

TRAINING COURSE OUTLINE

Bridgewater State University holds Pilot School Certificate No. **LY8S311Q**

Bridgewater State University is an accredited four-year degree granting institution within the state of Massachusetts higher educational system. The base of operations/business address is 111 Harrington Hall, Bridgewater, MA 02325.

INSTRUMENT RATING COURSE - AIRPLANE

The Facilities Manual is Part 1 of the Training Course Outline and meets the requirements of 14 CFR Part 141.55 (c), subsections 1-5.

Ground and Flight Course Manuals are contained in Part 2 and meet the requirements of the Training Course Outline specified in 14 CFR 141.55 (c) 6-8.



Table of Contents

Record Of Revisions.....3
List of Effected Pages.....4

RECORD OF REVISIONS

REV. #	DATE	CONTENT	INITIAL
I	2/18/09	Updates facility briefing room locations, facility diagram, and adds Asst. Chief Instructor (Ground and Flight).	
II	7/2/09	Replaces all references to QMA-11E aircraft and replaces with Cessna 172. Removes all Jeppesen training publications as required references, replaces with FAA publications. Increases level of performance on Stage I and II flight lessons to meet PTS. Increases level of performance on Stage III flight lessons to exceed PTS. Clarifies requirement for number of stall maneuvers on various lessons. Adds tasks non-precision approach, and non-precision approach (partial panel) on flight lesson #29.	
III	11/23/09	Clarifies Imminent and Full stall requirements on stage I lessons, adds ATC Clearances and Procedures, and Compliance with Departure, Enroute and Arrival Procedures and Clearances in stages II and III lessons.	
IV	12/10/10	Updates flight school name change flight lesson objectives/tasks/ completion standards to enhance development of ADM/SRM skills, removes redundant tasks, removes various tasks associated with outdated or uninstalled navigation equipment (e.g. ADF).	
V	1/17	Update of various ground and flight lesson objectives, tasks and completion standards to comply with Airman Certification Standards. Various grammatic and format corrections.	
VI	1/12/18	Change of Chief Instructor/Assistant Chief Instructor(s), addition of Redbird AATD.	

NOTE

The manual holder is responsible for maintaining current revisions.

LIST OF EFFECTED PAGES

PAGE #	REVISION	DATE	PAGE #	REVISION	DATE
1	REV V	1/17	2	REV V	1/17
3	REV VI	1/12/18	4	REV VI	1/12/18
5	REV V	1/17	6	REV V	1/17
7	REV V	1/17	8	REV V	1/17
9	REV V	1/17	10	REV VI	1/12/18
11	REV V	1/17	12	REV V	1/17
13	REV V	1/17	14	REV V	1/17
15	REV V	1/17	16	REV VI	1/12/18
17	REV V	1/17	18	REV V	1/17
19	REV V	1/17	20	REV V	1/17
21	REV V	1/17	22	REV V	1/17
23	REV V	1/17	24	REV V	1/17
25	REV V	1/17	26	REV V	1/17
27	REV V	1/17	28	REV V	1/17
29	REV V	1/17	30	REV V	1/17
31	REV V	1/17	32	REV V	1/17
33	REV V	1/17	34	REV V	1/17
35	REV V	1/17	36	REV V	1/17
37	REV V	1/17	38	REV V	1/17
39	REV V	1/17	40	REV V	1/17
41	REV V	1/17	42	REV V	1/17
43	REV V	1/17	44	REV V	1/17
45	REV V	1/17	46	REV V	1/17
47	REV V	1/17	48	REV V	1/17
49	REV V	1/17	50	REV V	1/17
51	REV V	1/17	52	REV V	1/17
53	REV V	1/17	54	REV V	1/17
55	REV V	1/17	56	REV V	1/17
57	REV V	1/17	58	REV V	1/17
59	REV V	1/17	60	REV V	1/17

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 Effective 3/20/2018

LIST OF EFFECTED PAGES, CONTINUED:

PAGE #	REVISION	DATE	PAGE #	REVISION	DATE
61	REV V	1/17	62	REV V	1/17
63	REV V	1/17	64	REV V	1/17
65	REV V	1/17	66	REV V	1/17
67	REV V	1/17	68	REV V	1/17
69	REV V	1/17	70	REV V	1/17
71	REV V	1/17	72	REV V	1/17
73	REV V	1/17	74	REV V	1/17
75	REV V	1/17	76	REV V	1/17
77	REV V	1/17	78	REV V	1/17
79	REV V	1/17	80	REV V	1/17
81	REV V	1/17	82	REV V	1/17
83	REV V	1/17	84	REV V	1/17
85	REV V	1/17	86	REV V	1/17
87	REV V	1/17	88	REV V	1/17
89	REV V	1/17	90	REV V	1/17
91	REV V	1/17	92	REV V	1/17

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 BOSTON FSDO EA-61
 Effective 3/20/2018

INSTRUMENT RATING COURSE - AIRPLANE

PART I

FACILITIES MANUAL

The Facilities Manual is Part 1 of the Training Course Outline and meets the requirements of 14 CFR Part 141.55 (c), subsections 1-5.

PART I FACILITIES MANUAL

Table of Contents

Bridgewater State University Facility	8
Academics	8
Classrooms	8
Ground Training Aids	8
Classroom Diagram	9
New Bedford Facility (KEWB)	10
Aircraft	10
Training Airports	10
EWB Airport Diagram	11
Operations Center (New Bedford Facility)	12
Flight Briefing Area	12
Pilot Lounge Area	12
Classroom Area	12
AATD rooms	12
Administrative Offices	12
Ground Training Aids	12
Operations Center Diagram	13

Bridgewater State University Facility

The Bridgewater State University campus located in Bridgewater, Massachusetts, serves as the primary business address and administrative office for this course.

Academics

The academics facilities are located on the campus of Bridgewater State University, Harrington Hall, 95 Grove Street, Bridgewater, Massachusetts. Bridgewater State University may elect to conduct the academic ground courses for students at its' flight training facility, located at New Bedford Regional Airport, New Bedford, Massachusetts.

Classrooms

Academic classes will typically be conducted in Harrington Hall in two (2) classrooms located on the ground floor of the building. Classroom 001 measures 24' by 20' and can accommodate 24 students. Classroom 002 measures 35' by 20' and can accommodate 30 students. Both classrooms contain computerized projection equipment and dry erase boards. Other rooms may be available and assigned by the University as necessary.

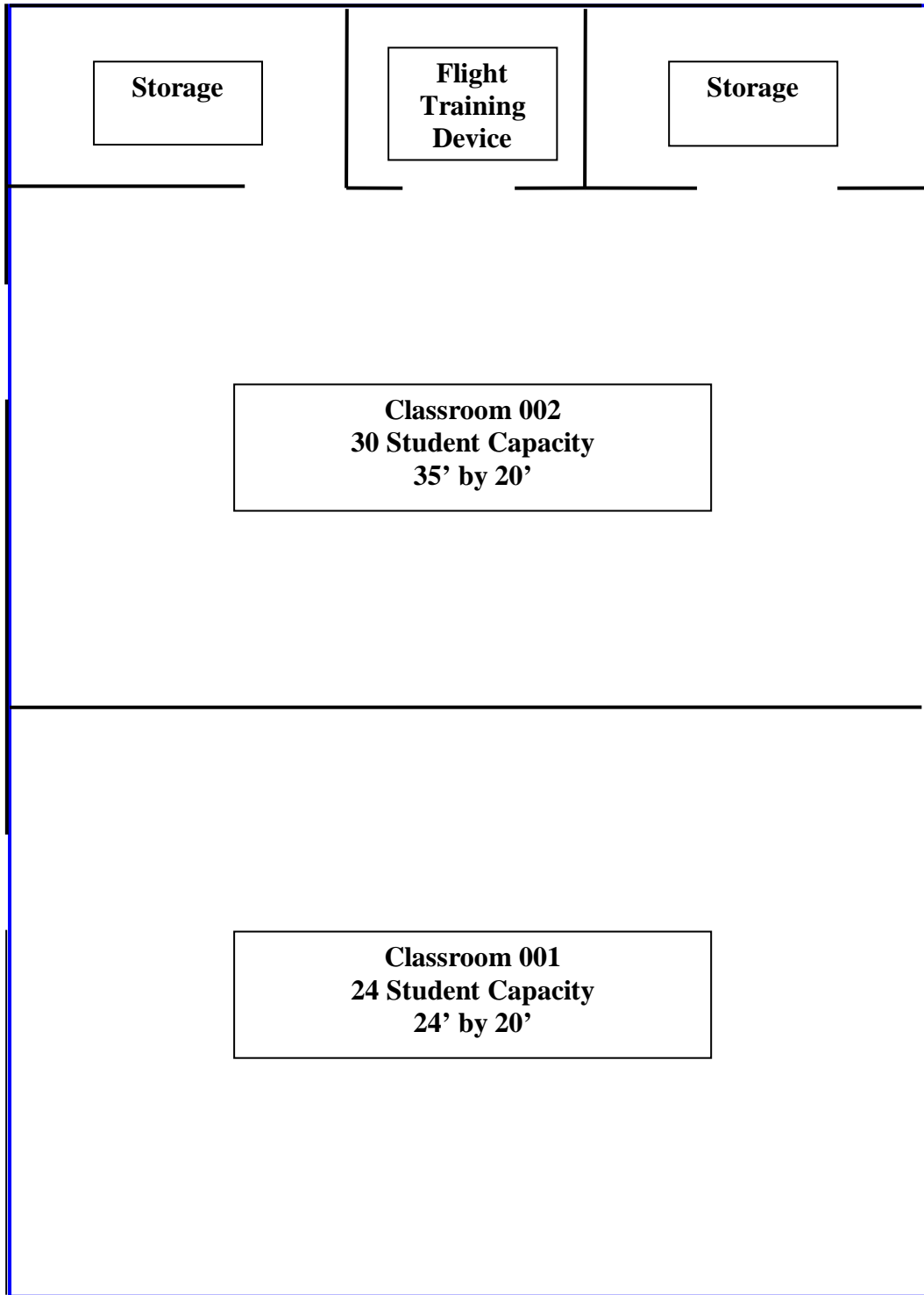
Ground Training Aids

- ⊕ Overhead projector with Audio/Visual capability
- ⊕ Computer terminal including internet access
- ⊕ Video projector with DVD capability
- ⊕ Ceiling-mounted video projector unit
- ⊕ Wall-mounted dry-erase board

NOTE

All classrooms and administrative areas comply with current local building, health and sanitation codes. All rooms are enclosed and easily accessible, and provide a clean instructional environment free from outside distractions.

Bridgewater State University Classroom Diagram



New Bedford (KEWB) Aviation Training Center

Bridgewater State University's Aviation Training Center, located at the New Bedford Regional Airport at 1852 Shawmut Avenue, North Dartmouth, MA 02747, is the central location for all flight training activity.

Aircraft

Bridgewater State University's flight training program may utilize two (2) aircraft for this course of training:

The Piper PA-28R Arrow is a four-place, single-engine, complex aircraft with dual flight controls. The aircraft is rated in the Normal category and certified for Day/Night VFR/IFR Operations. The aircraft meets the requirements of 14 CFR Part 141.39 and 141.75.

The Cessna 172 is a four-place, single-engine, non-complex aircraft with dual flight controls. The aircraft is rated in the Normal and Utility categories and is certified for Day/Night VFR/IFR Operations. The aircraft meets the requirements of 14 CFR Part 141.39 and 141.75.

Special equipment required for the course includes a VOR receiver, LOC and GS receivers, Transponder with Mode C, and GPS.

AATDs

Bridgewater State University's flight training program may utilize three (3) advanced aviation training devices for this course of training:

- 1) Elite Model RC - 1
- 2) Redbird Model LD, SD, FMX, MCX version 4.4

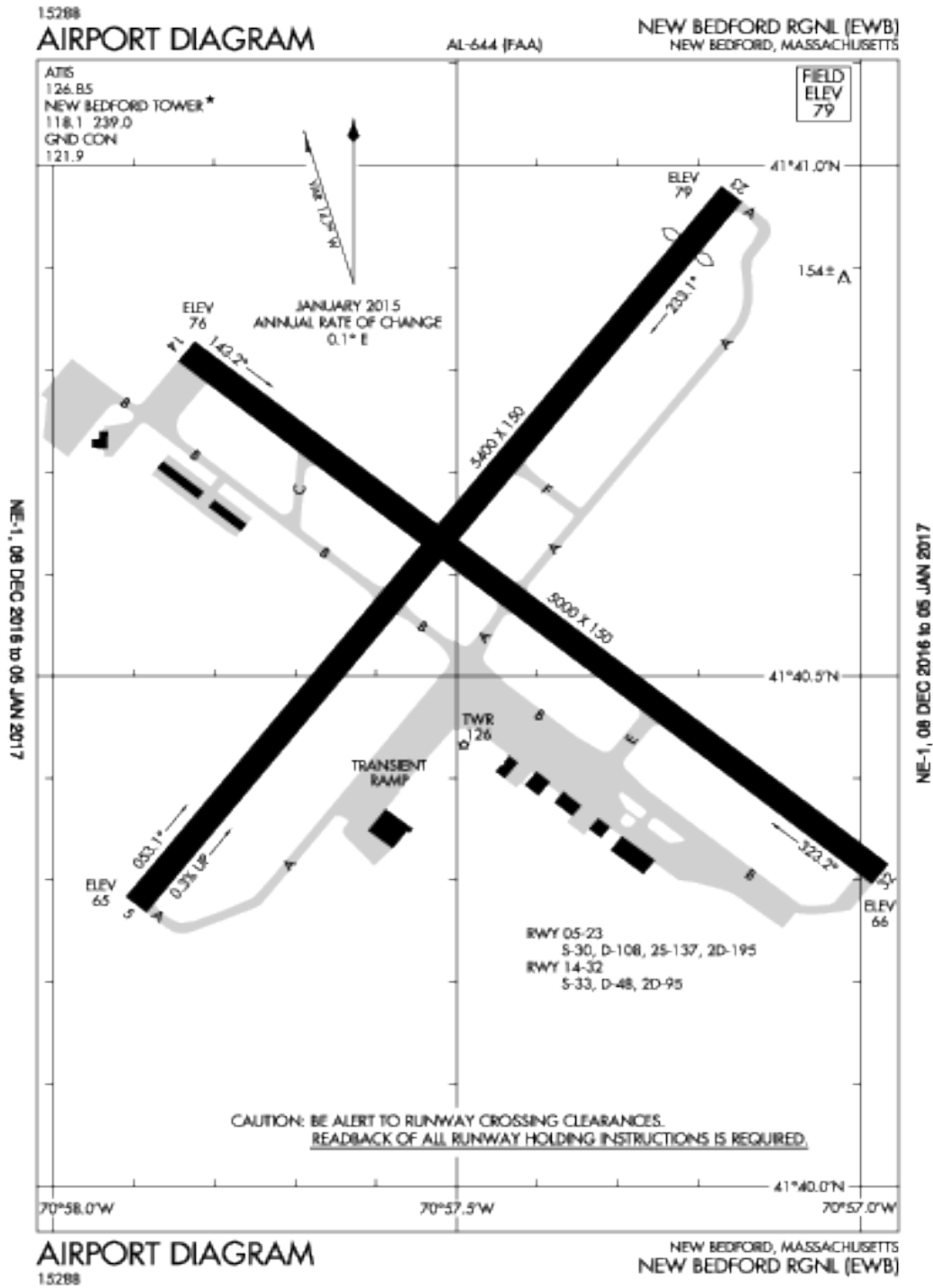
New Bedford Regional Airport

The New Bedford Regional Airport (KEWB) is the main flight training center for the Bridgewater State University aviation program. KEWB contains two (2) hard-surfaced runways and meets the requirements of 14 CFR Part 141.38 for both day and night flight operations. KEWB has an operational control tower that is staffed from 0700 – 2200 local time. The airport has operable ILS, LOC, LOC/BC, and GPS approaches. Maintenance service is available from 0700 – 1700 and on call during evening and night flight operations. Fuel service is available 0700 – 2000 daily, on call at other times.

