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed) Flight Director Usage (If Installed)	Review Review Review Review
Holding Procedures Holding Procedures Intersection Holding/DME Holding LOC Holding	Review Review Review
Instrument Approaches GPS or NDB Approach & Procedures VOR Approach & Procedures LOC Approach & Procedures	Review Review Review
Instrument Approach Procedures Circling Approach Procedures Straight-In Approach Procedures Full Approach Procedures	Review Review Review
Missed Approach Procedures Missed Approach Procedures	Review
Special Emphasis Areas All Areas	Review
Additional Areas As Assigned By Instructor (If Necessary))	

Completion Standards

The student will maintain altitude within ± 150 feet, heading within $\pm 15^\circ$, and airspeed within ± 15 knots. All approaches will be held to $\frac{3}{4}$ scale deflection of the CDI and glideslope indications where appropriate. Additionally the student will exhibit increased SRM skills in all areas. During the postflight debrief, the student will be assigned specific tasks to prepare for the next flight activity.

Lesson 27-DL

Equipment

DA40

Lesson Objective

This lesson provides a review of precision approaches, localizer approaches (front and back course), autopilot coupled and an introduction to partial panel approach procedures.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management	Review Review Review Review
Avionics MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed) Flight Director Usage (If Installed)	Review Review Review Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
ATC Clearances and Procedures Compliance with Applicable ATC Instructions and Clearances	Review
Holding Procedures Holding Procedures	Review
Instrument Approaches Partial Panel GPS Approach & Procedures VOR Approach & Procedures LOC Approach & Procedures Autopilot Coupled LOC/BC Approach & Procedures	Introduction Review Review Review
Instrument Approach Procedures Circling Approach Procedures Straight-In Approach Procedures Full Approach Procedures	Review Review Review
Missed Approach Procedures Missed Approach Procedures	Review
Approach and Landing Procedures Straight-In/Circling Approach Procedures	Review
Special Emphasis Areas All Areas	Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will demonstrate correct procedures for executing GPS, VOR and localizer (LOC) approaches. During the lesson, altitude will be maintained within ± 150 feet, heading within $\pm 15^\circ$ and airspeed within ± 15 knots. While on the final approach segment, the student will allow less than $\frac{3}{4}$ scale deflection of the CDI for both full and partial panel.

Lesson 28-DL

Equipment

DA40

Lesson Objective

This lesson provides a review of precision approaches, localizer approaches (front and back course), autopilot coupled and partial panel approach procedures.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management	Review Review Review Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
Instrument Approach Procedures Autopilot Coupled ILS Approach & Procedures LOC/BC Approach & Procedures Partial Panel LOC Approach & Procedures	Review Review Review
Missed Approach Procedures Missed Approach Procedures	Review
Holding Procedures VOR/Intersection Hold	Review
Approach and Landing Procedures Straight-In/Circling Approach Procedures	Review
Special Emphasis Areas All Areas	Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will demonstrate correct procedures for executing localizer (front and back course), and ILS approaches. During the lesson, altitude will be maintained within ± 150 feet, heading within $\pm 15^\circ$ and airspeed within ± 15 knots. While on the final approach segment, the student will maintain less than $\frac{3}{4}$ scale deflection of the CDI.

Lesson 29-DL

Equipment

DA40

Lesson Objective

This lesson provides further review of precision approaches, localizer approaches (front and back course) and partial panel approaches.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist	Review Review Review Review Review
Preflight Procedures Preflight Briefing Preflight Inspection Instrument Cockpit Check	Review Review Review
Avionics MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed) Flight Director Usage (If Installed)	Review Review Review Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
ATC Clearances and Procedures Compliance with Applicable ATC Instructions and Clearances	Review
Holding Procedures Hold	Review
DME Arc Intercepting and Tracking DME Arcs	Review
Instrument Approach Procedures Partial Panel ILS Approach & Procedures LOC Approach & Procedures LOC Approach (Back Course) or, if unavailable, substitute LOC Approach (Front Course)	Review Review Review
Missed Approach Procedures Missed Approach Procedures	Review
Approach and Landing Procedures Landing from a Straight-In/Circling Approach	Review
Postflight Operations Securing Aircraft Postflight Debrief	Review Review

Special Emphasis Areas All Areas	Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student should demonstrate correct procedures for executing localizer (front and back course) and ILS approaches. During the lesson, altitude will be maintained within ± 150 feet, heading within $\pm 15^\circ$ and airspeed within ± 15 knots. While on the final approach segment, the student will allow less than $\frac{3}{4}$ scale deflection of the CDI.

Lesson 30-DL

Equipment

DA40

Lesson Objective

This lesson provides the student with a review by using previously learned approach procedures and GPS/NDB tracking procedures to execute GPS/NDB approaches (as appropriate). In addition, partial panel skill will be further developed through practicing approaches while experiencing a partial panel condition.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management	Review Review Review Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
Instrument Approaches GPS or NDB Approach & Procedures Partial Panel GPS or NDB Approach & Procedures (If Installed) Autopilot Coupled VOR Approach & Procedures	Review Review Review
Instrument Approach Procedures Circling Approach & Procedures Full Approach & Procedures	Review Review
Missed Approach Procedures Missed Approach Procedures	Review
Holding Procedures GPS or NDB	Review
Approach and Landing Procedures Visual Approach procedures	Review
Special Emphasis Areas All Areas	Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will demonstrate the correct procedures used to perform GPS or NDB approaches (as appropriate). During the execution of all approaches, altitude will be maintained within ± 150 feet, heading within $\pm 15^\circ$, airspeed within ± 15 knots and $\frac{3}{4}$ scale deflection.

Lesson 31-DL

Equipment

DA40

Lesson Objective

This lesson provides the student opportunity to use previously learned approach procedures and GPS or NDB tracking procedures to execute GPS or NDB approaches. In addition, partial panel skill will be further developed through practicing approaches while experiencing a simulated partial panel condition.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist	Review Review Review Review Review
Preflight Procedures Aircraft Systems Related to IFR Operations Aircraft Flight Instruments and Navigation Equipment Instrument Cockpit Check	Review Review Review
Avionics MFD Setup and Usage (IF Installed) PFD Setup and Usage (IF Installed) GPS Setup and Usage (IF Installed) Flight Director Usage (IF Installed)	Review Review Review Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
Instrument Approaches Partial Panel GPS or NDB Approach & Procedures (If Installed) ILS Approach & Procedures GPS or NDB Approach & Procedures	Review Review Review
Instrument Approach Procedures Autopilot Coupled Partial Panel Approach Circling Approach Procedures Full Approach Procedures	Review Review Review
Lost Communication Procedures Loss of Communication Lessons	Review
Missed Approach Procedures Missed Approach to a Hold	Review
Approach and Landing Procedures Landing from a Straight-In/Circling Approach	Review
Postflight Operations Securing Aircraft Postflight Debrief	Review Review

Special Emphasis Areas All Areas	Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will demonstrate the correct procedures used to perform GPS or NDB approaches and holding procedures. Altitude will be maintained within ± 150 feet, heading within $\pm 15^\circ$ and airspeed within ± 15 knots. While on the final approach segment, the student will maintain no more than $\frac{3}{4}$ scale deflection of the CDI.

Lesson 32-DL

Equipment

DA40

Lesson Objective

This lesson will provide the student a review of full and partial panel approach procedures.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management	Review Review Review Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
Instrument Approaches GPS or NDB Approach & Procedures Partial Panel GPS or NDB Approach & Procedures VOR Approach & Procedures	Review Review Review
Approach and Landing Procedures Normal and/or Crosswind Approach & Procedures	Review
Holding Procedures GPS	Review
Special Emphasis Areas All Areas	Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will demonstrate knowledge of the procedures used to perform non-precision and partial panel approaches. Altitude will be maintained within ± 150 feet, heading within $\pm 15^\circ$ and airspeed within ± 15 knots. While on the final approach segment, the student will maintain no more than $\frac{3}{4}$ scale deflection of the CDI.

Lesson 33-GB

Equipment

Briefing Room

Lesson Objective

This lesson provides a review of IFR instrument approach procedures, and holding in preparation for the Stage II check.