Training Airports

All airports used for training operations meet the requirements of 14 CFR Part 141.38. Guidance for use of these airports is provided for flight instructors and students via the Approved Airports listing in the Bridgewater State University Aviation Operations Manual. The Chief Flight Instructor or his/her designee may approve the use of any public-use airport listed in the current Chart Supplement.

New Bedford Regional (KEWB) Airport Diagram



Flight Briefing Area

The main flight briefing area is centrally located within the operations building and measures 22' by 33'. It is equipped with briefing tables, chairs, cubicles (equipped with dry erase boards), a computer-based weather information station that provides textual and graphic weather reports and forecasts, and a landline phone connecting to a FSS Briefer. The room can accommodate up to 40 persons. There is a partition between the briefing area and the pilot lounge area (described below) that when removed allows for a 44' by 33' space that can be used for large meetings.

Pilot Lounge Area

The pilot lounge area contains beverage and snack vending machines and accommodates up to 15 persons. The room measures 22' by 16'.

Classroom Area

The classroom area is located at the southeast corner of the facility, and is accessible from either the main facility entrance or from the rear of the classroom on the rearward side of the building. The classroom measures 23' by 34' and accommodates up to 50 persons. The room is equipped with tables, chairs, and dry erase boards.

AATD Rooms

Two rooms measuring 16' by 22' house three AATD units.

Administrative Offices

The facility contains multiple administrative offices. Measuring 9' by 11', 9' by 14', 12' by 18', 14' by 24' or 18' by 24', each can accommodate (5) to (10) persons, respectively.

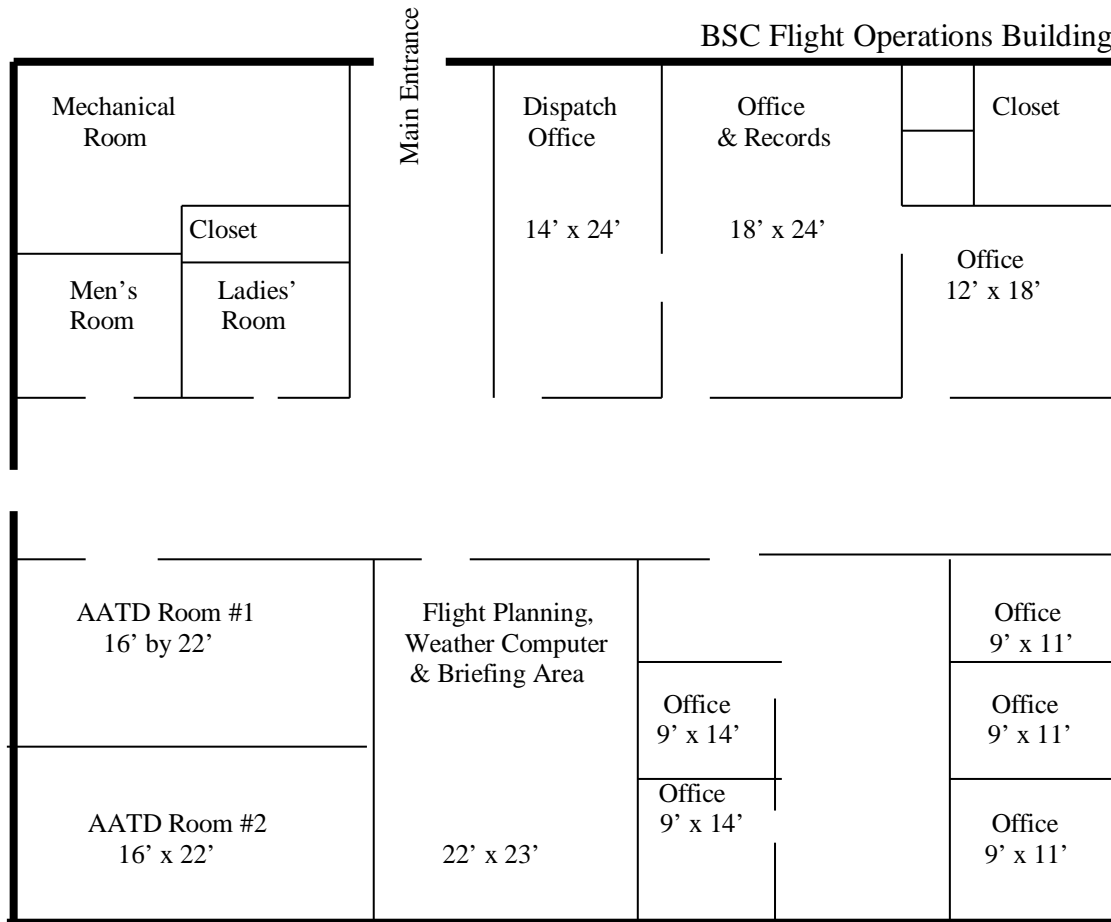
Ground Training Aids

- ⊕ Overhead projector with audio/visual capability
- ⊕ Computer terminal including internet access
- ⊕ Video projector with DVD capability
- ⊕ Ceiling-mounted video projector unit
- ⊕ Wall-mounted dry-erase board
- ⊕ Aeronautical charts, publications, and aircraft components for training purposes only
- ⊕ Resource library

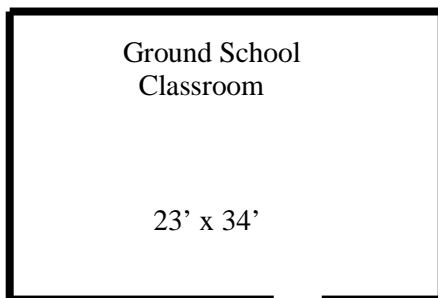
NOTE

All classrooms and administrative areas comply with current local building, health and sanitation codes. All rooms are enclosed and easily accessible, and provide a clean instructional and operational environment free from outside distractions.

Aviation Training Center Diagram



Not to Scale



PART II

COURSE MANUAL

INSTRUMENT RATING COURSE -
AIRPLANE

INSTRUMENT TRAINING COURSE SYLLABUS

Table of Contents

PERSONNEL.....	16
CHIEF FLIGHT INSTRUCTOR.....	16
CHIEF GROUND INSTRUCTOR.....	16
ASSISTANT CHIEF FLIGHT INSTRUCTOR.....	16
ASSISTANT CHIEF GROUND INSTRUCTOR.....	16
GROUND INSTRUCTORS.....	16
FLIGHT INSTRUCTORS.....	16
STUDENT INFORMATION.....	17
COURSE ENROLLMENT.....	17
COMPLETION STANDARDS FOR GRADUATION.....	17
LESSON DESCRIPTION AND STAGES OF TRAINING.....	17
TESTS AND CHECKS.....	17
COURSE INTRODUCTION.....	18
COURSE ELEMENTS.....	19
GROUND TRAINING.....	19
USING THE GROUND LESSONS.....	19
STAGE CHECKS.....	19
TEXTBOOKS/MULTI-MEDIA PRESENTATIONS.....	19
GROUND TRAINING SYLLABUS.....	20
COURSE OBJECTIVES.....	21
COURSE COMPLETION STANDARDS.....	21
TIME ALLOCATION TABLE.....	22
STAGE I.....	23
STAGE II.....	33
STAGE III.....	44
FLIGHT TRAINING SYLLABUS.....	52
COURSE OBJECTIVES.....	52
COURSE COMPLETION STANDARDS.....	52
TIME ALLOCATION TABLE.....	54
STAGE I.....	55
STAGE II.....	68
STAGE III.....	82

PERSONNEL

CHIEF FLIGHT INSTRUCTOR

The Chief Flight Instructor for this course is Evan Cushing, 2744804CFI. The Chief Flight Instructor meets the requirements of 14 CFR 141.35(e) and is designated by letter.

CHIEF GROUND INSTRUCTOR

The Chief Ground Instructor for this course is Evan Cushing, 2744804CFI. The Chief Ground Instructor meets the requirements of 14 CFR 141.35(e) and is designated by letter. Whenever a Chief or Assistant Chief Ground Instructor is either undesignated or unavailable, the Chief or Assistant Chief Flight Instructor(s) will assume these duties.

ASSISTANT CHIEF FLIGHT INSTRUCTOR

The Assistant Chief Flight Instructors for this course are Loren Herren, 2732117CFI and Christi Cushing, 3577516CFI. The Assistant Chief Flight Instructors meet the requirements of 14 CFR 141.36(e) and is designated in the Part 141 Operations Specifications.

ASSISTANT CHIEF GROUND INSTRUCTOR

The Assistant Chief Ground Instructors for this course are Loren Herren, 2732117CFI and Christi Cushing, 3577516CFI. The Assistant Chief Flight Instructors meet the requirements of 14 CFR 141.36(e) and is designated in the Part 141 Operations Specifications.

GROUND INSTRUCTORS

Each Ground Instructor assigned to this course must possess a valid Ground Instructor Certificate or a valid Flight Instructor Certificate with an Airplane rating. Other individuals may give instruction in this course if the Chief Flight Instructor (or if the Chief Flight Instructor is unavailable, the Assistant Chief Ground Instructor) finds that individual qualified to provide instruction. The instruction will be provided under the direct supervision of the Chief or Assistant Chief Instructor who is present at the facility when such instruction is given.

FLIGHT INSTRUCTORS

Each Flight Instructor assigned to this course must hold a Flight Instructor certificate with an Instrument-Airplane rating. Each CFI-I approved for training in this course will meet the requirements of 141.79 and be designated in the Part 141 Operations Specifications.

STUDENT INFORMATION

COURSE ENROLLMENT

To be eligible for enrollment in the ground or flight portion of this course, students must be enrolled and in good academic standing at Bridgewater State University, hold an FAA Private Pilot certificate and current FAA Third Class Medical Certificate.

COMPLETION STANDARD FOR GRADUATION

To be eligible for graduation from this course, students must be able to read, speak, write, and understand the English language, and satisfactorily complete the ground and flight training outlined in this syllabus. Students will demonstrate through oral and written exams and flight tests the knowledge and skill needed to pass the FAA Instrument Rating Airman Knowledge Test and Practical Test.

LESSON DESCRIPTION AND STAGES OF TRAINING

The Bridgewater State University Instrument Rating Course (ground) contains three (3) stages and a total of 28 lessons. The Flight portion of the course contains three (3) stages and 32 total lessons. Each lesson is fully described within the syllabus and includes objectives, completion standards, and measurable units of accomplishment. Stage objectives and completion standards are provided at the beginning of each stage within the syllabus.

TESTS AND CHECKS

The syllabus incorporates stage checks and end-of-course tests in accordance with CFR Part 141, Appendix B. The Chief Flight Instructor is responsible for ensuring that each student accomplishes the required stage checks and end-of-course tests in accordance with Bridgewater State University's approved training course. However, the Chief Instructor may delegate authority for stage checks and end-of-course tests to the Assistant Chief or Check Instructor.

COURSE INTRODUCTION

The Bridgewater State University Instrument Rating Course coordinates academic study assignments and flight training required for pilots learning to operate in a complex aviation environment. New subject matter is introduced during the ground lessons in multimedia formats, including:

1. Current FAA Instrument Rating Airman Certification Standards (ACS)
2. NACO Instrument Approach Procedure Charts (IAPs)
3. NACO IFR Low En Route Charts
4. NACO Departure Procedures (DPs)
5. NACO Standard Terminal Arrivals (STARs)
6. Current FAA Chart Supplement (Formerly Airport/Facility Directory)
7. Current FAR/AIM
8. Current FAA Pilot's Handbook of Aeronautical Knowledge (PHAK)
9. Current FAA Airplane Flying Handbook
10. Current FAA Instrument Flying Handbook (IFH)
11. Current FAA Instrument Procedures Handbook
12. Aeronautical Decision Making (AC 60-22)
13. General Aviation Controlled Flight Into Terrain Awareness (AC 61-134)
14. Role of Preflight Preparation (AC 61-84)
15. Pilot's Role in Collision Avoidance (AC 90-48)
16. Guidelines for Using GPS Equipment for IFR Operations (AC 90-84)
17. Risk Management Handbook
18. Crew Resource Management Training (AC 120-51)
19. FAA AC 00-45H Aviation Weather
20. FAA AC 00-6 Aviation Weather Services
21. Appropriate Pilot's Operating Handbook (POH)
22. Appropriate BSU Flight Standards Manual (FSM)
23. IFR Plotter and Manual
24. Multimedia presentations
25. Instructor/student discussions
26. Stage and end-of-course exams

Whenever possible and practical, ground lessons are completed in ground school just prior to the respective flight lessons outlined in the syllabus. Bridgewater State University may elect to present all of the ground lessons before the student is introduced to the airplane. If a significant amount of time lapses between ground and flight lessons, instructors are expected to conduct review training of essential material to ensure that the student has retained and can apply the previous material. Flight lessons should not be conducted until the related ground lesson has been completed.

In accordance with established FAA practices, this syllabus utilizes the building-block theory of learning, where each item taught must be presented on the basis of previously learned knowledge and skills. It is designed to coordinate academic support materials with the flight lessons.

COURSE ELEMENTS

The Bridgewater State University Instrument Rating Course is designed to be conducted as a combined ground and flight training program, but it may be divided into separate components. This course includes the most current FAA pilot certification requirements. The syllabus and support materials provide necessary information and present the course in a logical manner.

GROUND TRAINING

In accordance with 14 CFR FAR Part 141, ground school training is an integral part of pilot certification courses. The Bridgewater State University ground training syllabus has been designed to meet this requirement in both letter and spirit. This course coordinates the sequence of ground and flight events to maximize effectiveness of the academic knowledge and its application during flight events.

Lessons shall be conducted in the numerical order as listed in the ground and flight training segments of the syllabus. Flexibility for adapting to individual student needs and training situations is occasionally required, but the syllabus lesson sequence may be altered only with the prior approval of the Chief or Assistant Chief Ground Instructor. Any deviation should not disturb the course continuity or objective. Each lesson may be presented in one session or divided into multiple sessions, as necessary.

USING THE GROUND LESSONS

The Bridgewater State University Instrument Rating Course Ground lessons are best utilized by using all of the individual elements together in an organized approach as described in the syllabus. The syllabus contains cross-references which direct the user to the appropriate study materials for each lesson. Instructors are reminded to review the study assignment for the next lesson with their students.

STAGE CHECKS

Stage exams evaluate the student's understanding of the knowledge areas within a stage of training. Students must successfully complete each stage exam before progressing to the next stage. The Chief Instructor is responsible for the conduct of each stage check, and may designate authority for conducting the stage check to an Assistant Chief or Check Instructor, as necessary. This procedure provides close supervision of training, provides another opinion on the student's progress, and gives the Chief Instructor an opportunity to evaluate training effectiveness. Minimum passing score for any written stage or final exam for the purpose of earning Part 141 credit toward the Instrument Rating certificate is 80%.

TEXTBOOKS/MULTI-MEDIA PRESENTATIONS

Prior to each ground lesson, students are expected to study the assigned textbook(s) sections or chapters. The texts are the primary source for initial study and review and contain concise explanations of the fundamental concepts and ideas and are organized in a logical building-block sequence. Study of the assigned materials prior to the scheduled lesson will improve student preparation and reduce overall training time.

INSTRUMENT RATING GROUND COURSE

COURSE OVERVIEW

COURSE OBJECTIVE

The student will obtain the knowledge, risk management and skills necessary to meet the requirements for an Instrument Rating certificate with an Airplane category rating.

COURSE COMPLETION STANDARDS

The student must demonstrate through knowledge tests, flight tests, and appropriate records that he/she meets the knowledge, risk management and skill requirements necessary to obtain an Instrument Rating certificate with an Airplane category rating.

TRAINING SYLLABUS

The Bridgewater State University Instrument Rating syllabus meets all curriculum requirements of 14 CFR 141, Appendix C.

TRAINING COURSE

The Ground Training course contains three (3) stages and a total of 26 lessons.

INSTRUMENT RATING GROUND COURSE SYLLABUS

GROUND TRAINING COURSE OBJECTIVES

The student will obtain and demonstrate knowledge and aeronautical decision-making at a level that meets or exceeds FAA Instrument Rating Airman Certification Standard and which is required to pass the FAA Instrument Rating-Airplane Airman Knowledge test.

LESSON GRADING AND COMPLETION STANDARD

Each ground lesson is graded across three (3) elements; Knowledge (defined by the applicant's ability to demonstrate understanding of the task elements), Risk Management (defined by the applicant's ability to identify, assess and mitigate risks associated with the task) and Skill (defined by the applicant's ability to apply the skill necessary to achieve the listed objective).

GROUND TRAINING COMPLETION STANDARDS

The student must demonstrate through written, oral and practical examination that s/he has obtained the knowledge (defined by the applicant's ability to demonstrate understanding of the task elements), risk management ability (defined by the applicant's ability to identify, assess and mitigate risks associated with the task) and skill (defined by the applicant's demonstrated ability to apply the skill necessary to achieve the listed objective).at a level that meets or exceeds FAA Instrument Rating - Airplane Airman Certification Standard and which is required to pass the FAA Instrument Rating-Airplane Airmen Knowledge test.

**INSTRUMENT RATING GROUND COURSE
TIME ALLOCATION TABLE**

		STAGE I	
LESSON	SUBJECT	HOURS	
		Training	Exam
I	Pilot Qualifications, Human Factors/Physiology	1.0	
II	Aircraft Flt Instrmts, Systems Related to IFR Ops	1.0	
III	Attitude Instrument Flying	1.0	
IV	Navigation Equipment	1.0	
V	FARs and Instrument Flying	1.0	
VI	Airports, Airspace, and Flight Information	1.0	
VII	Air Traffic Control System	1.0	
VIII	Air Traffic Control Clearances	1.0	
IX	Stage I Exam		1.0
Stage I Totals		8.0	1.0
		STAGE II	
LESSON	SUBJECT	HOURS	
		Training	Exam
X	Departure Procedures	1.0	
XI	En Route Procedures	1.0	
XII	Holding Procedures	1.0	
XIII	Arrival Procedures	1.0	
XIV	Instrument Approach Charts	1.0	
XV	Instrument Approach Procedures	1.0	
XVI	Non-Precision Approaches	1.0	
XVII	RNAV Approaches	1.0	
XVIII	Precision Approaches	1.0	
XIX	Stage II Exam		1.0
Stage II Totals		9.0	1.0
		STAGE III	
LESSON	SUBJECT	HOURS	
		Training	Exam
XX	Meteorology	2.0	
XXI	Weather Information I	3.0	
XXII	Weather Information II	1.0	
XXIII	Emergency Procedures	1.0	
XXIV	Flight Planning	1.0	
XXV	Stage III Exam		1.0
XVI	Final Exam		2.0
Stage III Totals		8.0	3.0
Course Totals		25.0	5.0

STAGE I

STAGE OBJECTIVES

During this stage the student will obtain and demonstrate knowledge and risk management ability associated with instrument pilot qualifications, principles of instrument flight including the use, capabilities and limitations of flight instruments and navigation systems, use of IFR publications for flight planning and execution, the air traffic control system as it relates to IFR operations, and Federal Aviation Regulations pertinent to instrument flying.

STAGE COMPLETION STANDARDS

This stage is complete when the student has completed the Stage I written exam with a minimum score of 80%.

STAGE I

GROUND LESSON 1

PILOT QUALIFICATIONS, HUMAN FACTORS / PHYSIOLOGY

LESSON REFERENCES Instrument Flying Handbook Ch. 1; AIM Ch. 8; PHAK Chs. 16, 17, Risk Management Handbook, ADM (AC 60-22), CRM (AC 120-51), FAR Part 61

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

The student will be introduced to instrument pilot qualifications, and increase their understanding of human factors related to aviation in the IFR environment.

CONTENT

- ___ Instrument Rating Requirements
- ___ IFR Pilot Privileges and Limitations
- ___ Flight Experience and Logbook Requirements
- ___ Defining Risk Management
- ___ Human Behavior
- ___ Identifying Hazards and Mitigating Risk
- ___ Risk Assessment Methods
- ___ Aeronautical Decision Making Models
- ___ Single Pilot Resource Management

AVIATION PHYSIOLOGY

- ___ Fitness for Flight
- ___ Stress and Fatigue
- ___ Alcohol and Drug Effects
- ___ Spatial Disorientation
- ___ Vestibular Disorientation
- ___ Hypoxia and Hyperventilation

COMPLETION STANDARDS

Through in-class oral and/or written quizzing students will exhibit satisfactory knowledge, risk management, and skills associated with human factors, risk management and aeronautical decision making.

STUDY ASSIGNMENT

Instrument Flying Handbook Ch. 3; PHAK Ch. 7, Advanced Avionics Handbook, Ch. 1, 2.

STAGE I

GROUND LESSON 2

AIRCRAFT FLIGHT INSTRUMENTS, SYSTEMS RELATED TO IFR OPS

LESSON REFERENCES

Instrument Flying Handbook Ch. 3; PHAK
Ch. 7, Advanced Avionics Hdbk Ch 1, 2

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

Students will gain an understanding of the principles and operational use of flight instruments and their systems, including limitations and common errors of each instrument.

CONTENT

Gyroscopic Instruments

- ___ Attitude Indicator
- ___ Heading Indicator
- ___ Turn Coordinator
- ___ Instrument Checks
- ___ System and Instrument Errors

Magnetic Compass

- ___ Principle of Operation
- ___ Compass Errors
- ___ Instrument Check

Pitot-Static Instruments

- ___ System Operation
- ___ Airspeed Indicator
- ___ Altimeter
- ___ Vertical Speed Indicator
- ___ System and Instrument Errors
- ___ Instrument Check

Electronic Flight Displays

- ___ System Operation
- ___ Primary Flight Display
- ___ Multi-Function Display

- ___ System Failures and Standby Instruments

Anti-Ice and De-Ice Systems

- ___ Operational Characteristics and Limitations
- ___ Considerations of Pilot and Equipmt for Flight into Known/Forecast Icing Conditions

COMPLETION STANDARDS

Through in-class oral and/or written quizzing students will exhibit satisfactory knowledge, risk management, and skills associated with aircraft flight instruments and systems related to IFR operations.

STUDY ASSIGNMENT

Instrument Flying Handbook Ch. 4, Sections 1 & 2, Ch. 5, Section 1; PHAK Ch. 7

STAGE I
GROUND LESSON 3
ATTITUDE INSTRUMENT FLYING

LESSON REFERENCES

Instrument Flying Handbook Ch. 4,
Sections 1 & 2; Ch. 5, Section 1; PHAK
Ch. 7

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

Students are introduced to attitude instrument flying via instrument cross-check, interpretation, and aircraft control. Students will gain an understanding of the instrument cockpit check, system failures, partial panel flying, and recovery from unusual flight attitudes.

CONTENT

Basic Instrument Skills

- ___ Instrument Cross-Check
- ___ Instrument Interpretation
- ___ Aircraft Control
- ___ Control and Performance Method
- ___ Primary and Supporting Method

Basic Flight Maneuvers

- ___ Straight and Level
- ___ Standard Rate Turns
- ___ Airspeed Changes
- ___ Constant Airspeed Climbs and Descents
- ___ Constant Rate Climbs and Descents
- ___ Level-offs from Climbs and Descents
- ___ Stalls

Instrument Failures

- ___ Gyroscopic Instrument/System Failure
- ___ Pitot/Static Instrument/System Failure
- ___ Compass Turns and Timed Turns
- ___ Pitot-Static Instrument Failures
- ___ Electronic Instrument Failures
- ___ ATC Reporting and Assistance

COMPLETION STANDARDS

Through in-class oral and/or written quizzing students will exhibit satisfactory knowledge, risk management, and skills associated with attitude instrument flying.

STUDY ASSIGNMENT

Instrument Flying Handbook Ch. 7;
AIM Ch. 1

**STAGE I
GROUND LESSON 4
NAVIGATION EQUIPMENT**

LESSON REFERENCES

Instrument Flying Handbook Ch. 7;
AIM Ch. 1

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

Students will gain an understanding of the use and limitations of land and satellite-based navigation systems.

CONTENT

Navigation System Components

- ___ Navigation Radio
- ___ Omni-Bearing Selector (OBS)
- ___ Horizontal Situation Indicator (HSI)
- ___ GPS Receiver and Display
- ___ Automatic Direction Finder (ADF)
- ___ Radio Magnetic Indicator (RMI)
- ___ Distance Measuring Equipment (DME)

VOR Navigation

- ___ VOR/VORTAC Facilities
- ___ Accuracy Checks
- ___ Instrument Interpretation
- ___ Reverse Sensing Prevention
- ___ VOR Limitations
- ___ Intercepting and Tracking
- ___ Time, Speed, and Distance to Station
- ___ DME Arcs

NDB/ADF Navigation

- ___ Non-Directional Radio Beacons
- ___ Interpreting ADF Indications
- ___ Intercepting a Bearing or Course
- ___ Tracking and Homing
- ___ ADF Limitations

Localizer Navigation

- ___ Localizer Facility
- ___ Localizer Indications
- ___ Reverse Sensing Prevention
- ___ Localizer Service Limitations

Area Navigation (RNAV)

- ___ Global Positioning System (GPS)
- ___ RAIM capability and limitations
- ___ Wide Area Augmentation System (WAAS)
- ___ Inertial Navigation System (INS)
- ___ Long Range Navigation (LORAN)

COMPLETION STANDARDS

Through in-class oral and/or written quizzing students will exhibit satisfactory knowledge, risk management, and skills associated with land and satellite-based navigation aids.

STUDY ASSIGNMENT

FARs Part 1, 61, 67, 91; NTSB 830;
AIM Chs. 1 – 9 for Instrument

**STAGE I
GROUND LESSON 5
FEDERAL AVIATION REGULATIONS**

LESSON REFERENCES

FARs Part 1, 61, 67, 91; NTSB 830;
AIM Chs. 1 – 9 for Instrument

STUDY ASSIGNMENT

Instrument Flying Handbook Ch. 8;
AIM Ch. 3; PHAK Ch. 13, 14;
AC 150-5340-1J

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

Students will obtain an understanding of the Federal Aviation Regulations and sections of the AIM pertinent to instrument flight, and review NTSB 830.

CONTENT

Federal Aviation Regulations

- ___ Part 1
- ___ Part 61
- ___ Part 67
- ___ Part 91
- ___ Part 830 (NTSB)

Aeronautical Information Manual

- ___ AIM (Aeronautical Information Manual) Overview
- ___ Pilot/Controller Glossary
- ___ NASA Aviation Safety System Form

COMPLETION STANDARDS

Through in-class oral and/or written quizzing students will exhibit satisfactory knowledge, risk management, and skills associated with FARs related to instrument flight.

**STAGE I
GROUND LESSON 6
AIRPORTS, AIRSPACE,
FLIGHT INFORMATION**

LESSON REFERENCES

Instrument Flying Handbook Ch. 8;
AIM Ch. 3; PHAK Ch. 13, 14;
AC 150-5340-1J

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

Students will become familiar with the airport environment, focusing on safe and efficient aircraft operations including runway incursion avoidance, collision avoidance, and wind shear avoidance. The student will increase knowledge of the National Airspace System, and sources of flight information.

CONTENT

Airport Environment

- ___ Runway & Taxiway Signs, Markings, and Lighting
- ___ Lighting Systems
- ___ Visual Glide Slope Indicators
- ___ Runway Incursion Avoidance
- ___ Collision Avoidance
- ___ Wind Shear Avoidance Procedures

Airspace

- ___ National Airspace System
- ___ Types of Airspace/Airspace Classes
- ___ Charting Symbology
- ___ Operating Rules, Pilot Certifications, and Aircraft Equipment
- ___ Special Use, Restricted, and Other Airspace
- ___ Temporary Flight Restrictions

Flight Information

- ___ AIM
- ___ Chart Supplement
- ___ Notices to Airmen (NOTAMS)
- ___ Advisory Circulars (ACs)

COMPLETION STANDARDS

Through in-class oral and/or written quizzing students will exhibit satisfactory knowledge, risk management, and skills associated with airports, airspace, and sources of flight information.

STUDY ASSIGNMENT

Instrument Flying Handbook Ch. 9;
AIM Chap. 4

**STAGE I
GROUND LESSON 7
AIR TRAFFIC CONTROL SYSTEM**

LESSON REFERENCES

Instrument Flying Handbook Ch. 9;
AIM Chap. 4

STUDY ASSIGNMENT

Instrument Flying Handbook Ch. 10, Appendix
A (Clearance Shorthand); AIM Chap. 4, 5

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

The student will become familiar with the various services available through the air traffic control system, including the use of enroute and terminal facilities for IFR flight operations.