Lesson Content

Training Records Review of Training Folder Verify/Update Manuals Verify/Update Publications	Review Review Review
Preflight Preparation Pilot Qualifications Performance and Limitations Airworthiness Requirements Weather Information National Airspace System Operations of Systems Related to IFR Operations Instrument Cockpit Check Aeromedical Factors Air Traffic Control Clearances Compliance with Departure, En Route, and Arrival Procedures Loss of Communication	Review Review Review Review Review Review Review Review Review Review Review
Special Emphasis Areas All Areas	Review
Additional Areas As Assigned by Instructor (If Necessary)	

Completion Standards

At the completion of this lesson the student will have knowledge of the tasks that meets or exceeds the desired outcome level listed above with respect to the instrument airplane practical test standards.

Lesson 34-DL

Equipment DA40

Lesson Objective

This lesson provides the student with a review by using previously learned approach procedures. In addition, partial panel skill will be further developed through practicing approaches while experiencing a partial panel condition getting the student prepared for intermediate stage check.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist	Review Review Review Review Review
Preflight Procedures Instrument Cockpit Check	Review
Avionics MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed) Flight Director Usage (If Installed)	Review Review Review Review
ATC Clearances and Procedures Air Traffic Control Clearances Compliance with Departure, En Route, Arrival Procedures and Clearances	Review Review Review
Flight by Reference to Instruments Basic Attitude Instrument Flight	Review
Unusual Attitudes (IR) Unusual Attitudes /Recovery Procedures	Review
DME Arc Intercepting and Tracking DME Arcs	Review
Instrument Approaches ILS Approach LOC Approach Partial Panel GPS or NDB Approach & Procedures	Review Review Review
Instrument Approach Procedures Circling Approach Procedures	Review
Lost Communication Procedures Loss of Communication Lessons	Review
Missed Approach Missed Approach Procedures	Review
Holding Procedures Holding Procedures	Review

Approach and Landing Procedures Landing from a Straight-In/Circling Approach Normal and/or Crosswind Landing	Review Review
Postflight Operations Checking Instruments and Equipment Securing Aircraft Postflight Debrief	Review Review Review
Special Emphasis Areas All Areas	Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will demonstrate the knowledge and proficiency required to progress to the final stage of the Instrument Course. Altitude will be maintained within ± 150 feet, heading within $\pm 15^\circ$ and airspeed within ± 15 knots. While on the final approach segment, the student will maintain no more than $\frac{3}{4}$ scale deflection of the CDI.

Lesson 35 – STO (Stage II Check)

Equipment

Briefing Room

Lesson Objective

This lesson is an intermediate stage check conducted by the Chief Flight Instructor, designated Assistant Chief Flight Instructor or Check Instructor.

Lesson Content

Oral

- Preflight Preparation
- Approach Charts & Instrument Approach Plates
- Aircraft Systems Related to IFR Operations
- Aircraft Flight Instruments and Navigation Equipment
- Compliance with Departure, En Route, and Arrival Procedures
- Weather
- Lost Communications Procedures

Special Emphasis Areas

All Areas

Completion Standards

During the oral, the student must demonstrate Instrument pilot proficiency in accordance with the current FAA Instrument Rating-Airplane Practical Test Standards for all tasks listed.

Lesson 36-STF (Stage II Check)

Equipment

DA40

Lesson Objective

This lesson is an intermediate stage check conducted by the Chief Flight Instructor, designated Assistant Chief Flight Instructor or Check Instructor. During the flight, the student must demonstrate Instrument pilot proficiency in accordance with the current FAA Instrument Rating-Airplane Practical Test Standards for all tasks listed.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist
Preflight Procedures Preflight Briefing Preflight Inspection Instrument Cockpit Check
Avionics MFD Setup and Usage (If Installed) PFD Setup and Usage (If Installed) GPS Setup and Usage (If Installed) Flight Director Usage (If Installed)
ATC Clearances and Procedures Air Traffic Control Clearances Compliance with Departure, En Route, Arrival Procedures and Clearances
Flight by Reference to Instruments Basic Attitude Instrument Flight
Unusual Attitudes (IR) Unusual Attitudes /Recovery Procedures
DME Arc Intercepting and Tracking DME Arcs
Instrument Approaches VOR Approach & Procedures Partial Panel GPS or NDB Approach & Procedures ILS Approach & Procedures
Instrument Approach Procedures Circling Approach Procedures Full Approach procedures
Lost Communication Procedures Loss of Communication

Missed Approach Missed Approach Procedures
Holding Procedures Holding Procedures
Approach and Landing Procedures Landing from a Straight-In/Circling Approach Normal and/or Crosswind Landing
Postflight Operations Checking Instruments and Equipment Securing Aircraft Postflight Debrief
Special Emphasis Areas All Areas
Additional Areas As Assigned By Instructor (If Necessary)

Completion Standards

At the completion of this lesson, the student will be able to demonstrate the proficiency required to maintain altitude within ± 150 feet, heading within $\pm 15^\circ$ and airspeed within ± 15 knots. While on the final approach segment, the student will maintain no more than $\frac{3}{4}$ scale deflection of the CDI.

Stage 3

Stage Objective

The objective of this stage is for the student to be introduced to instrument cross-country planning and procedures. In addition, the student will review previous skills in preparation for certification.

If the aircraft used in this course does not have an Autopilot system installed, the student will still be required to conduct the instrument procedure “hand flown”.

Stage Completion Standards

At the completion of this stage, the student will demonstrate to the flight instructor an increased proficiency of all tasks. The student will continue with all instrument approaches and holding patterns, as well as, all flight maneuvers and procedures to the proficiency level of an instrument rated pilot, as outlined in the current FAA Instrument Rating—Airplane Practical Test Standards.

Lesson 37-GB

Equipment

Briefing Room

Lesson Objective

This lesson provides a review of IFR navigation logs, DPs, STARs, and Air Traffic Control Clearances in preparation for IFR cross country flights for this stage.

Lesson Content

IFR Cross Country Flight Planning IFR Navigation Logs Preferred Routes Alternate Considerations Fuel Considerations	Review Review Review Review
Loss Communication procedures Loss of Communication Lessons	Review
Special Emphasis Areas All Areas	Review
Additional Areas As Assigned by Instructor (If Necessary)	

Completion Standards

At the completion of this lesson the student will have adequate knowledge of the tasks listed in accordance with the Instrument Rating Practical Test Standards.

Lesson 38-DXC

Equipment

DA40

Lesson Objective

This lesson provides the student with a review of IFR cross-country procedures. The student will plan and conduct a short IFR cross-country flight with one airport 50 NM from the airport of departure. During the flight, the student will become more familiar with IFR departure, en route, and arrival procedures. The intent of this lesson is to maximize the amount of instrument time simulating a flight that is flown entirely in instrument conditions.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist	Review Review Review Review Review
Preflight Procedures Preflight Briefing Weather Information Determining Performance and Limitations Navigation Log Flight Plan Preflight Inspection Preflight Check of Instruments Equipment and Systems	Review Review Review Introduction Introduction Review Review
ATC Clearances and Procedures Air Traffic Control Clearances	Review
Cockpit Management Cockpit Management	Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
IFR Departure Radio Communication Use of Radar/DP's	Review Review
IFR Navigation Estimated Time Enroute Calculations Fuel Reserve Calculations Weather and Alternate Considerations	Introduction Introduction Introduction
Lost Communication Procedures Loss of Communication	Review
Instrument Approaches GPS or NDB Approach & Procedures ILS Approach & Procedures	Review Review

Instrument Approach Procedures Use of Radar/STAR's Autopilot Coupled Partial Panel Approach	Review Review
Holding Procedures Holding Procedures	Review
Emergency/Abnormal Operations Systems Failure Inadvertent Icing Encounter Turbulence Low Fuel Supply Engine Failure in Flight	Review Introduction Introduction Introduction Review
Missed Approach Procedures Missed Approach Procedures	Review
Approach and Landing Procedures Normal and/or Crosswind Landing Landing from a Straight-In/Circling Approach	Review Review
Postflight Operations Securing Aircraft Postflight Debrief	Review Review
Special Emphasis Areas All Areas	Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will be able to explain the departure, en route, and arrival procedures that may be encountered on an IFR flight. In addition, the student will know the methods used to calculate ETA's and comply with route changes that may be issued by ATC, or necessitated by en route weather. The student will demonstrate a sound understanding of the procedures used in various emergency situations. All tasks above will be held to the applicable criteria outlined in the Instrument PTS.