CONTENT

Air Traffic Control System

- ___ Air Route Traffic Control Center (ARTCC)
- ___ Processing the IFR Flight Plan
- ___ Enroute Traffic Separation
- ___ Weather Information
- ___ ATIS
- ___ Clearance Delivery
- ___ Control Tower
- ___ Departure and Approach Control
- ___ Radar Service for VFR Aircraft
- ___ Traffic Advisories
- ___ Flight Service Stations
- ___ Safety Alerts
- ___ Emergency Assistance

COMPLETION STANDARDS

Through in-class oral and/or written quizzing students will exhibit satisfactory knowledge, risk management, and skills associated with IFR operations in the ATC system.

**STAGE I
GROUND LESSON 8
ATC CLEARANCES**

LESSON REFERENCES

Instrument Flying Handbook Ch. 10,
Appendix A (Clearance Shorthand); AIM
Chap. 4, 5

STUDY ASSIGNMENT

Review all texts as necessary to prepare for
Stage I exam.

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

The student will become familiar with various
ATC clearances, clearance procedures and
limitations, writing clearances in shorthand,
and proper clearance read-backs.

CONTENT

ATC Clearances

- ___ Pilot Responsibilities
- ___ IFR Flight Plan and ATC Clearance
- ___ Composite Flight Plan
- ___ Elements of the IFR Clearance (Format)
- ___ Abbreviated IFR Departure Clearances
- ___ Full Route Clearance
- ___ Cruise Clearance
- ___ VFR On Top
- ___ VFR Restrictions to an IFR Clearance
- ___ Pop-up or “Local” IFR Clearances
- ___ Hold For Release
- ___ Clearance Void Time
- ___ Approach Clearance
- ___ Clearance Readback
- ___ Clearance Shorthand

COMPLETION STANDARDS

Through in-class oral and/or written
quizzing students will exhibit satisfactory
knowledge, risk management, and skills
associated with IFR clearances.

**STAGE I
GROUND LESSON 9
STAGE I EXAM**

LESSON REFERENCES

All material listed as references
for lessons 1 – 8.

RECOMMENDED SEQUENCE

1. Testing
2. Critique

LESSON OBJECTIVE

The student will be tested on their level of
knowledge on the topics presented in lessons
1 – 8.

CONTENT

Content of lessons 1 – 8.

COMPLETION STANDARDS

This lesson and stage are complete, and the
student eligible to progress to the next stage
of the course, when the student has
completed the Stage I Exam with a minimum
score of 80%.

STUDY ASSIGNMENT

Instrument Flying Handbook, Ch. 10, NACO
Instrument Approach Charts, DPs, AIM Ch. 5,
Section 2

STAGE II

STAGE II OBJECTIVES

During this stage, the student will learn proper methods for executing IFR departures, en route, holding, arrival, and instrument approach procedures. The student will demonstrate an increase in knowledge of FARs applicable to Instrument Rating operations.

STAGE II COMPLETION STANDARDS

This stage is complete when the student has demonstrated an understanding of the knowledge areas by completing the Stage II written exam with a minimum passing score of 80%.

**STAGE II
GROUND LESSON 10
IFR DEPARTURES**

LESSON REFERENCES

Instrument Flying Handbook, Ch. 10; NACO
Instrument Approach Charts, DPs;
AIM Ch. 5, Section 2

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

Students are introduced to the format used for presenting navigational information on departure charts, and learn to apply their knowledge in the execution of departure procedures.

CONTENT

Departure Charts

- ___ Obtaining Charts
- ___ Departure Standards
- ___ Instrument Departure Procedures (DPs)
- ___ Pilot Nav DP
- ___ Vectored DP

Departure Procedures

- ___ Pilot Responsibilities
- ___ Takeoff Minimums
- ___ Climb Gradients and Airplane Performance
- ___ Departure Considerations
- ___ Graphic and Textual Departure Procedures
- ___ Radar Departures
- ___ Non-Radar Departures
- ___ VFR Departures

COMPLETION STANDARDS

Through in-class oral and/or written quizzing students will exhibit satisfactory knowledge, risk management, and skills associated with IFR departures.

STUDY ASSIGNMENT

Instrument Flying Handbook, Ch. 8, 10; NACO
Instrument Approach Charts, IFR Low En Route
charts; AIM Ch. 5, Section 2;
FARs Part 91.169 – 91.187

**STAGE II
GROUND LESSON 11
ENROUTE PROCEDURES**

LESSON REFERENCES

Instrument Flying Handbook, Ch. 8, 10; NACO Instrument Approach Charts, IFR Low En Route charts; AIM Ch. 5, Section 2; FARs Part 91.169 – 91.187

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

Students are introduced to the format used for presenting navigational information on en route and area charts, and learn to execute IFR en route procedures.

CONTENT

Enroute/Area Charts

- ___ Enroute Charts
- ___ Front Panel
- ___ Navigation Aids
- ___ Federal “Victor” Airways
- ___ Communications
- ___ Airports
- ___ Airspace
- ___ Area Charts

Enroute Operations

- ___ Enroute Radar Procedures
- ___ 91.181 Course To Be Flown
- ___ 91.183 IFR Communication
- ___ Reporting Points and Procedures
- ___ Enroute GPS Navigation
- ___ Special Use Airspace
- ___ IFR Cruising Altitudes
- ___ Descent from the Enroute Segment

COMPLETION STANDARDS

Through in-class oral and/or written quizzing students will exhibit satisfactory knowledge, risk management, and skills associated with IFR en route procedures.

STUDY ASSIGNMENT

Instrument Flying Handbook, Ch. 10; AIM Ch. 5, Section 3

**STAGE II
GROUND LESSON 12
HOLDING PROCEDURES**

LESSON REFERENCES

Instrument Flying Handbook, Ch. 10;
AIM Ch. 5, Section 3

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

The student will develop a working knowledge of holding procedures, including types, entry, timing, communication, and lost communication scenarios.

CONTENT

Holding Procedures

- ___ Standard and Non-Standard Holds
- ___ ATC Holding Instructions
- ___ Expect Further Clearance Time (EFC)
- ___ Aircraft Configuration
- ___ Hold Entry Types
- ___ Visualizing the Entry
- ___ Lost Communications Procedures

COMPLETION STANDARDS

Through in-class oral and/or written quizzing students will exhibit satisfactory knowledge, risk management, and skills associated with IFR holding procedures.

STUDY ASSIGNMENT

Instrument Flying Handbook, Ch. 10;
AIM Chap. 5, Section 4;
NACO Instrument Approach Charts, Arrival Charts

STAGE II
GROUND LESSON 13
ARRIVAL PROCEDURES

LESSON REFERENCES

Instrument Flying Handbook, Ch. 10;
AIM Chap. 5, Section 4;
NACO Instrument Approach Charts, Arrival
Charts

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

The student will develop a working knowledge
of arrival charts and procedures.

CONTENT

Arrival Charts

- ___ Standard Terminal Arrival Route (STAR)
- ___ Interpreting STARs
- ___ Vertical Profile Planning

Arrival Procedures

- ___ Preparation for Arrival
- ___ Reviewing the Instrument Approach
- ___ Altitude
- ___ Airspeed

COMPLETION STANDARDS

Through in-class oral and/or written
quizzing students will exhibit satisfactory
knowledge, risk management, and skills
associated with IFR arrival procedures.

STUDY ASSIGNMENT

Instrument Flying Handbook, Ch. 8, 10;
AIM Chap. 5, Section 4, 5;
NACO Instrument Approach Charts

STAGE II
GROUND LESSON 14
INSTRUMENT APPROACH PROCEDURES

LESSON REFERENCES

Instrument Flying Handbook, Ch. 8, 10;
AIM Chap. 5, Section 4, 5;
NACO Instrument Approach Charts

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

The student will develop a working knowledge of instrument approach charts and procedures.

CONTENT

Approach Segments

- Initial Approach Segment
- Intermediate Approach Segment
- Final Approach Segment
- Missed Approach Segment

Instrument Approach Charts

Chart Depiction

- Heading Section
- Minimum Safe/Sector Altitude
- Plan View
- Profile View
- Step Down Fix and VDP
- Final Approach Point or Fix
- Missed Approach Icons
- Landing Minima
- Aircraft Approach Categories
- Minimum Descent Requirements
- Visibility Requirements
- Inoperative Components

- Heading
- Minimum Safe/Sector Altitude
- Plan View
- Profile View
- Step Down Fix and VDP
- Final Approach Fix or Point
- Missed Approach Icons
- Landing Minima
- Aircraft Approach Categories
- Minimum Descent Requirements
- Visibility Requirements
- Inoperative Components

COMPLETION STANDARDS

Through in-class oral and/or written quizzing students will exhibit satisfactory knowledge, risk management, and skills associated with instrument approach procedures.

STUDY ASSIGNMENT

Instrument Flying Handbook, Ch. 8, 10:
AIM, Chap. 5, Sections 4, 5

STAGE II
GROUND LESSON 15
PREPARING FOR THE APPROACH

LESSON REFERENCES

Instrument Flying Handbook, Ch. 8, 10:
AIM, Ch. 5, Sections 4, 5

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

The student will learn how to make the transition from the enroute to the approach segment, and increase his/her understanding of instrument approach procedures.

CONTENT

Approach Procedures

- ___ Preparing for the Approach
- ___ IAP Review
- ___ Navigation Aid Settings
- ___ Approach Clearance
- ___ Executing the Approach
- ___ Straight-In Approaches
- ___ Circling Approaches
- ___ Sidestep Maneuvers
- ___ ATC Radar During Approaches
- ___ Course Reversals
- ___ Timed Approaches from a Holding Fix
- ___ Final Approach
- ___ Missed Approach
- ___ Visual and Contact Approaches
- ___ Closing the IFR Flight Plan

COMPLETION STANDARDS

Through in-class oral and/or written quizzing students will exhibit satisfactory knowledge, risk management, and skills associated with IAP preparation techniques and procedures.

STUDY ASSIGNMENT

Instrument Flying Handbook, Ch. 7, 10;
AIM, Ch. 1, Ch. 5, Section 4;
PHAK Ch. 15; NACO Instrument Approach
Procedure charts

STAGE II
GROUND LESSON 16
NON-PRECISION APPROACHES

LESSON REFERENCES

Instrument Flying Handbook, Ch. 7, 10;
AIM, Ch. 1, Ch. 5, Section 4;
PHAK Ch. 15; NACO Instrument Approach
Procedure charts

PHAK Ch. 15; NACO Instrument Approach
Procedure charts

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

The student will learn how to conduct non-precision instrument approach procedures.

CONTENT

- ___ Off-Airport Facility
- ___ On-Airport Facility
- ___ VOR/DME Approach Procedures
- ___ Flying the VOR Approach
- ___ Localizer Approach
- ___ Localizer/Back Course Approach
- ___ LDA, SDF, and MLS Approaches

COMPLETION STANDARDS

Through in-class oral and/or written quizzing students will exhibit satisfactory knowledge, risk management, and skills associated with non-precision instrument approach procedures.

STUDY ASSIGNMENT

Instrument Flying Handbook, Ch. 7, 10;
AIM, Ch. 1, Ch. 5, Section 4;

STAGE II
GROUND LESSON 17
RNAV APPROACHES

LESSON REFERENCES

Instrument Flying Handbook, Ch. 7, 10;
AIM, Ch. 1, Ch. 5, Section 4;
PHAK Ch. 15; NACO Instrument Approach
Procedure charts

STUDY ASSIGNMENT

Instrument Flying Handbook, Ch. 7, 10;
AIM, Ch. 1, Ch. 5, Section 4;

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

The student will learn how to conduct
RNAV instrument approach procedures.

CONTENT

RNAV Approach Procedures

- ___ Approach Design
- ___ GPS Approach Types
- ___ Lateral/Vertical Navigation
- ___ GPS Equipment Requirements
- ___ GPS Navigation Database
- ___ Special GPS Considerations
- ___ GPS Overlay Approaches
- ___ GPS Stand-Alone Approaches
- ___ Vectors to a GPS Approach

COMPLETION STANDARDS

Through in-class oral and/or written
quizzing students will exhibit satisfactory
knowledge, risk management, and skills
associated with RNAV approach
procedures.

**STAGE II
GROUND LESSON 18
PRECISION APPROACHES**

LESSON REFERENCES

Instrument Flying Handbook, Ch. 7, 10;
AIM, Ch. 1, Ch. 5, Section 4;

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

The student will learn how to conduct precision instrument approach procedures.

CONTENT

- ___ ILS Categories and Minima
- ___ ILS Equipment Components
- ___ Inoperative Components
- ___ Straight-In ILS Approach
- ___ Vectors to Final on the ILS
- ___ ILS Approach with Course Reversal
- ___ ILS/DME Approach
- ___ ILS Approaches to Parallel Runways
- ___ Flying the ILS

COMPLETION STANDARDS

Through in-class oral and/or written quizzing students will exhibit satisfactory knowledge, risk management, and skills associated with ILS and LOC approach procedures.

STUDY ASSIGNMENT

All texts as necessary in preparation for Stage II exam.

**STAGE II
GROUND LESSON 19
STAGE II EXAM**

RECOMMENDED SEQUENCE

1. Testing
2. Critique

LESSON OBJECTIVE

The student will be tested on their level of knowledge on the topics presented in lessons 10- 18.

CONTENT

All material presented in lessons 10 – 18.

COMPLETION STANDARDS

This lesson and stage are complete, and the student eligible to progress to the next stage of the course, when the student has completed the Stage I Exam with a minimum score of 80%.

STUDY ASSIGNMENT

PHAK Ch. 11, 12; AIM Ch. 7; AC 00-6A
Aviation Weather

STAGE III

STAGE III OBJECTIVES

During this stage, the student will increase his/her knowledge of weather, including methods of obtaining and analyzing information, conditions, and weather patterns before and during flight. The student will learn IFR flight planning, emergency procedures, and increase his/her understanding of aeronautical decision making.

STAGE III COMPLETION STANDARDS

This stage is complete when the student has demonstrated an understanding of the knowledge areas by completing the Stage III written exam with a minimum passing score of 80%.

**STAGE III
GROUND LESSON 20
METEOROLOGY**

LESSON REFERENCE:

PHAK Ch. 11, 12; AIM Ch. 7; AC 00-6
Aviation Weather

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

STUDY ASSIGNMENT

PHAK Ch. 11, 12;
AIM Chap. 7, Section 1
AC 00-45, Aviation Weather Services

LESSON OBJECTIVE

The student will increase knowledge of weather patterns and hazards related to IFR flight operations.

CONTENT

- ___ Atmosphere/Temperature
- ___ Moisture/Precipitation
- ___ Weather System Formation
- ___ Pressure and Wind Patterns
- ___ Cloud Types and Hazards
- ___ Air masses and Fronts
- ___ Thunderstorms and Microbursts
- ___ Turbulence
- ___ Wind Shear and Avoidance
- ___ Low Visibility
- ___ Fog
- ___ Cold Weather Operations
- ___ Types and Hazards of Icing/Frost

COMPLETION STANDARDS

Through in-class oral and/or written quizzing students will exhibit satisfactory knowledge, risk management, and skills associated with obtaining, understanding and applying weather information for a flight under IFR.