Lesson 39-DXC

Equipment DA40

Lesson Objective

This lesson provides a review of IFR cross-country operations, including departure, en route, emergency, and arrival procedures. In addition, this flight requires an instrument approach at each airport and involves three (3) different kinds of approaches with the use of navigation systems. Finally, this lesson requires a distance of at least 250 nautical miles along airways or ATC-directed routing with one segment of the flight consisting of at least a straight-line distance of 100 nautical miles between airports. The cross-country flight must land at an airport greater than 50nm from the airport of departure to meet cross-country flight requirements. The flight must be conducted under actual or simulated instrument conditions.

*Contract/CAA students are required to conduct this lesson in accordance with FAA & CAA regulations. This flight must be a cross-country flight with a distance of not less than 292nm with at least one segment of the flight consisting of a least a straight line distance of 100nm between airports. The student must act as pilot in command following en-route IFR procedures or the guidance of air traffic control services and include 3 different kinds of approaches are conducted at (3) different airports while using navigation aids and equipment. This cross-country flight must land at an airport greater than 50nm from the airport of departure to meet cross-country flight requirements. The flight must be conducted under actual or simulated instrument conditions.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist	Review Review Review Review Review
Preflight Procedures Preflight Briefing Instrument Cockpit Check	Review Review
ATC Clearances and Procedures ATC Clearances and Procedures	Review
Cockpit Management Cockpit Management	Review
Takeoff and Climb Procedures Normal and/or Crosswind Takeoff	Review
IFR Departure Radio Communication Use of Radar/DP's	Review Review

IFR Navigation Estimated Time Enroute Calculations Fuel Reserve Calculations Weather and Alternate Considerations	Review Review Review
Lost Communication Procedures Loss of Communication	Review
Missed Approach Procedures Missed Approach Procedures	Review
Instrument Approaches ILS Approach & Procedures VOR Approach & Procedures GPS or NDB Approach & Procedures	Review Review Review
Instrument Approach Procedures Use of Radar/STAR's Autopilot Coupled Approach & Procedures Circling Approach Procedures Straight-In Approach Procedures	Review Review Review Review
Emergency/Abnormal Operations Systems & Equipment Failure Inadvertent Icing Encounter Turbulence Low Fuel Supply	Review Review Review Review
Approach and Landing Procedures Normal and/or Crosswind Landing	Review
Postflight Operations Securing Aircraft Postflight Debrief	Review Review
Special Emphasis Areas All Areas	Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will have a thorough understanding of cross-country and emergency procedures and meet the requirements of 14 CFR 141 Appendix C, 4, (c). Performance will be evaluated on how well the student commands the airplane during the flight, and how accurately the student complies with ATC procedures and clearances. This lesson will be performed in accordance with the Instrument Rating Practical Test Standards.

Lesson 40-GB

Equipment

Briefing Room

Lesson Objective

This lesson provides a review of IFR navigation logs, DPs, STARs, and Air Traffic Control Clearances in preparation for End of Course Stage Check oral.

Lesson Content

Training Records Review of Training Folder Verify/Update Manuals Verify/Update Publications Verify Endorsements	Review Review Review Review
Instrument Pilot Knowledge Test Review Review Deficient Subject Areas	Review
Preflight Preparation Pilot Qualifications Performance and Limitations Cross Country Flight Planning Navigation Equipment Weather Information National Airspace System Operations of Systems Related to IFR Operations Instrument Cockpit Check Aeromedical Factors Air Traffic Control Clearances Compliance with Departure, En Route, and Arrival Procedures Loss of Communication	Review Review Review Review Review Review Review Review Review Review Review Review
Special Emphasis Areas All Areas	Review
Additional Areas As Assigned by Instructor (If Necessary)	

Completion Standards

At the completion of this lesson the student will have knowledge of the tasks that meets or exceeds the desired outcome level listed above outlined in the FAA instrument airplane PTS.