**STAGE III
GROUND LESSON 21
WEATHER INFORMATION I**

LESSON REFERENCE

PHAK Ch. 11, 12;
AIM Chap. 7, Section 1
AC 00-45, Aviation Weather Services

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

The student will increase the ability to obtain and interpret textual weather information.

CONTENT

Weather Reports and Forecasts

- ___ Aviation Routine Weather Report
- ___ Radar Weather Reports
- ___ Pilot Weather Reports
- ___ Terminal Aerodrome Forecast
- ___ Aviation Area Forecast
- ___ Airmet, Sigmet, Convective Sigmet
- ___ Winds and Temperatures Aloft
- ___ Severe Weather Reports and Forecasts

Graphic Reports

- ___ Surface Analysis Chart
- ___ Weather Depiction Chart
- ___ Radar Summary Chart
- ___ Satellite Weather Photos
- ___ Composite Moisture Stability Chart
- ___ Constant Pressure Analysis Chart
- ___ Observed Winds and Temps Aloft

Graphic Forecasts

- ___ Low-Level Significant Weather Prog
- ___ Convective Outlook Chart
- ___ Forecast Winds and Temps Aloft
- ___ Volcanic Ash Forecast Transport and Dispersion Chart

COMPLETION STANDARDS

Through in-class oral and/or written quizzing students will exhibit satisfactory knowledge, risk management, and skills associated with obtaining, understanding and applying weather information for a flight under IFR.

STUDY ASSIGNMENT

PHAK Ch. 12;
AIM Chap. 7, Section 1
AC 00-45, Aviation Weather Services

**STAGE III
GROUND LESSON 22
WEATHER INFORMATION II**

LESSON REFERENCE:

Instrument Flying Handbook, Ch. 10;
PHAK Ch. 12;
AIM Chap. 7, Section 1;
AC 00-45, Aviation Weather Services

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

The student will increase his/her ability to obtain and utilize pre-flight and en route sources of weather information.

CONTENT

Preflight Weather Sources

- ___ Flight Service Station
- ___ Preflight Weather Briefing
- ___ Telephone Information Briefing Service (TIBS)
- ___ Direct User Access Terminal System (DUATS)
- ___ Private Industry Sources
- ___ Internet Sources

In-Flight Information Sources

- ___ Flight Service Stations
- ___ Center Weather Advisories
- ___ Hazardous In-Flight Weather Advisory Service (HIWAS)
- ___ Transcribed Weather Broadcasts
- ___ Weather Radar Services
- ___ Automated Weather Observing System (AWOS), AWOS – A, 1, 2, 3

COMPLETION STANDARDS

Through in-class oral and/or written quizzing students will exhibit satisfactory knowledge, risk management, and skills associated with obtaining, understanding and applying weather information.

STUDY ASSIGNMENT

Instrument Flying Handbook, Ch. 11;
AIM Ch. 6

**STAGE III
GROUND LESSON 23
EMERGENCY PROCEDURES**

LESSON REFERENCE:

Instrument Flying Handbook, Ch. 11;
PHAK Ch. 17; AIM Ch. 6

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

The student will learn to recognize, analyze and address IFR urgency and emergency procedures.

CONTENT

- ___ Malfunction Reports
- ___ Urgency versus Emergency
- ___ Declaring an Emergency
- ___ Minimum Fuel
- ___ Gyroscopic Instrument Failure
- ___ Communications Failure
- ___ Alerting ATC
- ___ Use of Transponder & Navigation Radio(s)
- ___ Route and Altitude
- ___ Leaving Clearance Limit
- ___ Emergency Approach Procedures

COMPLETION STANDARDS

Through oral quizzing students will demonstrate an understanding of the material presented during the lesson.

STUDY ASSIGNMENT

Instrument Flying Handbook, Ch. 10;
Section 2; AIM Ch. 5, Section 1;
FAR Part 91.169

**STAGE III
GROUND LESSON 24
FLIGHT PLANNING**

LESSON REFERENCE:

Instrument Flying Handbook, Ch. 10;
Section 2; AIM Ch. 5, Section 1;
FAR Part 91.169

RECOMMENDED SEQUENCE

1. Lesson Introduction
2. Material Presentation and Discussion
3. Knowledge Review

LESSON OBJECTIVE

The student will gain the knowledge and proficiency required to plan an IFR flight and recognize factors pertinent to effective decision making.

CONTENT

IFR Decision Making

- ___ Decision Making Process
- ___ The IFR Accident Chain
- ___ Poor Judgment Chain
- ___ Assessing Risk
- ___ Responsibility of the Pilot In Command
- ___ Hazardous Attitudes
- ___ Crew Relationships
- ___ Communication
- ___ Resource Use
- ___ Workload Management
- ___ Situational Awareness
- ___ Controlled Flight Into Terrain

IFR Flight Planning

- ___ Big Picture View
- ___ Weather Considerations
- ___ Alternate Airport Requirements
- ___ IFR Preferred Routes
- ___ Route, Altitude, Performance Selection

- ___ Flight Information Publications
- ___ Fuel Planning/Reserve Requirements
- ___ Navigation Log
- ___ Filing an IFR Flight Plan
- ___ Closing an IFR Flight Plan

COMPLETION STANDARDS

Through oral quizzing students will demonstrate an understanding of the material presented during the lesson.

STUDY ASSIGNMENT

Review as necessary in preparation for Stage III Exam.

**STAGE III
GROUND LESSON 25
STAGE III EXAM**

RECOMMENDED SEQUENCE

1. Testing
2. Critique

LESSON OBJECTIVE

The student will be tested on their level of knowledge on the topics presented in lessons 20- 24.

CONTENT

All material presented in lessons 20 – 24.

COMPLETION STANDARDS

This stage is complete, and the student eligible to take the final exam, when the student has demonstrated an understanding of the knowledge areas by completing the Stage III written exam with a minimum passing score of 80%.

STUDY ASSIGNMENT

Review texts as necessary in preparation for Course Final Exam.

**STAGE III
GROUND LESSON 26
COURSE FINAL EXAM**

RECOMMENDED SEQUENCE

1. Testing
2. Critique

LESSON OBJECTIVE

The student will be tested on their knowledge of the material presented in lessons 1 – 24.

CONTENT

Material presented in lessons 1 – 24.

COMPLETION STANDARDS

The student shall complete the Course Final Exam with a minimum passing score of 80%, and the instructor should review any incorrect responses to ensure complete understanding.

STUDY ASSIGNMENT

Review any deficient areas as necessary based on results of the Course Final Exam.

INSTRUMENT RATING FLIGHT TRAINING SYLLABUS

COURSE OBJECTIVES

The student will obtain the necessary aeronautical skill, decision-making capability and experience necessary to meet the requirements for an Instrument Rating certificate with an airplane category rating.

COMPLETION STANDARDS

The student must demonstrate through flight tests and school records that the necessary aeronautical skill and experience requirements to obtain a Instrument Rating certificate with an airplane category rating have been met.

STAGE I OBJECTIVES

During this stage, the student will learn precise aircraft control solely by reference to the flight instruments.

STAGE I COMPLETION STANDARDS

At the completion of this stage, the student will demonstrate proficiency in precisely controlling the aircraft solely by reference to the flight instruments, to include full and partial panel instrument scenarios. The stage check will be conducted in accordance with current FAA Instrument Rating – Airplane Airman Certification Standards.

STAGE II OBJECTIVES

During this stage the student will learn to interpret and apply instrument departure, en route, arrival, and approach procedures, including holding procedures, using full and partial panel instrument references. The student will increase his/her proficiency in controlling the aircraft by instrument reference, and in the use of communication and navigation radios and lost communications procedures.

STAGE II COMPLETION STANDARDS

This stage is complete when the student can conduct IFR departure, en route, arrival (including holding), and approach procedures using full and partial panel instrument references. The stage check will be conducted in accordance with current FAA Instrument Rating – Airplane Airman Certification Standards.

STAGE III OBJECTIVES

During this stage, the student will gain additional proficiency in IFR cross-country operations in preparation for the end-of-course stage check.

STAGE III COMPLETION STANDARDS

This stage will be complete when the student demonstrates performance of IFR operations at a standard that exceeds current FAA Airman Certification Standards for the Instrument Rating - Airplane certificate.

INSTRUMENT RATING FLIGHT COURSE TIME ALLOCATION TABLE

STAGE	LESSON	SCHD. TIME	DUAL	FLIGHT BRIEF	INSTRUMENT TRAINING	AATD	STAGE CHECK		A/C OR AATD
							ORAL	FLIGHT	
I	1	1.5	1.0	1.0		1.0			AATD
I	2	2.0	1.5	1.0	0.8				A/C
I	3	1.5	1.0	0.5		1.0			AATD
I	4	2.0	1.5	0.5	0.8				A/C
I	5	1.5	1.0	0.5		1.0			AATD
I	6	2.0	1.5	0.5	0.8				A/C
I	7	2.0	1.5	1.0	1.1				A/C
I	8	1.5	1.0	1.0		1.0			AATD
I	9	1.5	1.0	0.5	0.7				A/C
I	10	2.0	1.0	0.5		1.0			AATD
I	11	1.5	1.0	0.5	0.7				A/C
I	12	1.5	1.0	0.5		1.0			AATD
I	13	2.0	1.5	1.0	1.0				A/C
Stg Check	14	2.0	1.5	0.5	1.2		1.5	1.5	A/C
II	15	1.5	1.0	0.5		1.0			AATD
II	16	2.0	1.5	0.5	1.0				A/C
II	17	1.5	1.0	0.5		1.0			AATD
II	18	2.0	1.5	0.5	1.0				A/C
II	19	1.5	1.0	0.5		1.0			AATD
II	20	2.0	1.5	0.5	1.0				A/C
II	21	1.5	1.0	0.5		1.0			AATD
II	22	2.0	1.3	0.5	1.0				A/C
II	23	1.5	1.0	0.5		1.0			AATD
II	24	2.0	1.5	0.5		1.0			AATD
II	25	2.0	1.5	0.5	1.0				A/C
II	26	2.0	1.5	0.5	1.2				A/C
Stg Check	27	2.0	2.0	0.5	1.7		2.0	2.0	A/C
III	28	2.5 x-c	1.5	0.5	1.2				A/C
III	29	6.0 x-c	3.5	0.5	3.0				A/C
III	30	2.5	2.0	0.5	1.5				A/C
III	31	2.0	1.5	0.5	1.2				A/C
Stg Check	32	2.5	2.0	0.5	1.6		2.0	2.0	A/C
		Totals	44.8	18.5	23.5	12.0	5.5	5.5	

INSTRUMENT TRAINING

35.5

Note: Individual times shown on this table are for Instructor/student guidance only. They are not mandatory for each flight.

NOTE

Instructors shall provide not less than .5 briefing (combined pre-and post-flight) for every event.

STAGE I

STAGE I OBJECTIVES

During this stage, the student will learn precise aircraft control solely by reference to the flight instruments.

STAGE I COMPLETION STANDARDS

At the completion of this stage, the student will demonstrate proficiency in precisely controlling the aircraft solely by reference to the flight instruments, to include full and partial panel instrument scenarios. The student is at all times expected to seek zero tolerance for deviations in aircraft control (altitude, heading, airspeed) and navigational accuracy. The stage check will be conducted in accordance with current FAA Instrument Rating – Airplane Airman Certification Standards.

**STAGE I
FLIGHT LESSON 1
DUAL AATD**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

The student is introduced to attitude instrument flying. Correct instrument scan, interpretation, pitch/power coordination and precise aircraft control are emphasized.

CONTENT

PREFLIGHT BRIEFING

- ___ Aircraft Certificates and Documents
- ___ Review Aircraft Weight and Balance
- ___ Review Operation of Systems
- ___ Postflight Procedures

INTRODUCTION

- ___ Use of Checklists
- ___ Aircraft Systems Related to IFR Operations
- ___ Aircraft Flight Instruments
- ___ Instrument Cockpit Check and Equipment Inspection
- ___ Collision Avoidance Precautions

Full Panel Instrument

- ___ Straight-and-Level Flight
- ___ Standard Rate Turns
- ___ Constant Bank Turns
- ___ Constant Airspeed Climbs and Descents
- ___ Constant Rate Climbs and Descents
- ___ Climbing and Descending Turns
- ___ Change of Airspeed
- ___ Maneuvering During Slow Flight
- ___ Use of Trim

COMPLETION STANDARDS

The student will demonstrate an understanding of the correlation between instrument reference and aircraft control. During all maneuvers altitude should be maintained +/- 100', headings +/- 10⁰, airspeeds +/- 5 knots.

DATE ___/___/___ DUAL ___ IR ___ BRF ___
_____ Student Name / Signature
_____ CFI Name / Signature / CFI # & EXP.
_____ RTE OF FLIGHT
_____ IAPs / Holds (SPECIFY Name, Location)
LESSON GRADE _____

**STAGE I
FLIGHT LESSON 2
DUAL — LOCAL**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

The student will review attitude instrument flying and apply the knowledge, risk management and skill in the training aircraft.

CONTENT

REVIEW

- ___ Aircraft Systems Related to IFR Operations
- ___ Aircraft Flight Instruments
- ___ Instrument Cockpit Check
- ___ Instrument Crosscheck, Interpretation and Aircraft Control

Full Panel Instrument

- ___ Straight-and-Level Flight
- ___ Standard Rate Turns
- ___ Constant Bank Turns
- ___ Constant Airspeed Climbs and Descents
- ___ Constant Rate Climbs and Descents
- ___ Climbing and Descending Turns
- ___ Change of Airspeed
- ___ Maneuvering During Slow Flight
- ___ Use of Trim

INTRODUCTION

- ___ Preflight Inspection
- ___ Runway Incursion Avoidance
- ___ Normal and/or Crswd Takeoff & Climb
- ___ Normal and/or Crswd Appch & Landing
- ___ Checking Instruments and Equipment
- ___ Postflight Procedures

COMPLETION STANDARDS

The student will demonstrate increased knowledge, risk management and skill in attitude instrument flying. During all maneuvers altitude should be maintained +/- 100', headings +/- 10⁰, airspeeds +/- 5 knots.

DATE ___/___/___		DUAL ___		IR ___	BRF ___
_____ Student Name / Signature					
_____ CFI Name / Signature / CFI # & EXP.					
_____ RTE OF FLIGHT			_____ Landing Location(s)		
_____ IAPs / Holds (SPECIFY Name, Location)					
LESSON GRADE _____					

**STAGE I
FLIGHT LESSON 3
DUAL AATD**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

During this lesson the student will increase proficiency in systems and equipment checks, and in attitude instrument flying.