Lesson 41-DL

Equipment

DA40

Lesson Objective

This lesson continues preparation for the upcoming End-of-Course Test. The student must demonstrate Instrument pilot proficiency in accordance with the current FAA Instrument Rating-Airplane Practical Test Standards.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist	Review Review Review Review Review
Preflight Procedures Preflight Briefing Instrument Cockpit Check	Review Review
ATC Clearances and Procedures Air Traffic Control Clearances Compliance with Departure, En Route, Arrival Procedures and Clearances	Review Review
Flight by Reference to Instruments Basic Attitude Instrument Flight	Review
Unusual Attitudes (IR) Unusual Attitudes /Recovery Procedures	Review
Instrument Approaches ILS Approach & Procedures (1) Non-Precision Approaches & Procedures (2)	Review Review
Instrument Approach Procedures Autopilot Coupled Approach & Procedures Circling Approach Procedures Full Approach Procedures	Review Review Review
Approach with Loss of Primary Flight Instrument Indicators Use of Standby Instruments Instrument Approach Procedures	Review Review
Lost Communication Procedures Loss of Communication	Review
DME Arc Intercepting and Tracking DME Arcs	Review
Missed Approach Missed Approach Procedures	Review
Holding Procedures Holding Procedures	Review

Approach and Landing Procedures Landing from a Straight-In/Circling Approach	Review
Postflight Operations Securing Aircraft Postflight Debrief Checking Instruments and Equipment	Review Review Review
Special Emphasis Areas (If Necessary) All Areas	Review
Additional Areas As Assigned By Instructor (If Necessary)	

Completion Standards

At the completion of this lesson, the student will be able to demonstrate the knowledge and proficiency required to meet the standards outlined in the current FAA Instrument Rating-Airplane Practical Test Standards.

Lesson 42–STO (EOC)

Equipment

Briefing Room

Lesson Objective

This lesson is the End-of-Course Test conducted by the Chief Flight Instructor, designated Assistant Chief Flight Instructor or Check Instructor. During the oral, the student must demonstrate Instrument pilot proficiency in accordance with the current FAA Instrument Rating-Airplane Practical Test Standards.

Lesson Content

Training Record Identity Verification Review of Training Folder Verify/Update Manuals Verify/Update Publications Verify Endorsements
Instrument Pilot Knowledge Test Review Review Deficient Subject Areas
Preflight Preparation Pilot Qualifications Instrument Cockpit Check Aircraft Systems Related to IFR Operations Aircraft Flight Instruments and Navigation Equipment Weather Information Cross-Country Flight Planning
Special Emphasis Areas All Areas

Completion Standards

At the completion of this evaluation, the student will be able to demonstrate the knowledge and proficiency required to meet the standards outlined in the current FAA Instrument Rating-Airplane Practical Test Standards.

Lesson 43–STF (EOC)

Equipment

DA40

Lesson Objective

This lesson is the End-of-Course Test conducted by the Chief Flight Instructor, designated Assistant Chief Flight Instructor or Check Instructor. During the flight, the student must demonstrate Instrument pilot proficiency in accordance with the current FAA Instrument Rating-Airplane Practical Test Standards.

Lesson Content

SRM Risk Assessment Task Management Collision Avoidance Automation Management Personal Weather Minimums Checklist
Preflight Procedures Preflight Briefing Instrument Cockpit Check
ATC Clearances and Procedures Air Traffic Control Clearances Compliance with Departure, En Route, Arrival Procedures and Clearances
Flight by Reference to Instruments Basic Attitude Instrument Flight
Unusual Attitudes (IR) Unusual Attitudes /Recovery Procedures
Instrument Approaches ILS Approach & Procedure Non-Precision Approach & Procedure Non-Precision Approach & Procedure
Instrument Procedures Autopilot Coupled Approach & Procedures Full Approach Procedures Circling Approach Procedures
Approach with Loss of Primary Flight Instrument Indicators Use of Standby Instruments Instrument Approach Procedures
Lost Communication Procedures Loss of Communication
DME Arc Intercepting and Tracking DME Arcs
Missed Approach Missed Approach Procedures

Holding Procedures Holding Procedures
Approach and Landing Procedures Landing from a Straight-In/Circling Approach
Postflight Operations Securing Aircraft Postflight Debrief Checking Instruments and Equipment
Special Emphasis Areas (If Necessary) All Areas
Additional Areas As Assigned By Instructor (If Necessary)

Completion Standards

At the completion of this evaluation, the student will be able to demonstrate the knowledge and proficiency required to meet the standards outlined in the current FAA Instrument Rating-Airplane Practical Test Standards.