CONTENT

REVIEW

- ___ Aircraft Systems Related to IFR Operations
- ___ Aircraft Flight Instruments
- ___ Instrument Cockpit Check

Full Panel Instrument

- ___ Constant Airspeed Climbs and Descents
- ___ Constant Rate Climbs and Descents
- ___ Straight and Level
- ___ Standard Rate Turns
- ___ Change of Airspeed
- ___ Maneuvering During Slow Flight

INTRODUCTION

Full Panel Instrument

- ___ Instrument Takeoff (AATD)
- ___ Power-Off Stall (Imminent/Full)
- ___ Power-On Stall (Imminent/Full)
- ___ Turning Stall (Imminent/Full)
- ___ Steep Turns
- ___ Compass Turns
- ___ Timed Turns to Compass Headings
- ___ Operations in Turbulence
- ___ Recovery From Unusual Flight Attitudes

COMPLETION STANDARDS

The student will demonstrate prompt recognition and proper recovery from stalls and unusual attitudes. During all maneuvers altitude should be maintained +/- 100', headings +/- 10⁰, airspeeds +/- 5 knots.

DATE ___/___/___ DUAL___ IR___ BRF___ _____ Student Name / Signature _____ CFI Name / Signature / CFI # & EXP. _____ RTE OF FLIGHT _____ IAPs / Holds (SPECIFY Name, Location) _____ LESSON GRADE ___

**STAGE I
FLIGHT LESSON 4
DUAL — LOCAL**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

During this lesson the student will increase proficiency in attitude instrument flying.

CONTENT

REVIEW

- ___ Aircraft Systems Related to IFR Operations
- ___ Preflight Inspection
- ___ Aircraft Flight Instruments
- ___ Instrument Cockpit Check
- ___ Postflight Procedures

Full Panel Instrument

- ___ Basic Instrument Flight Maneuvers
- ___ Change of Airspeed
- ___ Maneuvering During Slow Flight
- ___ Power-Off Stall (Imminent/Full)
- ___ Power-On Stall (Imminent/Full)
- ___ Turning Stall (Imminent/Full)
- ___ Steep Turns
- ___ Timed Turns to Compass Headings
- ___ Compass Turns
- ___ Operations in Turbulence
- ___ Wind Shear Avoidance Procedures
- ___ Recovery From Unusual Flight Attitudes

COMPLETION STANDARDS

The student will demonstrate increased knowledge, risk management and skill during all tasks, demonstrate prompt recognition and proper recovery from stalls and unusual attitudes. During all maneuvers altitude should be maintained +/- 100', headings +/- 10⁰, airspeeds +/- 5 knots. Takeoffs and landings shall meet or exceed current FAA Private Pilot ACS.

DATE ___/___/___ DUAL ___ IR ___ BRF ___	
_____ Student Name / Signature	
_____ CFI Name / Signature / CFI # & EXP.	
_____ RTE OF FLIGHT	_____ Landing Location(s)
_____ IAPs / Holds (SPECIFY Name, Location)	
LESSON GRADE _____	

**STAGE I
FLIGHT LESSON 5
DUAL AATD**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

During this lesson the student is introduced to recognition of various instrument failure modes and partial panel instrument flying.

COMPLETION STANDARDS

The student will demonstrate increased knowledge, risk management and skill during all tasks, and altitude should be maintained +/- 100', headings +/- 10⁰, airspeeds +/- 5 knots. During partial panel maneuvers, altitudes will be maintained +/- 150', headings +/- 15⁰, and airspeeds +/- 10 knots.

**CONTENT
REVIEW**

Full Panel Instrument

- ___ Instrument Takeoff
- ___ Steep Turns
- ___ Change of Airspeed
- ___ Recovery From Unusual Flight Attitudes

INTRODUCTION

Partial Panel Instrument

- ___ Instrument Failure Indications
- ___ Attitude Indicator Failure
- ___ Heading Indicator Failure
- ___ Airspeed Indicator Failure
- ___ Malfunction Reports
- ___ Basic Instrument Flight Maneuvers
- ___ Constant Bank Turns
- ___ Timed Turns to Compass Headings
- ___ Change of Airspeed
- ___ Maneuvering During Slow Flight
- ___ Use of Trim
- ___ Power-Off Stall (Imminent)
- ___ Power-On Stall (Imminent)
- ___ Turning Stall (Imminent)

DATE ___/___/___ DUAL ___ IR ___ BRF ___ _____ Student Name / Signature _____ CFI Name / Signature / CFI # & EXP. _____ RTE OF FLIGHT _____ IAPs / Holds (SPECIFY Name, Location) _____ LESSON GRADE _____
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**STAGE I
FLIGHT LESSON 6
DUAL — LOCAL**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

The student will increase proficiency with recognition of various instrument failure modes and partial panel instrument flying.

REVIEW

___ Preflight Inspection

Full Panel

- ___ Steep Turns
- ___ Power-Off Stall
- ___ Power-On Stall
- ___ Change of Airspeed

Partial Panel

- ___ Instrument Failure Indications
- ___ Malfunction Reports
- ___ Basic Instrument Flight Maneuvers
- ___ Constant Bank Turns
- ___ Timed Turns to Compass Headings
- ___ Maneuvering During Slow Flight
- ___ Power-Off Stall
- ___ Power-On Stall
- ___ Turning Stall
- ___ Use of Trim

Postflight

___ Postflight Procedures

COMPLETION STANDARDS

The student will demonstrate increased knowledge, risk management and skill during all tasks, and altitudes shall be maintained +/- 100', headings +/- 10°, airspeeds +/- 5 knots. Takeoffs and landings shall meet or exceed current FAA Private Pilot ACS.

DATE ___/___/___		DUAL ___		IR ___		BRF ___	
_____ Student Name / Signature							
_____ CFI Name / Signature / CFI # & EXP.							
_____ RTE OF FLIGHT				_____ Landing Location(s)			
_____ IAPs / Holds (SPECIFY Name, Location)							
_____ LESSON GRADE							

**STAGE I
FLIGHT LESSON 7
DUAL — LOCAL**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

The student will demonstrate increased knowledge, risk management and skill in aircraft control during both full and partial panel scenarios.

CONTENT

REVIEW

- ___ Preflight Inspection
- ___ Aircraft Systems Related to IFR Operations
- ___ Aircraft Flight Instruments
- ___ Instrument Cockpit Check

Full Panel

- ___ Normal and/or Crswd Takeoff & Climb
- ___ Normal and/or Crswd Appch & Landing
- ___ Basic Instrument Flight Maneuvers
- ___ Maneuvering During Slow Flight
- ___ Power-Off Stall (Imminent)
- ___ Power-On Stall (Imminent)
- ___ Steep Turns
- ___ Recovery from Unusual Flight Attitudes

Partial Panel

- ___ Basic Instrument Flight Maneuvers
- ___ Simulated In-Flight Icing
- ___ Timed Turns to Compass Headings
- ___ Maneuvering During Slow Flight
- ___ Power-Off Stall (Imminent)
- ___ Power-On Stall (Imminent)
- ___ Recovery from Unusual Flight Attitudes

Postflight

- ___ Postflight Procedures

COMPLETION STANDARDS

The student will demonstrate increased knowledge, risk management and skill for all tasks. During flight, the student will maintain altitude +/- 100', headings +/- 10°, airspeeds +/- 10 knots, and climb/descent rates +/- 100 FPM. Takeoffs and landings shall meet or exceed Current FAA Private Pilot ACS.

DATE ___/___/___ DUAL___ IR___ BRF___	
_____ Student Name / Signature	
_____ CFI Name / Signature / CFI # & EXP.	
_____ RTE OF FLIGHT	_____ Landing Location(s)
_____ IAPs / Holds (SPECIFY Name, Location)	
LESSON GRADE_____	

**STAGE I
FLIGHT LESSON 8
DUAL AATD**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

The student will learn VOR and DME orientation, intercepting and tracking, be introduced to GPS navigation, and be introduced to simulated air traffic control clearances.

CONTENT

REVIEW

Partial Panel

- Timed Turns to Compass Headings
- Compass Turns
- Basic Instrument Flight Maneuvers
- Maneuvering During Slow Flight
- Power-Off Stall (Imminent)
- Power-On Stall (Imminent)
- Turning Stall
- Recovery from Unusual Flight Attitudes

INTRODUCTION

Full Panel

- ATC Clearances and Procedures
- Navigation Equipment
- VOR Inspection Records
- VOR Accuracy Checks
- VOR Orientation, Intercepting and Tracking
- Time, Speed, Distance to a VOR station
- Intercepting and Tracking DME arcs
- GPS Orientation, Int. and Tracking (If Installed)
- GPS Receiver Failure (If Installed)

COMPLETION STANDARDS

The student will demonstrate increased proficiency in attitude instrument flight, VOR, DME and GPS orientation, intercepting, and tracking. During all tasks, the student will maintain altitude +/- 100', headings +/- 10⁰, airspeeds +/- 10 knots, and climb/descent rates +/- 100 FPM.

DATE ___/___/___ DUAL___ IR___ BRF___
_____ Student Name / Signature
_____ CFI Name / Signature / CFI # & EXP.
_____ RTE OF FLIGHT
_____ IAPs / Holds (SPECIFY Name, Location)
_____ LESSON GRADE ___

**STAGE I
FLIGHT LESSON 9
DUAL — LOCAL**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

During this lesson the student will review partial panel instrument flying, VOR and GPS orientation, intercepting and tracking, and increase proficiency in obtaining, noting, and reading back actual ATC clearances.

CONTENT

REVIEW

- ___ Preflight Inspection
- ___ Navigation Equipment
- ___ VOR Accuracy Checks
- ___ Air Traffic Control Clearances
- ___ Wind Shear Avoidance Procedures
- ___ IFR Low En Route charts, Departure Procedures, STARs, IAP charts

Full Panel

- ___ VOR Inspection Records
- ___ VOR Orientation, Intercepting and Tracking
- ___ VOR Receiver Failure
- ___ Time, Speed, Distance to a VOR station
- ___ Intercepting and Tracking DME Arcs
- ___ GPS Orientation, Int. and Tracking
- ___ GPS Receiver Failure

INTRODUCTION

Partial Panel

- ___ Basic Instrument Flight Maneuvers
- ___ Timed Turns to Compass Headings

- ___ Compass Turns
- ___ Maneuvering During Slow Flight
- ___ Power-Off Stall
- ___ Power-On Stall
- ___ Turning Stall
- ___ VOR Orientation, Intercepting and Tracking
- ___ VOR Receiver Failure
- ___ Time, Speed, Distance to a VOR station
- ___ Intercepting and Tracking DME Arcs
- ___ GPS Orientation, Int. and Tracking

COMPLETION STANDARDS

The student will demonstrate increased knowledge, risk management and skill for all tasks. Altitudes will be maintained +/- 100', headings +/- 10⁰, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than ½ scale during VOR, GPS tracking, and no more than 1.0 NM during DME Arc intercepting and tracking. Takeoffs and landings shall meet or exceed current FAA Private Pilot ACS.

DATE ___/___/___ DUAL ___ IR ___ BRF ___	
_____ Student Name / Signature	
_____ CFI Name / Signature / CFI # & EXP.	
_____ RTE OF FLIGHT	_____ Landing Location(s)
_____ IAPs / Holds (SPECIFY Name, Location)	
LESSON GRADE _____	

**STAGE I
FLIGHT LESSON 10
DUAL AATD**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

The student will review VOR and GPS orientation and tracking, and be introduced to localizer orientation, intercepting and tracking.

CONTENT

REVIEW

- ___ Navigation Equipment
- ___ GPS Orientation, Int. and Tracking (Full and Partial Panel)
- ___ GPS Receiver Failure (Full and Partial Panel)

INTRODUCTION

Partial Panel

- ___ VOR Orientation, Intercepting and Tracking
- ___ VOR Time, Speed Distance
- ___ Intercepting and Tracking DME Arcs
- ___ VOR Receiver Failure

Full Panel

- ___ Localizer orientation, intercepting and tracking (front course and back course)

COMPLETION STANDARDS

The student will demonstrate increased knowledge, risk management and skill for all tasks. Altitudes will be maintained +/- 100', headings +/- 10⁰, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than 1/2 scale during VOR, GPS, LOC, and no more than 1.0 NM during DME Arc intercepting and tracking.

DATE ___/___/___ DUAL ___ IR ___ BRF ___ _____ Student Name / Signature _____ CFI Name / Signature / CFI # & EXP. _____ RTE OF FLIGHT _____ IAPs / Holds (SPECIFY Name, Location) _____ LESSON GRADE _____
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**STAGE I
FLIGHT LESSON 11
DUAL — LOCAL**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

The student will increase knowledge, risk management and skill with all listed tasks.

CONTENT

REVIEW

- ___ Preflight Inspection
- ___ Navigation Equipment
- ___ Postflight Procedures

Partial Panel

- ___ VOR Orientation, Intercepting and Tracking
- ___ Intercepting and Tracking DME Arcs
- ___ VOR Receiver Failure

Full Panel

- ___ GPS Orientation, Int. and Tracking
- ___ GPS Receiver Failure
- ___ Localizer orientation, intercepting and tracking (front course and back course)

COMPLETION STANDARDS

The student will demonstrate increased knowledge, risk management and skill with all tasks. Altitudes will be maintained +/- 100', headings +/- 10°, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than ½ scale during VOR, GPS, LOC, and no more than 1.0 NM during DME Arc intercepting and tracking.

DATE ___/___/___ DUAL ___ IR ___ BRF ___	
_____ Student Name / Signature	
_____ CFI Name / Signature / CFI # & EXP.	
_____ RTE OF FLIGHT	_____ Landing Location(s)
_____ IAPs / Holds (SPECIFY Name, Location)	
_____ LESSON GRADE	

**STAGE I
FLIGHT LESSON 12
DUAL AATD**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

During this lesson the student will review full and partial panel GPS and localizer orientation intercepting and tracking.

CONTENT

REVIEW

Full and Partial Panel

- ___ GPS Orientation, Int. and Tracking (If Installed)
- ___ Localizer Orientation, Int. and Tracking (Front and Back Course)
- ___ Wind Shear Avoidance Procedures

COMPLETION STANDARDS

The student will demonstrate increased knowledge, risk management and skill on all listed tasks. Altitudes will be maintained +/- 100', headings +/- 10⁰, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than ½ scale during VOR, GPS, LOC, and no more than 1.0 NM during DME Arc intercepting and tracking.

DATE ___/___/___ DUAL___ IR___ BRF___ _____ Student Name / Signature _____ CFI Name / Signature / CFI # & EXP. _____ RTE OF FLIGHT _____ IAPs / Holds (SPECIFY Name, Location) _____ LESSON GRADE ___

**STAGE I
FLIGHT LESSON 13
DUAL — LOCAL**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

This is the last lesson before the Stage I check. The student will demonstrate increased knowledge, risk management and skill in all tasks.

CONTENT

Preflight Discussion

- ___ Preflight Inspection
- ___ Aircraft Systems Related to IFR Operations
- ___ Aircraft Flight Instruments
- ___ Instrument Cockpit Check
- ___ Compliance with Air Traffic Control Clearances

Full Panel and Partial Panel

- ___ Normal and/or Crswd Takeoff & Climb
- ___ Basic Instrument Flight Maneuvers
- ___ Maneuvering During Slow Flight
- ___ Power-Off Stall
- ___ Power-On Stall
- ___ Recovery From Unusual Flight Attitudes
- ___ VOR Orientation, Int. and Tracking
- ___ GPS Orientation, Int. and Tracking
- ___ Localizer Orientation, Int. and Tracking (Front and Back Course)
- ___ Intercepting and Tracking DME Arcs
- ___ Normal and/or Crswd Approach & Landing

COMPLETION STANDARDS

The student will demonstrate increased knowledge, risk management and skill on all listed tasks. Altitudes will be maintained +/- 100', headings +/- 10⁰, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than ½ scale during VOR, GPS, LOC, and no more than 1.0 NM during DME Arc intercepting and tracking. Takeoffs and landings shall meet or exceed current FAA Private Pilot ACS.

DATE ___/___/___		DUAL ___		IR ___		BRF ___	
_____ Student Name / Signature							
_____ CFI Name / Signature / CFI # & EXP.							
_____ RTE OF FLIGHT				_____ Landing Location(s)			
_____ IAPs / Holds (SPECIFY Name, Location)							
_____ LESSON GRADE							

**STAGE 1
FLIGHT LESSON 14
DUAL — LOCAL – STAGE CHECK**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

This is the stage I check conducted by the Chief Flight Instructor, Assistant Chief Flight Instructor, or designated Check Instructor to evaluate the student's knowledge and flight proficiency gained through lessons 1 – 13.

CONTENT

Oral

- ___ Aircraft Systems Related to IFR Operations
- ___ Aircraft Flight Instruments
- ___ Instrument Cockpit Check
- ___ Compliance with Air Traffic Control Clearances
- ___ Weather Information

Flight

Full Panel

- ___ Preflight Inspection
- ___ Normal and/or Crswd Takeoff & Climb
- ___ Basic Instrument Flight Maneuvers
- ___ Maneuvering During Slow Flight
- ___ Power-Off Stall
- ___ Power-On Stall
- ___ Recovery From Unusual Flight Attitudes
- ___ VOR Orientation, Int. and Tracking
- ___ GPS Orientation, Int. and Tracking
- ___ Localizer Orientation, Int. and Tracking (Front and Back Course)
- ___ Intercepting and Tracking DME Arcs
- ___ Normal and/or Crswd Approach/Lndg

Partial Panel

- ___ Basic Instrument Flight Maneuvers
- ___ Maneuvering During Slow Flight
- ___ Power-Off Stall
- ___ Power-On Stall
- ___ Recovery From Unusual Flight Attitudes
- ___ VOR Orientation, Int. and Tracking
- ___ GPS Orientation, Int. and Tracking
- ___ Localizer Orientation, Int. and Tracking (Front and Back Course)
- ___ Intercepting and Tracking DME Arcs

COMPLETION STANDARDS

Altitudes will be maintained +/- 100', headings +/- 10°, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than ½ scale during VOR, GPS, LOC, and no more than 1.0 NM during DME Arc intercepting and tracking. Takeoffs and landings shall meet or exceed current FAA Private Pilot ACS.

DATE ___/___/___ DUAL___ IR___ BRF___

Student Name / Signature

CFI Name / Signature / CFI # & EXP.

RTE OF FLIGHT

Landing Location(s)

IAPs / Holds (SPECIFY Name, Location)

LESSON GRADE___

STAGE II

STAGE II OBJECTIVES

The student is introduced to instrument approach procedures, missed approach procedures, and holding patterns.

STAGE II COMPLETION STANDARDS

This stage is complete when the student is able to satisfactorily demonstrate the knowledge, risk management, and skill needed to conduct instrument approach procedures, missed approach procedures, holding patterns, and all other listed maneuvers and procedures at a level that meets or exceeds current FAA Instrument Rating Airman Certification Standards.

**STAGE II
FLIGHT LESSON 15
DUAL AATD**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

During this lesson the student will be introduced to VOR, GPS and intersection holding patterns.

CONTENT

INTRODUCTION

- ___ IFR Low En Route charts, Departure Procedures, STARs, IAP charts
- ___ Compliance with Air Traffic Control Clearances
- ___ Holding Clearances
- ___ VOR Hold
- ___ GPS Hold
- ___ Intersection Hold

COMPLETION STANDARDS

The student will demonstrate correct receipt and readback of ATC holding clearances, and properly execute VOR and GPS holding procedures. Altitudes will be maintained +/- 100', headings +/- 10⁰, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than 1/2 scale during intercepting and tracking.

DATE ___/___/___ DUAL___ IR___ BRF___

Student Name / Signature

CFI Name / Signature / CFI # & EXP.

RTE OF FLIGHT

IAPs / Holds (SPECIFY Name, Location)

LESSON GRADE

**STAGE II
FLIGHT LESSON 16
DUAL — LOCAL**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

During this lesson the student will be introduced to VOR, GPS and intersection holding patterns in the aircraft while working with ATC.

CONTENT

REVIEW

- ___ Preflight Inspection
- ___ Compliance with Air Traffic Control Clearances
- ___ VOR or Intersection Hold
- ___ GPS Hold
- ___ Postflight Procedures

COMPLETION STANDARDS

The student will demonstrate correct receipt and readback of ATC holding clearances, and properly execute all listed tasks. Altitudes will be maintained +/- 100', headings +/- 10⁰, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than 1/2 scale during intercepting and tracking.

DATE ___/___/___ DUAL ___ IR ___ BRF ___	
_____ Student Name / Signature	
_____ CFI Name / Signature / CFI # & EXP.	
_____ RTE OF FLIGHT	_____ Landing Location(s)
_____ IAPs / Holds (SPECIFY Name, Location)	
LESSON GRADE _____	

**STAGE II
FLIGHT LESSON 17
DUAL — AATD**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

During this lesson the student will increase proficiency with VOR holding patterns, and be introduced to partial panel holding patterns, LOC, GPS and missed approach procedures.

**CONTENT
REVIEW**

- ___ Compliance with Air Traffic Control Clearances
- ___ VOR Hold
- ___ Collision Avoidance
- ___ Wind Shear Avoidance Procedures

INTRODUCTION

- ___ Partial Panel Holding
- ___ Localizer Hold
- ___ Localizer Approach
- ___ GPS Approach
- ___ Missed Approach

COMPLETION STANDARDS

The student will demonstrate the knowledge, risk management and skill required to execute correct holding clearances and instrument approach procedures. Altitudes will be maintained +/- 100', headings +/- 10⁰, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than 1/2 scale during intercepting and tracking, and if holding with timed inbound legs, achieve 1 minute inbound legs.

<p>DATE ___/___/___ DUAL___ IR___ BRF___</p> <hr/> <p>Student Name / Signature</p> <hr/> <p>CFI Name / Signature / CFI # & EXP.</p> <hr/> <p>RTE OF FLIGHT</p> <hr/> <p>IAPs / Holds (SPECIFY Name, Location)</p> <hr/> <p>LESSON GRADE___</p>

**STAGE II
FLIGHT LESSON 18
DUAL — LOCAL**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

During this lesson the student will review full and partial panel holding patterns in the aircraft, and review GPS and localizer approach procedures.

CONTENT

REVIEW

- ___ Preflight Inspection
- ___ Normal Takeoff and Climb
- ___ Compliance with Air Traffic Control Clearances
- ___ Partial Panel Holding
- ___ Localizer approach
- ___ GPS approach
- ___ Localizer Hold
- ___ Normal Approach and Landing
- ___ Postflight Procedures

COMPLETION STANDARDS

The student will demonstrate the knowledge, risk management and skill required to execute correct holding clearances and instrument approach procedures. Altitudes will be maintained +/- 100', headings +/- 10⁰, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than 1/2 scale during intercepting and tracking, and if holding with timed inbound legs, achieve 1 minute inbound legs. Takeoff and landing must meet or exceed current FAA Private Pilot ACS.

DATE ___/___/___ DUAL___ IR___ BRF___	
_____ Student Name / Signature	
_____ CFI Name / Signature / CFI # & EXP.	
_____ RTE OF FLIGHT	_____ Landing Location(s)
_____ IAPs / Holds (SPECIFY Name, Location)	
LESSON GRADE _____	

**STAGE II
FLIGHT LESSON 19
DUAL--AATD**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

During this lesson the student will review holding procedures and learn to conduct VOR, GPS, localizer, circling, and missed approach procedures. Lost communications procedures will be introduced.

CONTENT

REVIEW

- ___ Compliance with Air Traffic Control Clearances
- ___ Holding Procedures
- ___ DME Arc to an Instrument Approach

INTRODUCTION

- ___ VOR/VORTAC Approach
- ___ Localizer Approach (Back Course)
- ___ Circling Approach Procedure
- ___ Missed from a Circling Approach
- ___ Full Approach Procedure
- ___ Lost Communications Procedures

COMPLETION STANDARDS

The student will demonstrate the knowledge, risk management and skill required to execute correct holding clearances and instrument approach procedures. Altitudes will be maintained +/- 100', headings +/- 10⁰, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than 1/2 scale during intercepting and tracking, and if holding with timed inbound legs, achieve 1 minute inbound legs.

<p>DATE ___/___/___ DUAL___ IR___ BRF___</p> <hr/> <p>Student Name / Signature</p> <hr/> <p>CFI Name / Signature / CFI # & EXP.</p> <hr/> <p>RTE OF FLIGHT</p> <hr/> <p>IAPs / Holds (SPECIFY Name, Location)</p> <hr/> <p>LESSON GRADE___</p>

**STAGE II
FLIGHT LESSON 20
DUAL — LOCAL**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

The student will review non-precision instrument approach procedures, circling approach and missed approach procedures.

CONTENT

REVIEW

- ___ Preflight Inspection
- ___ Normal and/or Crswd Takeoff & Climb
- ___ Compliance with Air Traffic Control Clearances
- ___ DME Arc to an approach procedure
- ___ VOR/VORTAC Approach
- ___ Localizer Approach (Front Course)
- ___ Circling Approach
- ___ Straight-In Approach
- ___ Full Approach
- ___ Missed Approach
- ___ Lost Communications Procedures
- ___ Collision Avoidance
- ___ Wind Shear Avoidance Procedures
- ___ Landing from an Instrument Approach
- ___ Postflight Procedures

COMPLETION STANDARDS

The student will demonstrate the knowledge, risk management and skill required to execute correct holding clearances and instrument approach procedures. Altitudes will be maintained +/- 100', headings +/- 10°, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than 1/2 scale while on the final approach segment of the approach procedure. The takeoff and landing must meet or exceed current FAA Private Pilot ACS.

DATE ___/___/___		DUAL ___		IR ___		BRF ___	
_____ Student Name / Signature							
_____ CFI Name / Signature / CFI # & EXP.							
_____ RTE OF FLIGHT				_____ Landing Location(s)			
_____ IAPs / Holds (SPECIFY Name, Location)							
_____ LESSON GRADE							

**STAGE II
FLIGHT LESSON 21
DUAL — AATD**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

The student will review missed approach and lost communications procedures, and be introduced to ILS, localizer, no-gyro and ASR approach procedures.

**CONTENT
REVIEW**

- ___ Compliance with Air Traffic Control Clearances
- ___ Missed Approach Procedures
- ___ Lost Communications Procedures

INTRODUCTION

Partial Panel

- ___ Localizer Approach (Front Course)
- ___ GPS Approach
- ___ No-Gyro Radar Vectoring Approach
- ___ ASR Approach (If Available)

Full Panel

- ___ ILS Approach
- ___ Localizer Approach (Back Course)

COMPLETION STANDARDS

The student will demonstrate the knowledge, risk management and skill required to execute correct instrument approach procedures. Altitudes will be maintained +/- 100', headings +/- 10°, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than ½ scale while on the final approach segment of the full-panel approach procedure and ¾ scale deflection during partial panel approach procedures.

DATE ___/___/___ DUAL ___ IR ___ BRF ___ _____ Student Name / Signature _____ CFI Name / Signature / CFI # & EXP. _____ RTE OF FLIGHT _____ IAPs / Holds (SPECIFY Name, Location) _____ LESSON GRADE _____
--

**STAGE II
FLIGHT LESSON 22
DUAL — LOCAL**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

The student will review missed approach procedures, and be introduced to ILS and full and partial panel localizer approaches.

CONTENT

The student will review front and back course localizer, ILS, missed approach, and partial panel approach procedures in the aircraft.

REVIEW

- ___ Preflight Inspection
- ___ Normal and/or Crswd Takeoff & Climb
- ___ Compliance with Air Traffic Control Clearances
- ___ Missed Approach Procedures
- ___ Lost Communications Procedures
- ___ Landing from an Instrument Approach

Full Panel

- ___ ILS Approach

Partial Panel

- ___ Localizer Approach (Front Course)
- ___ GPS Approach

COMPLETION STANDARDS

The student will demonstrate the knowledge, risk management and skill required to execute correct instrument approach procedures. Altitudes will be maintained +/- 100', headings +/- 10⁰, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than 1/2 scale while on the final approach segment of the full-panel approach procedure and 3/4 scale deflection during partial panel approach procedures. Takeoff and landing must meet or exceed current FAA Private Pilot ACS.

DATE ___/___/___		DUAL ___ IR ___ BRF ___	
_____ Student Name / Signature			
_____ CFI Name / Signature / CFI # & EXP.			
_____ RTE OF FLIGHT		_____ Landing Location(s)	
_____ IAPs / Holds (SPECIFY Name, Location)			
_____ LESSON GRADE			

**STAGE II
FLIGHT LESSON 23
DUAL — AATD**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

The student will review full and partial panel non-precision approach procedures.

CONTENT

REVIEW

- ___ Missed Approach
- ___ Circling Approach
- ___ Full Approach
- ___ DME Arc to an Instrument Approach
- ___ Localizer (Back Course) Approach
- ___ Partial Panel GPS Approach
- ___ Partial Panel VOR Approach
- ___ Lost Communications Procedures
- ___ Collision Avoidance
- ___ Wind Shear Avoidance Procedures

COMPLETION STANDARDS

The student will demonstrate the knowledge, risk management and skill required to execute correct instrument approach procedures. Altitudes will be maintained +/- 100', headings +/- 10°, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than ½ scale while on the final approach segment of the full-panel approach procedure and ¾ scale deflection during partial panel approach procedures.

<p>DATE ___/___/___ DUAL ___ IR ___ BRF ___</p> <hr/> <p>Student Name / Signature</p> <hr/> <p>CFI Name / Signature / CFI # & EXP.</p> <hr/> <p>RTE OF FLIGHT</p> <hr/> <p>IAPs / Holds (SPECIFY Name, Location)</p> <hr/> <p>LESSON GRADE _____</p>

**STAGE II
FLIGHT LESSON 24
DUAL — AATD**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

The student will review precision and non-precision approach procedures.

CONTENT

REVIEW

- Compliance with Air Traffic Control Clearances
- Circling Approach
- Missed Approach
- Lost Communications Procedures

Partial Panel

- GPS Approach w/ Procedure Turn
- ILS Approach w/ Procedure Turn
- VOR/VORTAC Approach
- Approach from a DME Arc

COMPLETION STANDARDS

The student will demonstrate the knowledge, risk management and skill required to execute correct instrument approach procedures. Altitudes will be maintained +/- 100', headings +/- 10°, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than ½ scale deflection while on the final approach segment of the full-panel approach procedure.

DATE ___/___/___ DUAL___ IR___ BRF___ <hr/> Student Name / Signature <hr/> CFI Name / Signature / CFI # & EXP. <hr/> RTE OF FLIGHT <hr/> IAPs / Holds (SPECIFY Name, Location) <hr/> LESSON GRADE ___
--

**STAGE II
FLIGHT LESSON 25
DUAL — LOCAL**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

During this lesson the student will review landings, and be introduced to no-gyro radar vectoring approach procedures in the aircraft.

CONTENT

REVIEW

- ___ Preflight Inspection
- ___ Compliance with Air Traffic Control Clearances
- ___ Normal and/or Crswd Takeoff & Climb
- ___ GPS Approach
- ___ Partial Panel LOC/BC Approach
- ___ Landing from an Instrument Approach
- ___ Collision Avoidance
- ___ Wind Shear Avoidance Procedures
- ___ Postflight Procedures

COMPLETION STANDARDS

The student will demonstrate the knowledge, risk management and skill required to execute correct instrument approach procedures. Altitudes will be maintained +/- 100', headings +/- 10°, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than ½ scale deflection while on the final approach segment of the full-panel approach procedure. Takeoff and landing must meet or exceed current FAA Private Pilot ACS.

DATE ___/___/___ DUAL___ IR___ BRF___	
_____ Student Name / Signature	
_____ CFI Name / Signature / CFI # & EXP.	
_____ RTE OF FLIGHT	_____ Landing Location(s)
_____ IAPs / Holds (SPECIFY Name, Location)	
LESSON GRADE _____	

**STAGE II
FLIGHT LESSON 26
DUAL — LOCAL**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

This is the last lesson before the stage II check. During the lesson the student will demonstrate Instrument Pilot ACS proficiency for all listed tasks.

CONTENT

Preflight Discussion

- ___ Instrument Approach Procedure Charts
- ___ Aircraft Systems Related to IFR Operations
- ___ Aircraft Flight Instruments and Navigation Equipment
- ___ Lost Communications Procedures
- ___ Weather Information

Flight

- ___ Preflight Inspection
- ___ Instrument Cockpit Check
- ___ Compliance with Air Traffic Control Clearances
- ___ Holding Procedures
- ___ Basic Instrument Flight Maneuvers
- ___ Recovery From Unusual Flight Attitudes
- ___ Intercepting and Tracking Navigational Systems and DME Arcs
- ___ VOR Approach
- ___ Localizer Approach (Partial Panel)
- ___ GPS Approach
- ___ Precision Approach
- ___ Circling Approach
- ___ Missed Approach

- ___ Lost Communications
- ___ Landing from an Instrument Approach
- ___ Postflight Procedures

COMPLETION STANDARDS

The student will demonstrate the knowledge, risk management and skill required to execute correct instrument approach procedures at a level that meets FAA Instrument Pilot Airman Certification Standard. Altitudes will be maintained +/- 100', headings +/- 10°, airspeeds +/- 10 knots, climb/descent rates +/- 100 FPM, course deviation no more than ¾ scale deflection while on the final approach segment of the approach procedure. Takeoff and landing must meet or exceed current FAA Private Pilot ACS.

DATE ___/___/___ DUAL___ IR___ BRF___

Student Name / Signature

CFI Name / Signature / CFI # & EXP.

RTE OF FLIGHT _____ **Landing Location(s)** _____

IAPs / Holds (SPECIFY Name, Location)

LESSON GRADE _____

**STAGE II
FLIGHT LESSON 27
DUAL — LOCAL – STAGE CHECK**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

This lesson is a stage check conducted by the Chief Flight Instructor, Assistant Chief Flight Instructor, or designated Check Instructor. During the lesson the student will demonstrate Instrument pilot knowledge, risk management and skill on all listed tasks and maneuvers in accordance with current FAA Instrument Rating ACS.

CONTENT

Oral

- ___ Aircraft Systems Related to IFR Operations
- ___ Aircraft Flight Instruments and Navigation Equipment
- ___ Compliance with Air Traffic Control Clearances
- ___ Lost Communications Procedures
- ___ Weather Information

Flight

- ___ Preflight Inspection
- ___ Instrument Cockpit Check
- ___ Compliance with Air Traffic Control Clearances
- ___ Holding Procedures
- ___ Basic Instrument Flight Maneuvers
- ___ Recovery From Unusual Flight Attitudes
- ___ Intercepting and Tracking Navigational Systems and DME Arcs
- ___ VOR Approach
- ___ Localizer Approach (Partial Panel)
- ___ GPS Approach

- ___ Precision Approach
- ___ Circling Approach
- ___ Missed Approach
- ___ Lost Communications
- ___ Landing from an Instrument Approach
- ___ Collision Avoidance
- ___ Wind Shear Avoidance Procedures
- ___ Checking Instruments and Equipment
- ___ Postflight Procedures

COMPLETION STANDARDS

The student will demonstrate Instrument pilot knowledge, risk management and skill on all listed tasks in accordance with current FAA Instrument Rating ACS.

DATE ___/___/___		DUAL ___		IR ___	BRF ___
_____ Student Name / Signature					
_____ CFI Name / Signature / CFI # & EXP.					
_____ RTE OF FLIGHT			_____ Landing Location(s)		
_____ IAPs / Holds (SPECIFY Name, Location)					
_____ LESSON GRADE					

STAGE III

STAGE III OBJECTIVES

During this stage the student will learn to plan and execute IFR cross-country procedures as the pilot in command, and refine previously learned skills in aircraft control, flight maneuvers, holding, and approach procedures.

STAGE III COMPLETION STANDARDS

This stage will be complete when the student demonstrates performance of an Instrument pilot at a standard that exceeds the minimum performance criteria established in the current FAA Instrument Rating Airman Certification Standards.

**STAGE III
LESSON 28
DUAL – CROSS-COUNTRY**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

The student is introduced to planning and conduct of IFR cross-country procedures by planning and executing a short-distance IFR cross-country flight with a minimum distance of 50 NM between airport destinations. The student will demonstrate knowledge, risk management and skill for all listed tasks. The instructor will maximize the amount of simulated or actual instrument time to simulate a flight conducted almost entirely in instrument conditions.

CONTENT

INTRODUCTION

IFR Cross-Country Flight Planning

- ___ Weather Information
- ___ Determining Performance and Limitations
- ___ Navigation Log
- ___ IFR Flight Plan
- ___ Pre-Flight Inspection
- ___ Cockpit Management
- ___ Calculating ETE, ETA
- ___ STAR/Use of Radar

Emergency Procedures

- ___ Communication Radio Failure
- ___ Navigation Equipment Failure
- ___ Instrument Failure
- ___ Icing
- ___ Turbulence
- ___ Minimum Fuel
- ___ Engine Failure

REVIEW

- ___ Compliance with Air Traffic Control Clearances
- ___ Use of DPs/Radar
- ___ Navigation
- ___ Holding Procedures
- ___ Non-Precision Approach
- ___ Precision Approach
- ___ Landing From an Instrument Approach
- ___ Postflight Procedures

COMPLETION STANDARDS

The student will demonstrate the knowledge, risk management and skill required to conduct IFR cross-country procedures as pilot in command. Takeoffs and landings must exceed current FAA Private Pilot ACS.

DATE ___/___/___ DUAL ___ IR ___ BRF ___	
_____ Student Name / Signature	
_____ CFI Name / Signature / CFI # & EXP.	
_____ RTE OF FLIGHT	_____ Landing Location(s)
_____ X-COUNTRY TIME	
_____ IAPs / Holds (SPECIFY Name, Location)	
LESSON GRADE _____	

STAGE III
LESSON 29
DUAL CROSS-COUNTRY

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

This lesson requires a three (3)-leg cross-country flight of not less than 250 NM along airways or ATC-directed routing, with landings at each airport, and with one segment of the flight being at least 100 NM straight-line distance between airports. The student will conduct three (3) different types of instrument approaches using navigation systems. The student will review IFR cross-country procedures and demonstrate Instrument pilot knowledge, risk management and skill proficiency for all listed tasks at a level that meets FAA Instrument Pilot Airman Certification Standard.

REVIEW

IFR Cross-Country Flight Planning

- Weather Information
- Determining Performance and Limitations
- Navigation Log
- IFR Flight Plan
- Pre-Flight Inspection
- Cockpit Management
- Calculating ETE, ETA
- Use of DPs/Radar
- STAR/Use of Radar

Emergency Procedures

- Communication Radio Failure
- Navigation Equipment Failure
- Instrument Failure
- Icing

- Turbulence
- Minimum Fuel
- Engine Failure

REVIEW

- Compliance with Air Traffic Control Clearances
- Navigation
- Holding Procedures
- Non-Precision Approach
- Precision Approach
- Landing From an Instrument Approach
- Postflight Procedures

COMPLETION STANDARDS

The student will demonstrate knowledge, risk management and skill with IFR cross-country and emergency procedures as pilot in command at a level that meets FAA Instrument Pilot Airman Certification Standard. The lesson will meet the requirements of Part 141 App. C, 4(c).

DATE ___/___/___		DUAL ___ IR ___ BRF ___	
_____ Student Name / Signature			
_____ CFI Name / Signature / CFI # & EXP.			
_____ RTE OF FLIGHT		_____ Landing Location(s)	
_____ X-COUNTRY TIME			
_____ IAPs / Holds (SPECIFY Name, Location)			
LESSON GRADE _____			

**STAGE III
LESSON 30
DUAL-LOCAL**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

LESSON OBJECTIVE

During this lesson the student will review maneuvers and procedures and demonstrate Instrument pilot knowledge, risk management and skill at a level that exceeds current FAA Instrument Rating Airman Certification Standards. The lesson requires a minimum of three (3) instrument approach procedures.

CONTENT

Preflight Discussion

- ___ Instrument Approach Procedure Charts
- ___ Cross-Country Flight Planning
- ___ Aircraft Flight Instruments and Navigation Equipment
- ___ Aircraft Systems Related to IFR Operations
- ___ Lost Communications Procedures
- ___ Weather Information

Flight

- ___ Preflight Procedures
- ___ Instrument and Equipment Cockpit Check
- ___ Normal and/or Crosswind Takeoff and Climb
- ___ Departure Procedures
- ___ Compliance with Air Traffic Control Clearances
- ___ Holding Procedures
- ___ Basic Instrument Flight Maneuvers
- ___ Recovery From Unusual Attitudes
- ___ Non-Precision Approach w/ Procedure Turn

- ___ Non-Precision Approach (Partial Panel)
- ___ Precision Approach
- ___ Circling Approach
- ___ Missed Approach
- ___ Lost Communications Procedures
- ___ Landing from an Instrument Approach
- ___ Postflight Procedures

COMPLETION STANDARDS

The student will demonstrate Instrument pilot knowledge, risk management and skill on all listed tasks at a level that exceeds current FAA Instrument Rating Airman Certification Standards.

DATE ___/___/___ DUAL ___ IR ___ BRF ___	
_____ Student Name / Signature	
_____ CFI Name / Signature / CFI # & EXP.	
_____ RTE OF FLIGHT	_____ Landing Location(s)
_____ IAPs / Holds (SPECIFY Name, Location)	
LESSON GRADE _____	

**STAGE III
LESSON 31
DUAL-LOCAL**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

- ___ Precision Approach (Partial Panel)
- ___ Circling Approach
- ___ Missed Approach
- ___ Lost Communications Procedures
- ___ Landing From an Instrument Approach

LESSON OBJECTIVE

This is the last lesson prior to the end-of-course stage check. The student is required to demonstrate Instrument pilot knowledge, proficiency, and ADM that meets or exceeds current FAA Instrument Rating Airman Certification Standards. This lesson requires three (3) instrument approaches.

COMPLETION STANDARDS

The student will demonstrate Instrument pilot knowledge, risk management and proficiency on all listed tasks at a level that exceeds current FAA Instrument Rating Airman Certification Standards.

CONTENT

Preflight Discussion

- ___ Instrument Approach Procedure Charts
- ___ Cross-Country Flight Planning
- ___ Pre-Flight Procedures
- ___ Weather Information
- ___ Emergency Operations
- ___ Aircraft Flight Instruments and Navigation Equipment
- ___ Aircraft Systems Related to IFR Operations

Flight

- ___ Preflight Inspection
- ___ Instrument Cockpit Check
- ___ Compliance with Air Traffic Control Clearances
- ___ Holding Procedures
- ___ Intercepting and Tracking Navigational Systems and DME Arcs
- ___ Basic Instrument Flight Maneuvers
- ___ Non-Precision Approach (w/ Procedure Turn)
- ___ Non-Precision Approach (Partial Panel)

DATE ___/___/___		DUAL ___		IR ___		BRF ___	
_____ Student Name / Signature							
_____ CFI Name / Signature / CFI # & EXP.							
_____ RTE OF FLIGHT				_____ Landing Location(s)			
_____ IAPs / Holds (SPECIFY Name, Location)							
LESSON GRADE _____							

**STAGE III
LESSON 32
DUAL — LOCAL
END-OF-COURSE STAGE CHECK**

RECOMMENDED SEQUENCE

1. Preflight Briefing
2. Flight
3. Post-Flight CFI Critique and Student Self - Evaluation

- ___ Circling Approach
- ___ Missed Approach
- ___ Recovery From Unusual Flight Attitudes
- ___ Collision Avoidance
- ___ Wind Shear Avoidance Procedures
- ___ Landing From an Instrument Approach
- ___ Postflight Procedures

LESSON OBJECTIVE

This lesson is a stage check conducted by the Chief Flight Instructor, Assistant Chief Flight Instructor, or designated Check Instructor. During the lesson the student will demonstrate Instrument pilot knowledge, proficiency, and ADM on all listed tasks and maneuvers in accordance with current FAA Instrument Rating Airman Certification Standards.

COMPLETION STANDARDS

The student will demonstrate Instrument pilot knowledge, risk management and proficiency on all listed tasks at a level that exceeds current FAA Instrument Rating Airman Certification Standards.

CONTENT

Oral

- ___ Pilot Qualifications
- ___ Airworthiness Requirements
- ___ Cross-Country Flight Planning
- ___ Weather Information
- ___ Aircraft Flight Instruments and Navigation Equipment
- ___ Lost Communications Procedures

Flight

- ___ Preflight Inspection
- ___ Instrument Cockpit Check
- ___ IFR Flight Plan
- ___ Compliance with Air Traffic Control Clearances
- ___ Holding Procedures
- ___ Intercepting and Tracking Navigation Systems and DME Arcs
- ___ Non-Precision Approach (Full approach)
- ___ Non-Precision Approach (Partial Panel)
- ___ Precision Approach

DATE ___/___/___ DUAL___ IR___ BRF___	
_____ Student Name / Signature	
_____ CFI Name / Signature / CFI # & EXP.	
_____ RTE OF FLIGHT	_____ Landing Location(s)
_____ IAPs / Holds (SPECIFY Name, Location)	
LESSON GRADE_____	